IJIERT

Volume 8, Issue 4, April 2021

International Journal of Innovations in Engineering, Research and Technology

ISSN: 2394-3696

Journal Impact Factor 7.525

Send Manuscripts to editorijiert@gmail.com

www.ijiert.org

IJIERT

International Journal of Innovations in Engineering, Research and Technology

Volume 8, Issue 4, April 2021

ISSN: 2394-3696

Impact Factor: 7.525

Publisher: Novateur Publication, India

Vol. 8 No. 04 (2021): IJIERT

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

MORALITY IN CHARLES PERRAULT FAIRY-TALES

Daniyorova Barchinoy Absattarovna
Samarkand State Institute of Foreign Languages, Teachers of English, English Faculty 2,
The Department of Integrated English Course,

ABSTARCT

Today, our children will not be surprised with fairy tales, of course, against the background of the adventures of Harry Potter and Lemony Snicket, filmed with a full set of special effects and causing an adrenaline rush, Perrault's soft and unhurried tales do not cause enthusiasm. Modern heroes are pragmatic and rational, and fairy-tale plots are so dynamic that it takes your breath away, but, drawn into the adrenaline maelstrom of modern fairy tales, our children, unfortunately, very early cease to be children. Remember, for sure the kind Cinderella or the clever Boy-with-Finger were your favorite heroes and you wanted to be just as beautiful and kind or just as brave and resourceful! Immersed in the world of the latest technologies and the problems generated by this world, we, what is the saddest thing, stopped believing in good fairies, our childhood is over. But, admit, sometimes you really want to return to it. So why don't we remember today a man, on whose kind and cheerful fairy tales more than one generation of people grew up in many countries of the world?

INTRODUCTION

At the time of the Sun King Louis XIV, there lived in Paris one rich nobleman and he had four sons and three daughters. The eldest, Claude, was a famous architect, author of the East façade of the Louvre, physicist, archaeologist and mechanic, one of the middle brothers of Nicolas became a priest, the other Pierre a financier and lawyer, and the younger, Charles, a storyteller. True, long before he began to write fairy tales, Charles became a lawyer and academician.

At about 25, Charles began writing poems, some of which he dedicated to the king. Apparently, the poems were talented and the young lawyer was noticed at court.

Perhaps it will surprise someone, but before Perrault, folklore and elite noble culture existed without actually intersecting. Of course, noble ladies and gentlemen consoled themselves with fantasy, but it was of a completely different kind, more about knights, their exploits and lovers.

"Peasant fables" were too coarse and vulgar, and therefore unworthy of refined taste. And so Perrault, himself to the depths of his soul adored these "nanny" tales, volunteered to justify the folklore genre in front of a noble audience, to introduce the folk tale into the high society.

In 1696 he makes the first test and publishes the fairy tale "The Sleeping Beauty" in the magazine "Gallant Mercury". Without a signature. The Audience at Court is more than successful, and next year Charles publishes a full-fledged collection of Tales of Mother Goose, or History and Tales of Bygone Times with Teachings, which he signs with the name of his 11-year-old son and dedicates to his daughter Louis XIV. The author went to this hoax for a reason, well, a frivolously respectable 69-year-old man to entertain the respectable audience with such "nonsense"!

Perrault justified himself in vain. The enlightened public appreciated this "nonsense", and fairy tales became no less popular than gallant novels. However, Perrault himself did everything possible to prevent the rejection of the nobility from the "grassroots" culture.

All of Perrault's goodies are well-mannered, gallant in a noble manner and are expressed almost exclusively in "high calmness." However, in fairy tales there is also an image of the life of the common people. So, the peasants of that time, who fell into complete poverty, really often took their children to the forest and threw them to their fate (as in "Little Boy"), and the deprived YOUNGER son of the miller could well dispose of his "inheritance" as he was going to do in a fairy tale to eat cat, and from his skin to make a clutch.

The World Encyclopedia of Fairy Tales calls Perrault the kindest storyteller in history. Indeed, one of the many merits of Charles Perrault is that he, probably for the first time, created real children's fairy tales, kind and happy. Indeed, in folk tales, the plots of which he used, the heroes are very cruel, they completely lack kindness and compassion.

In his work, Perrault more than once turned to fairy tales, such as "Griselda", a poetic adaptation of Boccaccio's short story, and "Donkey's skin", a folk tale sustained in the spirit of poetic short stories. In the preface to the tales, Perrault writes that his tales are better than the ancient ones, as they contain moral instructions. But even the moralizing did not arouse much interest in these tales.

Probably, the greatest merit of Perrault was that his fairy tales laid the foundation for children's literature, because no one had written especially for children before him, but with the publication of his fairy tales, children's books began to appear like mushrooms after rain.

Until now, literary critics argue about who was the real author of fairy tales himself Charles Perrault or his son Pierre. By the time the first fairy tales were written, Pierre was already 19 years old. According to some researchers of Charles Perrault's work, he himself wrote this book in order to glorify his son as a writer and help him make a career at court. And so it happened: Pierre Perrault presented the young princess of Orleans, niece of Louis XIV, a book of fairy tales dedicated to her, received the title of nobility and entered the circle of close friends of the princess. However, six months later, in a street fight, he stabbed his peer Guillaume Coll, the carpenter's son, with a sword.

Some of Perrault's stories were adapted from oral tradition, some were inspired by episodes from earlier works, (including Boccaccio's The Decameron and Apuleius' The Golden Ass), and some were inventions wholly new to Perrault. What was most significantly new was the idea of turning magical folk tales into sophisticated and subtle forms of written literature. While we now think of fairy tales as primarily children's literature, there was no such thing as children's literature in Perrault's time. With this in mind, we can see that the "morals" of these tales take on more worldly purposes, despite their slyly clever packaging within the fantastical universe of fairies, ogres, and talking animals.

While Perrault's original tales are hardly the versions that were fed to us as children, they also can't be expected to be the feminist and socialist alternate versions that we might wish them to be (see Angela Carter's 1979 story collection, "The Bloody Chamber," for this kind of modern twist; Carter had translated an edition of Perrault's fairy tales in 1977 and was inspired to create her own versions as a response).

Perrault was an upper-class intellectual during the reign of the Sun King. Unlike the fable-writer Jean de La Fontaine, whose rich narratives often criticized the powerful and took the side of the underdog (in fact he himself was not in favor with the megalomaniacal Louis XIV), Perrault didn't have much of an interest in rocking the boat.

Instead, as a leading figure on the modern side of the "Quarrel of the Ancients and the Moderns," he brought new forms and sources to literature to create something that even the ancients had never seen. La Fontaine was on the side of the ancients and wrote fables in the vein of Aesop, and while La Fontaine was much more lyrically sophisticated and intellectually clever, it was Perrault's modernity that lay the foundation for a new kind of literature that's created a culture all its own.

Perrault may have been writing for adults, but the fairy tales that he first put on paper spawned a revolution in what kinds of stories could be made into literature. Soon, writing for children spread throughout Europe and eventually across the rest of the world. The results and even his own works may have gone far out of Perrault's intent or control, but that's what often happens when you introduce something new into the world. It seems that there's a moral somewhere in that.

In "Puss in Boots," the youngest of three sons inherits only a cat when his father dies, but through the cat's wily scheming the young man ends up wealthy and married to a princess. Perrault, who was in favor with

Louis XIV, provides two interconnected but competing morals to the tale, and he clearly had the machinations of the court in mind with this witty satire. On the one hand, the tale promotes the idea of using hard work and ingenuity to get ahead, rather than just relying on your parents' money. But on the other hand, the story warns against being taken in by pretenders who may have achieved their wealth in unscrupulous ways. Thus, a tale that seems like a didactic children's fable actually serves as a double-edged send-up of class mobility as it existed in the seventeenth century.

Perrault's "Little Red Riding Hood" reads much like the popularized versions that we all grew up with, but with one big difference: the wolf eats the girl and her grandmother, and nobody comes along to save them. Without the happy ending that the Brothers Grimm supply in their version, the story serves as a warning to young women against talking to strangers, especially against "charming" wolves who seem civilized but are perhaps even more dangerous. There's no heroic male to slay the wolf and save Little Red Riding Hood from her own gullible innocence. There's only danger, and it's up to young women to learn how to recognize it.

Like "Puss in Boots," Perrault's "Cinderella" also has two competing and contradictory morals, and they likewise discuss questions of marriageability and class connection. One moral claims that charm is more important than looks when it comes to winning a man's heart, an idea that suggests that anyone can achieve happiness, regardless of their conventional assets. But the second moral declares that no matter what natural gifts you have, you need a godfather or godmother in order to put them to good use. This message acknowledges, and perhaps supports, society's profoundly uneven playing field.

The most strange and amazing of Perrault's tales, "Donkey Skin," is also one of his least known, probably because it's shocking grotesqueries have no way of being watered down and made easily palatable. In the story, a dying queen asks her husband to remarry after her death, but only to a princess even more beautiful than her. Eventually, the king's own daughter grows to surpass her dead mother's beauty, and the king falls deeply in love with her. At the suggestion of her fairy godmother, the princess makes seemingly impossible demands of the king in exchange for her hand, and the king somehow fulfills her demands each time to both shimmering and terrifying effect. Then she demands the skin of the king's magic donkey, which defecates gold coins and is the source of the kingdom's wealth. Even this the king does, and so the princess flees, wearing the donkey skin as a permanent disguise.

REFERENCES

1) Soriano M. Les Contes de Perrault: Learned culture and popular traditions. P., 1989. P. 13.
2) Cm .: Doutrepont G. Popular types of French literature: In 2 t. Brussels, 1926-1927. T. I. P. 57-58.
3) Soriano M. Op. Cit. P. 14. Charles Perrault literary and academician // Id. 1905.
4) Génin F. Les Contes de Perrault // L'Illustration. 1856.
5) Мелетинский Е.М. Герой волшебной сказки // Русская волшебная сказка: Антология. М., 1992. С. 457.
6) Les Contes de Perrault // New Mondays: In 13 t. P., 1867-1872.
7) Rigault H. History of the quarrel between the ancients and the moderns. P., 1856.
8) Jacob P.-L. The tales of Perrault. P., 1876.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

IN VITRO FERTILIZATION – AS AN EFFECTIVE METHOD OF INFERTILITY TREATMENT

Gafurova Raxila Botirboy qizi
Students of the 2-Course Clinical Intern at the Department of
Radiation Diagnosis Samarkand State Medical Institute, Uzbekistan

Arzikulova Dilfuza Muzaffar qizi
Students of the 2-Course Clinical Intern at the Department of
Radiation Diagnosis Samarkand State Medical Institute, Uzbekistan

Xuramov Javoxir Xolmurodovich
Students of the 2-Course Clinical Intern at the Department of
Radiation Diagnosis Samarkand State Medical Institute, Uzbekistan

Uzakov Muzaffar Xolmirza ugli
Students of the 2-Course Clinical Intern at the Department of
Radiation Diagnosis Samarkand State Medical Institute, Uzbekistan

Rashidova Xurshida Abduvoxidovna
Students of the 2-Course Clinical Intern at the Department of
Radiation Diagnosis Samarkand State Medical Institute, Uzbekistan

ABSTRACT
Reproduction for more than 7 years. About three thousand married couples passed IVF program and about 35% of them have found happiness of motherhood and fatherhood. The women with tubal-peritoneal and endocrine infertility factors and men with severe astenoteratozoospermia became parents, because the using of IVF and method intracytoplasmic sperm injection allows to fertilize eggs by single sperm. The bank of donor sperm is function in the Center of planning for the 9 years.

Keywords: In vitro fertilization and embryo transfer, chorionic gonadotropin, functional uterus.

INTRODUCTION
During IVF, mature eggs are collected (retrieved) from ovaries and fertilized by sperm in a lab. Then the fertilized egg (embryo) or eggs (embryos) are transferred to a uterus. One full cycle of IVF takes about three weeks. Sometimes these steps are split into different parts and the process can take longer.
In a normal pregnancy, a male sperm penetrates a woman's egg and fertilizes it inside her body after ovulation, when a mature egg has been released from the ovaries.
The fertilized egg then attaches itself to the wall of the uterus, or womb, and begins developing into a baby. This is known as natural conception.
However, if natural or unassisted conception is not possible, fertility treatment is an option.IVF has been used since the late 1970s. On 25 July 1978, the first "test-tube baby," Louise Brown, was born. Robert Edwards and Patrick Steptoe, who collaborated on the procedure, are considered to be the pioneers of IVF.
In 2010, Robert Edwards received the 2010 Nobel Prize in Physiology or Medicine "for the development of in-vitro fertilization."

In July 2013, an American couple had the first baby to be born through IVF as a result of next-generation DNA sequencing, a new way of screening embryos that improves IVF success rates and significantly reduces the cost of treatment.

DNA sequencing technology helps doctors screen embryos created by IVF to identify those most likely to lead to successful pregnancies.

Procedure

Techniques may differ depending on the clinic, but IVF usually involves the following steps:

1. **Suppressing the natural menstrual cycle**

The woman receives a drug, usually in the form of a daily injection for about 2 weeks, to suppress their natural menstrual cycle.

2 Super ovulation

Fertility drugs containing the fertility hormone follicle stimulating hormone (FSH) are given to the woman. FSH makes the ovaries produce more eggs than usual. Vaginal ultrasound scans can monitor the process in the ovaries.

3. Retrieving the eggs

The eggs are collected through a minor surgical procedure known as "follicular aspiration." A very thin needle is inserted through the vagina and into an ovary. The needle is which is connected to a suction device. This sucks the eggs out. This process is repeated for each ovary.

In 2011, researchers suggested that collecting 15 eggs trusted source from the ovaries in one cycle gives the highest chance of a successful pregnancy.

Frozen or donated eggs may also be used.

4. Insemination and fertilization

The eggs that have been collected are placed together with male sperm and kept in an environmentally controlled chamber. After a few hours, the sperm should enter the egg.

Sometimes the sperm is directly injected into the egg. This is known as an intracytoplasmic sperm injection (ICSI).

Frozen sperm, retrieved through testicular biopsy, may be used. This is believed to be as effective as fresh sperm in achieving a successful pregnancy.

The fertilized egg divides and becomes an embryo.

At this point, some centers offer pre-implantation genetic diagnosis (PGD) which can screen embryo trusted source for genetic disorders. This is somewhat controversial and is not always used.

One or two of the best embryos are selected for transfer.

The woman is then given progesterone or human chorionic gonadotrophin (hCG) to help the lining of the womb receive the embryo.

5. Embryo transfer

Sometimes, more than one embryo is placed in the womb. It is important that the doctor and the couple wishing to have a child discuss how many embryos should be transferred. Normally, a doctor will only transfer more than one embryo if no ideal embryos are available.

The transfer of the embryo is done using a thin tube, or catheter. It enters the womb through the vagina. When the embryo sticks to the lining of the womb, healthy embryo growth can begin.

The in vitro fertilization process breaks down into three essential components: induction of ovulation, fertilization of the oocyte, and development of embryos that are transferred into the uterus. Problems may arise resulting in failure at any one of these junctions. In 1984, the World Congress on In Vitro Fertilization was held, looking at 9,641 laparoscopies yielding 1,101 clinical pregnancies, with an overall pregnancy rate of 11 percent--clearly indicating that in vitro fertilization/embryo transfer (IVF/ET) was an idea whose time had come. Ovulation induction is monitored by both the use of ultrasound and daily estradiol levels, ultrasound indicating the number of oocytes that will be available for capture, and estradiol indicating in an indirect way the quality of those oocytes. It is a major aim in each patient to obtain at least four embryos, since this optimizes success rates. Ovulation induction at Yale is carried out with a high-dose human menopausal gonadotropin (HMG)/human chorionic gonadotropin (HCG) regimen. This regimen has insured us a success rate of 17 percent clinical pregnancies per laparoscopy. In the future, modification will occur in the process with cryopreservation of oocytes and embryos, and gamete manipulation. The modifications will be effected primarily to increase pregnancy rates. Research will continue mainly to delineate better biochemical markers for oocyte quality, but also to further explain the mystery of implantation.

Sometimes, IVF is offered as a primary treatment for infertility in women over age 40. IVF can also be done if you have certain health conditions. For example, IVF may be an option if you or your partner has:

- Fallopian tube damage or blockage. Fallopian tube damage or blockage makes it difficult for an egg to be fertilized or for an embryo to travel to the uterus.
- Ovulation disorders. If ovulation is infrequent or absent, fewer eggs are available for fertilization.
- Endometriosis. Endometriosis occurs when the uterine tissue implants and grows outside of the uterus — often affecting the function of the ovaries, uterus and fallopian tubes.
- Uterine fibroids. Fibroids are benign tumors in the wall of the uterus and are common in women in their 30s and 40s. Fibroids can interfere with implantation of the fertilized egg.
- Previous tubal sterilization or removal. If you've had tubal ligation — a type of sterilization in which your fallopian tubes are cut or blocked to permanently prevent pregnancy — and want to conceive, IVF may be an alternative to tubal ligation reversal.
- Impaired sperm production or function. Below-average sperm concentration, weak movement of sperm (poor mobility), or abnormalities in sperm size and shape can make it difficult for sperm to fertilize an egg. If semen abnormalities are found, your partner might need to see a specialist to determine if there are correctable problems or underlying health concerns.
- Unexplained infertility. Unexplained infertility means no cause of infertility has been found despite evaluation for common causes.
- A genetic disorder. If you or your partner is at risk of passing on a genetic disorder to your child, you may be candidates for preimplantation genetic testing — a procedure that involves IVF. After the eggs are harvested and fertilized, they're screened for certain genetic problems, although not all genetic problems can be found. Embryos that don't contain identified problems can be transferred to the uterus.
- Fertility preservation for cancer or other health conditions. If you're about to start cancer treatment — such as radiation or chemotherapy — that could harm your fertility, IVF for fertility preservation may be an option. Women can have eggs harvested from their ovaries and frozen in an unfertilized state for later use. Or the eggs can be fertilized and frozen as embryos for future use.

  Women who don't have a functional uterus or for whom pregnancy poses a serious health risk might choose IVF using another person to carry the pregnancy (gestational carrier). In this case, the woman's eggs are fertilized with sperm, but the resulting embryos are placed in the gestational carrier's uterus.

REFERENCES

1) Guide to Clinical Embryology / Ed. V.S.Korsak. - M.: Medical book. - 2011
2) Register of ART. RARCH report. - 2012
3) Secrets of reproductive medicine / T. Peter, K. Chan, M. Goldstein, Z. Rosenvox; translation from English - M.: MEDpress-inform, 2006
4) In vitro fertilization and its new directions in the treatment of female and male infertility / Ed. V.I.Kulakova, B.V. Leonova. - 2nd ed. - M.: MIA, 2004.

UZBEKISTAN'S EXPERIENCE OF STATE AND PUBLIC GOVERNANCE IN THE PERIOD OF MODERN RISES

Solieva M.
Candidate of Philological Sciences
Tashkent State University of Oriental Studies

ABSTRACT
In Uzbekistan, the past period of independence has laid the foundation for modern statehood in a completely new historical context. A democratic state governed by the rule of law and a free civil society has emerged. An important feature of any law is the repetition of connections between events and happenings. In the early days of independence, the question arose which path we would take. Given that the idea of choosing the path of Turkey, Iran, or China has been put forward, it is noteworthy that the Uzbek people have chosen a unique path. An aim study of democratic processes requires a holistic study of all the systems that make up these processes.
Today, the principal task of national ideology and political forces is to advance the ongoing reforms and the goal of building a democratic society based on the rule of law.

Keywords: State, state power, parliament, political, legal, economic, social and spiritual spheres, legal information.

INTRODUCTION

The draft law "On transparency of public administration" [1] is important because it aims to create effective legal mechanisms to strengthen the role of the media in ensuring public and parliamentary control over the activities of public authorities and administration. owns.
Improving the system of public administration began with a review of the organizational and legal structure, tasks, and functions of public administration, and the local government [2, 5]. Radical changes have taken place in the political, legal, economic, social, and spiritual spheres.
In this section of the study, we refer to the principles of informational, legal communication about the creation of a completely new system of public administration - the experience of independent Uzbekistan, through implementing large-scale reforms at the current stage of development of the country. We can see that the idea that "practice is effective, in the interests of the people - the primary goal of reforming society" [3, 3] has become a legal criterion of good governance.
"Today a fierce competition is on the rise around the world," he said. In such a complex environment, we must work continuously to widely introduce the achievements of modern science and innovation "[4, 24]. One of the necessary conditions for the renewal of society is the effectiveness of these reforms, first of all, the spiritual renewal of the people, the rise of their thinking, the deep feeling that the changes are affecting the development of society and the destiny of the people.
“In order to ensure the right of our citizens to appeal to state bodies and institutions, representatives of the people, sealed in the Constitution, the procedure for receiving appeals at public meetings has been established. Today, our citizens are not going to the officials, but the officials themselves are going to our people. This is a big change ”[4, 14]. The law established by our state not only ensures a certain order in our society but also forces citizens, officials, state and public organizations to act accordingly. As with any law of nature and society, information law is necessary.

Another important document - the new Law "On Dissemination and Use of Legal Information" was adopted. It has further increased access to documents and other materials affecting the rights and interests of citizens."[4, 15] In each of his meetings, the head of state emphasizes the laws being implemented in the development of Uzbekistan today. Because when the importance of decrees is conveyed in public meetings, the importance of decrees is conveyed to the people in the example of the processes of implementation of innovative ideas, and they are remembered, which is both a form of information and legal communication.

Here is an example. The American sociologist Talkatt Parsons writes: "Because there was no objectivity in the history of society, the application of the theory of economic determinism has lost its relevance as a real and important problem to this day" [5, 143]. Also from Western sociologists, V. Windelband, G. Rickert, K. Popper, B. Croche, A. Camus, Becker, R. Carnan, Collingwood, and others directly state that "the history of society is only the sum of many coincidences." They say that "neither nature nor conventions can tell us what to do, no facts — whether natural or historical — can solve anything for us, set a goal that we can set for ourselves, and only nature itself. we can also give purpose and meaning to history "[6, 11] and deny the legitimate objectivity of society. The conclusion of Western scholars is that the objectivity of the laws of society in the development of Uzbekistan today is that if people act against it without taking into account the requirements of certain laws in their practice, these laws still oblige and compel people to their requirements.

MAIN PART

An important feature of any law is the repetition of connections between events and happenings. In the early days of independence, the question arose as to which path we would take. Given that the idea of choosing the path of Turkey, Iran, or China has been put forward, it is noteworthy that the Uzbek people have chosen a unique and appropriate path. "Rational management of the state is to reduce and eliminate the threat to the people" [7, 41].

An objective study of democratic processes requires a holistic study of all the systems that make up these processes.

So, today the main task of the national ideology and political forces is to link the ongoing reforms and the goal of building a democratic society with the needs and interests of our citizens.

Each era will have its own political, social, spiritual, and spiritual needs. It is this need that embraces all aspects of society as a whole in the process of radical reforms and manifests itself in full. In particular, political, economic, legal, social, and spiritual reforms have become a topical issue. I just want to emphasize the importance of informational legal communication in addressing these pressing issues (M.S.), for example, as state leaders seek to approach political leaders based on their capabilities and management styles. In his address to Parliament, the President of the Republic of Uzbekistan Sh.M.Mirziyaev is distinguished by the fact that the Uzbek politician is completely new, different from others, sharply different from his contemporaries, comrades, and comrades, close to the hearts of citizens. The current policy of the renewed Uzbekistan, in an open, transparent dialogue, seeks to show issues as a certain reflection of the experience accumulated over the centuries.

"While the legislature is committed to deepening the principles of social justice by guaranteeing the life and activity of society as a whole, it means that the President is entrusting the historical tasks of the great future, creating a completely new, modern, and effective form of government" [8, 178]. The address of the President of the Republic of Uzbekistan to the Oliy Majlis can be called a supreme concept as a bright manifestation of the principles of openness and transparency in public administration. Of course, this is due to the fact that the head of state submits appeals, enriches the experience of building civil society in improving governance, further improving the judicial system in line with modern requirements,

modernization and liberalization of the economy, the rapid development of the social sphere, peace, and stability in Uzbekistan. showed that active participation is a targeted task of parliament.

As part of the Action Strategy, new ministries and departments have been established in order to effectively address the problems accumulated in various areas, while reviewing the tasks and functions of most ministries and departments as public administration is implemented in the context of new modern innovations.

As the President of the Republic of Uzbekistan, Sh.M.Mirziyaev noted: “Our great future begins today, so we must use all our strength and potential on this path” [4, 98], which is significant in that the reforms are aimed at serving the national idea.

At the heart of building a modern society, Uzbekistan is showing its full potential to the world, which can be seen in the confessions of world celebrities. For example, John Edward Horbst, director of the Atlantic Council's Eurasia Center, acknowledged, “Uzbekistan's new image can be seen in two important ways. These include ongoing reforms in domestic and foreign policy. When it comes to official Tashkent's foreign activities, it is important to note its open policy in Central Asia. The second aspect is, of course, the bold steps taken towards the true liberalization of the economy, as well as the independence of the media ”[9, 98], which shows that people around the world are expressing their views on the legal system of Uzbekistan. means that informational legal communication is improving.

Legislation and parliamentary control in the context of democratization and modernization of the political system: the experience of Uzbekistan, as well as the Uzbek model of open society. For example, “The drastic reforms launched in Uzbekistan are not accidental.

RESULTS AND DISCUSSIONS

The process of liberalization of the national economy is not based on reluctance and despair, as observed in some other countries, but on the well-being of the people and their bright future.

The current government of Uzbekistan is a team of young, strong and educated leaders led by the President. The head of state is not a sole ruler and absolute genius, but an initiator of reforms, which is supported by the working community in the implementation of these initiatives. Thanks to Tashkent, not only Uzbekistan, but also the entire Central Asian region, including Afghanistan, it is opening up to the world ”[9, 99].

Consequently, the age in which we live today is distinguished not only by its high and rapid development, but also by its peculiarities which are not peculiar to the earlier stages of human history. While the process of globalization is constantly increasing the level of interdependence between all actors in various spheres of social life today, the number of countries involved in the integration process and the issues to be addressed jointly by several countries or the world community is growing. The unprecedented development of information and communication technologies is rapidly entering the field of public administration. In social life, specific systems, expressed in terms such as "e-government", "e-court" and "smart regulation", are increasingly taking their rightful place in public administration.

Public administration and public services have been reformed in the country, and state bodies have been functionally, organizationally and financially optimized.

It is necessary to emphasize the role of the laws adopted today in the development of a democratic state and civil society in Uzbekistan, as well as in improving the concept of its integration with the world community. Therefore, in the development of any bill, public administration of our country should be based on the ongoing reforms in the legal, socio-economic spheres, in our foreign policy. As well as the development of directly applicable laws. It is one of the main and urgent issues facing the legislature.

In his speech on the occasion of the 24th anniversary of the Constitution of the Republic of Uzbekistan, President of the Republic of Uzbekistan Sh. Mirziyayev said: “Speaking about the completeness, vitality and

direct implementation mechanisms of laws, we still have a lot to do. Necessary. Unfortunately, the impact of laws on the effectiveness of reforms is currently insufficient. Their role in the direct regulation of social relations remains low ”[10, 48].

It is expedient that the issues of increasing the effectiveness of the concept of the open society in public administration are carried out because of constitutional systems. Currently, the main task is to introduce effective mechanisms for the adoption of laws directly applicable to the chambers of the Oliy Majlis in the Decree of the President of the Republic of Uzbekistan No. PF-5505 dated August 8, 2018 [11] and the report on December 26, 2018, on the 26th anniversary of the Constitution, it should be noted that “over the past two-and-a-half years, our parliament has done a lot of work. In particular, the number of laws adopted today has increased 1.2 times compared to 2017 and 2.8 times compared to 2016. In addition, in 2018, the number of control and analytical measures carried out by members of parliament amounted to 102. Of these, they devote 53 to public hearings, and 49 to monitor the implementation of adopted laws. This analysis shows that the control and analytical measures carried out in 2018 alone increased by 4 times compared to 2016.”[12] the Office of the Legislative Chamber carried out a large-scale work on implementing organizational information logistics of deputies. updates are being made to the communication system.

Daniel Mensi noted that “the most developed countries in the digital economy today are the United States and China, which account for 75% of blockchain technology patents worldwide. In turn, 50% of Internet products are consumed by the population of these countries. Blockchain technology is a technology that allows the parties to execute transactions safely, reliably, without any intermediaries. Although many know it as a cryptocurrency technology, the blockchain can be used as a system of digital identification, protection of property and property rights, payment 07.02.2020 UzA - Digital Economy: Problems and Opportunities. Open blockchain platforms such as Ethereum allow you to make transactions on any assets and, provide banking services without traditional legal processes. Currently, blockchain systems are used in various countries around the world in the fields of financial technology, land management, transport, health, and education. The blockchain system will increase the level of transparency in any industry and reduce corruption. ”[13]

Although digital data is a valuable economic resource, it will only benefit when it becomes digital thinking. With the advent of the digital economy, the challenge of creating digital platforms and monetizing the rapidly growing digital data is emerging. At the same time, it is important to identify ways to create value, the means of overcoming obstacles in these processes. It allows you to understand the potential of value creation and distribution, forms of value renewal, management, and value acquisition. According to the results of the seminar, the need to develop the digital economy in all countries of the world, the need to accelerate the transition to a digital economy.

The role of innovative technologies in the development of modern science, the opportunities created for the people, the awakening of people's confidence in the future, legal communication play an important social role in conveying the essence of new decrees and decisions adopted by the head of state.

As a logical continuation of these reforms, in September 2017, the President of the Republic of Uzbekistan approved the Concept of Administrative Reforms. According to him, 5 priorities for radical reform of public administration have been identified.

It is also planned to review the activities of more than 100 state and economic bodies on the basis of a special "Road Map". In our Basic Law, the state expresses the will of the people and serves their interests ”[14, 24]. It is these processes that mean that the further development of the information legal communication system is a topical issue.

Underlying the adoption of the concept of administrative reform is the goal of ensuring the implementation of the same constitutional norm in practice.

In a short period of time, within the framework of the concept of administrative reform, the institutional and organizational-legal framework of the new system, the activities of ministries and departments, the tasks and functions of the executive branch, as well as mechanisms for their implementation were improved and implemented. This, in turn, has further boosted public confidence in viable reforms.

According to the head of state, "The main purpose of the implementation of administrative reforms is to create a compact and professional system of executive bodies, a management system based on modern management" [14, 24]. The time has come for the people to realize that the first step in reaching out to the people is to establish People's Receptions in every district and city, to transform them into a holistic system that will help solve many people's problems, and to introduce an information legal culture. “In the first year, about 1.5 million applications were processed, which shows that the population's confidence in the People's Reception is growing. The role of these structures in increasing the responsibilities of government agencies and officials is becoming more and more noticeable ”[14, 32].

Therefore, in the next stages, as a mediator between the state and society, the access to the services of the People's Reception is further increased, which provides ample opportunities for the development of legal communication, as well as reducing the time and financial costs of citizens.

In the process of modernization of Uzbekistan, it is important to ensure an important constitutional requirement - the principle of social justice. Consequently, “Social justice is the equality of all citizens before the law, regardless of their political views, gender, nationality, language, or religion” [14, 35], and we observe forms of informational legal communication in this source as well.

In 2017-2021, an information legal system has emerged, such as efforts to unconditionally implement the tasks set out in the Action Strategy for the five priority areas of development of the Republic of Uzbekistan, the organization of work on the ground, first of all, radical improvement of forms and methods of public reporting. There is a need to create the principles of the concept of information legal communication in order to improve the quality and standard of living of the population, while strengthening consistent control over the strict elimination of irresponsibility of heads of government agencies.

Here is an example. In accordance with the Resolution of the President of the Republic of Uzbekistan "on priority measures to ensure the rapid socio-economic development of the region" to agree. For this, our people, first of all, must be satisfied with the work of our leaders. To do this, each leader must pull his own car, be personally responsible for the state of affairs in his field. Then there will be change and development in our society ”[15, 53], noting that the conditions of development of today's Uzbekistan reflect the advanced form of the experience of Uzbekistan in a modern form, typical of a larger system of reforms. "Ensuring security and development in the Eurasian space is undoubtedly a key factor in achieving the goals and objectives of the One Place One Way initiative" [16, 309]. Based on the topic of the dissertation, it should be noted that the President of the Republic of Uzbekistan Sh. . Referring to the sources in Mirziyoyev's book "The work of a great nation will be great, life will be bright and the future will be prosperous", we need to study the world experience and develop a concept of improving monetary policy and ensuring price stability with the involvement of international experts. necessary ”[16, 13], informational legal dialogue means harmony between the people and the state. At the same time, the fact that the foundations of a modern digital economy are being laid will prevent the people from being disconnected from today's new system without informational legal communication. For example, the head of our state acknowledged, “We need to develop a national concept of digital economy, which provides for the modernization of all sectors of the economy on the basis of digital technologies. On this basis, it is said that "we need to implement the program" Digital Uzbekistan - 2030 "[16, 14]. Such practices are communicated to the public in oral or written forms through books, announcements, letters, and other means. Legal decision control is carried out by the head of state himself, if necessary. In public administration, lawyers

pay great attention to foreign legal norms, mainly in ancient times and even today, and promote them to society.

UNDP Resident Representative in Uzbekistan H. Fraser, Ambassador Extraordinary and Plenipotentiary of the United Kingdom of Great Britain and Northern Ireland to Uzbekistan K. Allan and others in Uzbekistan under the leadership of President Shavkat Mirziyoyev. Special attention is paid to the training of young leaders who are aware of the legal framework and modern methods, leadership qualities, as well as strategic planning and decision-making in emergencies. Such efforts include spiritual renewal of society, further development of socially oriented market economy, democratic rule of law and has played an important role in elevating the aspirations for building an open civil society ”[9, 18].

Discussion of the draft laws "On Civil Service of the Republic of Uzbekistan" and "On Public-Private Partnership", developed in the framework of the Strategy of Action, the study of national and best international practices in the selection and training of highly qualified personnel in public administration.

Years and centuries pass, but our Constitution, which is a great example of political and legal thinking of our people, the Encyclopedia of Life for new generations, serves as a solid foundation for solving the pressing problems of the time [14, 40]. He demonstrated the unique style of the head of state in public administration in the experience of Uzbekistan and the concept of open society.

CONCLUSION

The role of informational legal communication in the governance of the state and society is noteworthy due to the fact that the time has come to take into account the most powerful and largest countries in the world, Uzbekistan, its views and conclusions on global issues, and legal culture in Uzbekistan. Now the whole thing is to build on this solid foundation to ensure the modern development of Uzbekistan in the new era.

All efforts aimed at improving the existing legislation in the Republic of Uzbekistan will lead to the establishment of a democratic state governed by the rule of law based on humanitarian principles, the unconditional guarantee of the rights of citizens guaranteed by the Constitution.

In order to ensure the competitiveness of technologies created in the country, the development of "know-how", robotics, the creation of innovation networks, the introduction of modern information and communication technologies, ie the implementation of systematic measures to ensure high quality products. great opportunities are created only when

REFERENCES

1) Law of the Republic of Uzbekistan No. KL-369 of May 5, 2014 "On transparency of public administration"
2) Mirziyoev Sh.M. We will resolutely continue our path of national development and raise it to a new level. t.1. –T .: “Uzbekistan”, 2017.-P.5.
3) Mirziyoev. Sh.M. The consent of our people is the highest assessment of our activity. - T .: “Uzbekistan” v.2. –B.3.
4) Mirziyoev. Sh.M. The Constitution is a solid foundation for our free and prosperous life, for the further development of our country. // Speech at the solemn ceremony dedicated to the 25th anniversary of the adoption of the Constitution of the Republic of Uzbekistan. December 7, 2017. –T .: “Uzbekistan” - 2018. –P.24.
5) Parsons T. Society, historical and comparative analysis. –M .: 1967. p.143.
6) Poppep C. Objiective Knowledge an Evolutionary Approach, Oxford, 1979. p.11.
7) Pharoah Abu Nasr. The city of noble people. - T .: State Scientific Publishing House "National Encyclopedia of Uzbekistan". 2012.-P.41.

8) Zhuraev N. An invitation to civilization. - T .: “Uzbekistan”. 2018, -B. 178.
9) Saidov A.Kh. Uzbekistan is one of the "Newsmaker" countries. –T .: “Uzbekistan”, 2018. –B. 98.
10) Mirziyoev Sh.M. Speech at the ceremony dedicated to the 24th anniversary of the adoption of the Constitution of the Republic of Uzbekistan, the guarantee of the rule of law and human interests - the guarantee of national development and prosperity of the people. 2016. December 7 // Sh.M.Mirziyoev. – T .: Uzbekistan, 2017. –P 48.
11) Decree of the President of the Republic of Uzbekistan No. PF-5505 of August 8, 2018 "On approval of the Concept of improving the rule-making activity."
12) Information on the activities of the Legislative Chamber of the Oliy Majlis of the Republic of Uzbekistan in 2018. - 2019. –P.6-19.
13) https://uza.uz/oz/society/ra-amli-i-tisodiyet-muammolar-va-imkoniyatlar-28-09-2019
14) Mirziyoev Sh.M. Critical analysis, strict discipline and personal responsibility should be the daily routine of every leader. –T .: “Uzbekistan”, 2017. –P.53.
15) Mirziyoev Sh.M. The intention of a great nation is to have a great work, a bright life and a prosperous future. T3. –T .: “Uzbekistan”, 2019. –B. 309.
16) Monetary policy refers to the policy of refinancing.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

PATIENTS WITH BURN INJURI AND LIVER FUNCTION

Kh. D Makhmudova
Samarkand State Medical Institute, Uzbekistan

H. H. Gaffarov
Samarkand State Medical Institute, Uzbekistan

N.A.Vafoyeva
Samarkand State Medical Institute, Uzbekistan

ABSTARCT
The article discusses the results of studying the violation of the functional state of the liver in patients with extensive burn injuries. The liver function in these patients' remains impaired even several months after the healing of burn wounds. We study hypoproteinemia and dysproteinemia resulting from burn injury, a decrease in the antitoxic function of the liver for a long time, manifestations of cytolytic and cholestatic syndromes, a decrease in the content of total lipids, cholesterol and beta-lipoproteins.

Keywords. Liver function, liver function tests, burn convalescents, restoration of hepatocyte function.

INTRODUCTION:

The urgency of the problem lies in the fact that the liver is the main target organ for extensive burn injuries. The study of literature data on this issue indicates that liver failure in acute burn toxemia is characterized by a decrease in antitoxic, protein-forming, excretory, pigment functions.

Structural and functional liver failure as a manifestation of early burn hepatitis is the direct cause of the death of some patients. In this case, the direct effect on the liver of excessive afferent impulses, disturbances of hepatic-portal blood flow, oxygen deficiency, toxic effects of absorption products from the wound, as well as narcotic substances are important.

The manifestations of cytolytic and cholestatic syndromes are observed already in the first day of the disease. In order to correct these conditions, a clear infusion intensive care regimen is required. In case of burn disease, it is difficult to achieve restoration of the circulating blood volume only by infusion of plasma-substituting solutions. We need drugs that stabilize metabolic disorders and lower the concentration of pro-inflammatory cytokines. Complex intensive therapy for burns should also include the correction of cell energy production without enhancing oxygen transport.

The aim of this study was to study liver function in burn convalescents.

MATERIALS AND METHODS

We studied the violation of the functional state of the liver in 62 (30 men, 32 women) burn convalescents. The examination was carried out on the basis of the burn department of the branch of the Republican Center for Emergency Medical Aid in the period from 3 to 18 months. Investigated: total protein and its fractions in the blood serum, blood bilirubin, sediment samples, the Quik-Pytel test, the activity of aminotransferases (AST and ALT), sorbitol dehydrogenase (SDH), blood sugar, total lipids, cholesterol and betalipoproteins.

Depending on the severity of the injury, the patients were divided into two groups: in the first (32 people) - deep burns accounted for up to 20% of the body surface, in the second (30 people) - the burn surface exceeded 20% of the body surface.

RESULTS AND BRIEF DISCUSSION

Hypoproteinemia was revealed, respectively, in the groups of patients 63 and 61 g / l at a norm of 81.2 g / l, hypoalbuminemia -47.5% and 43.4% at a norm of 62.7% and hyperglobulinemia - 52.5 and 65.6% at a norm. 37.3%. /. Hypoproteinemia and dysproteinemia that arose as a result of burn injury returned to normal only after 9-11 months, and in some cases even later, after the healing of burn wounds. Deviations from the norm of the thymol test were found in patients of the first group in 16 cases, and in patients of the second - in 21 cases.

The serum bilirubin content in patients of both groups was within the normal range, with the exception of a few people with late hepatitis. The Quick - Pytel test showed that a burn injury for a long time reduces the antitoxic function of the liver: in patients of the first group, it was 66.2%, and in the second, 60.3%, while the norm was 75.1%. In a number of cases, a decrease in the activity of SDH and an increase in the activity of transaminases in the blood serum were found, however, these changes turned out to be inconsistent and cannot serve as a convincing criterion in assessing the functional state of the liver.

There was a 20-22% decrease in the content of total lipids, cholesterol and bettalipoproteins. It should be noted that the indicators of liver function tests in the long term after a burn injury turned out to be better in patients who underwent early necrectomy and autodermoplasty.

An analysis of clinical observations showed that the success of maintenance therapy in hepatic failure largely depends on the amount of preventive and therapeutic benefits: correction of the main disorders in burn shock at the prehospital stage. It is achieved by using agents that eliminate pain and pathological afferent impulses, normalize organ and peripheral hemodynamics, correct metabolic acidosis, hyponatremia, and have an antihistamine effect, prevent acute renal failure and intoxication of the body.

The achievement of the goal creates conditions for the elimination of oxygen starvation of hepatic cells and their structural changes; adequate, successive fight against burn shock in the hospital, providing prevention and treatment of pathological changes; active surgical tactics in order to restore the skin in the early stages; rational anesthesia of multiple dressings with the exclusion of drugs that have a toxic effect on the parenchymal organs.

Treatment benefits:

- Restoration of the function of hepatic cells. Achieved by targeted medication and dietary treatment.

-Reduction of the concentration of ammonia in the blood by the administration of arginine hydrochloride, choline chloride, glutamic acid, gastric lavage, stimulation of intestinal motility, cleansing enemas, temporary abstinence from the introduction of protein hydrolyzers.

-Reduction of oxygen starvation of tissues and organs by necrotomy of a burn scab, oxygen therapy, active tactics for the prevention and treatment of atelectasis, pneumonia, anemia, the use of cardiotonic drugs.

- Maintenance of optimal homeostasis. It is achieved by correcting circulatory disorders, water-electrolyte balance and acid base balance.

- Prevention and treatment of renal failure.

Our findings indicate that liver function in persons who have undergone severe burn injury remains impaired even several months after the healing of burn wounds. This fact must be taken into account in the plan for medical rehabilitation and, if necessary, for such patients to carry out operations for contractures.

REFERENCES

1) Seytalieva ZK, Kurkanina LP Burn disease - why does it develop? (literature review) // health care of Kyrgyzstan. - 2012. - No. s. - with. 76-80.
2) Miyassarova IF, scyazhkina p. n. burn disease // Institute of National Ideology. - 2018. -- v. 9.

3) Vinogradova TA Improving the efficiency of surgical treatment and rehabilitation of patients with thermal injury: dis. - 2018.
4) Salakhiddinov K. Prevention and treatment of complicated burn wounds // research archive. - 2020.
5) Gafforov Kh. Kh., Vafoeva NA Significance of systolic and diastolic dysfunction in liver cirrhosis // universum: medicine and pharmacology. - 2020. - No. 10 (72).
6) Bekmuradova MS, Kholturaev AT, Gaffarov Kh. Kh. Effect of proton pump inhibitors on the degree of development of hepatic encephalopathy // scientific achievements and education. - 2020. - No. 8 (62).

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

SPEAKING EXERCISES IN FOREIGN LANGUAGE TEACHING METHODOLOGY

Bazarbayeva A.Sh.,
Teacher, Fergana State University

Mushtariy Abdurakhmanova,
Student, Fergana State University

Kushakova Shahzoda,
Student, Fergana State University

ABSTRACT:
This article discusses practice in areas relevant to the teaching of speaking: the debates concerning native speaker and nonnative speaker models for spoken pedagogy, the issue of authenticity in spoken materials, approaches to understanding speaking in the classroom, the selection of texts and aspects of spoken language for the teaching of speaking and developments in materials and methods for the teaching of speaking. Finally, practical discussion on the teaching of specific spoken genres is reviewed and probable future directions are discussed.

Key words: speaking as a skill, speech activities, speech exercises, medium practical aim, means of communication, paradigmatic and syntagmatic relation, oral speech, spoken discourse, oral conversation, stimulus and their response.

INTRODUCTION

1. Speaking as a speech activity and a skill

Psychological content of speaking is expressing ideas. In a simpler way speaking as a methodic concept envelops: 1) the process of expressing idea; 2) utterance; 3) oral speech; 4) statement. Answering a question or even a whole monologue can be the expression of idea. So speaking is an integral part of oral conversation. Speaking is the use of certain lexical, grammatical or pronunciation phenomenon in the aim of expressing the idea. The proverb “First think then speak” proves this idea. So thinking is the usage of language material and expressing the idea is speaking skill.

Teaching speaking in English is considered as a medium practical aim, i.e. at the beginning stage of the education pupils learn speaking and listening but reading and writing used as a means of teaching. At the higher level, when reading and writing becomes an aim, speaking turns into a means of teaching. Speaking in English is a three part of speech activity. In the expressing part of the idea speaker begins to analyzing process began to work. Paradigmatic and syntagmatic relation is also observed, in paradigmatic relation inner connections are compared basing on different features of the word. It can be seen in the words with the same pronunciation but different spelling (write-right, son-sun); close in meaning (little-small); opposite in meaning (come-leave, give-take). Syntagmatic realation plays important role in learning to speak here we can see the usage of words in different word-combinations.

However interference is observed (order of words in foreign language and mother tongue).

The third part of speaking is performing or express an idea, pronunciation, namely, it consists of usage of it in outer speech.

Speaking skill should be taught closely connected with other skills (writing, listening and reading).

Teaching monologue and dialogue is one of the main requirements of the curriculum. For performing oral speech learners should gain some psycho physiological mechanisms.

According to ideas of some foreign language psychologists speaking is not either a communication process or utterance but it is a means of statement or expression of the idea. There are certain genres of oral conversation. They are description (telling the details to an active listener), narration (telling the development of events), reasoning (telling one’s train of thought to an active listener), identification (talking about one’s likes and dislikes), language-in-action (people doing things and talking), comment (opinions and points of view),

service encounters (buying and selling goods and services), debate and argument (seeking a solution and pursuing one's point), learning (use of language in learning) and decision making (people working towards a decision).

2. Approaches to learning and teaching speaking

Speaking in the English language has been considered the most challenging of the four skills given the fact that it involves a complex process of constructing meaning. This process requires speakers to make decisions about why, how and when to communicate depending on the cultural and social context in which the speaking act occurs. Additionally, it involves a dynamic interrelation between speakers and hearers that results in their simultaneous interaction of producing and processing spoken discourse under time constraints. Given all these defining aspects of the complex and intricate nature of spoken discourse, increasing research conducted over the last few decades has recognized speaking as an interactive, social and contextualized communicative event. Finally, it presents the importance of integrating this skill within a communicative competence framework so that learners can acquire their English language communicative competence through speaking.

Up to the end of the 1960s, the field of language learning was influenced by environmentalist ideas that paid attention to the learning process as being conditioned by the external environment rather than by human internal mental processes. Moreover, mastering a series of structures in a linear way was paramount. Within such an approach, the primacy of speaking was obvious since it was assumed that language was primarily an oral phenomenon. Thus, learning to speak a language, in a similar way to any other type of learning, followed a stimulus-response-reinforcement pattern which involved constant practice and the formation of good habits. In this pattern, speakers were first exposed to linguistic input as a type of external *stimulus* and their *response* consisted of imitating and repeating such input. If this was done correctly, they received a positive *reinforcement* by other language users within their same environment. The continuous practice of this speech-pattern until good habits were formed resulted in learning how to speak.

There is also another approach which is called interactionist. This approach is based on interactionist ideas that emphasized the role of the linguistic environment in interaction with the innate capacity for language development.

3. Teaching speaking within a communicative competence framework

Communicative approaches to English language teaching have undergone significant changes over the past two decades. A strong background influence is associated with the work developed by Hymes, who was the first to argue that Chomsky's distinction between competence and performance did not pay attention to aspects of language in use and related issues of appropriacy of an utterance to a particular situation. Thus, he proposed the term *communicative competence* to account for those rules of language use in social context as well as the norms of appropriacy.

Considering how a proper operationalization of this term into an instructional framework could contribute to make the process of English language teaching more effective, different models of communicative competence have been developed by specifying which components should integrate a communicative competence construct.

In such a construct, it can be assumed that the role of speaking is of paramount importance to facilitate the acquisition of communicative competence. Figure 1 shows the diagram representing this framework with speaking positioned at its core.

The proposed communicative competence framework has at its heart the speaking skill since it is the manifestation of producing spoken discourse and a way of manifesting the rest of the components. Discourse competence involves speakers' ability to use a variety of discourse features to achieve a unified spoken text given a particular purpose and the situational context where it is produced. Such discourse features refer to knowledge of discourse markers (e.g., well, oh, I see, okay), the management of various conversational rules (e.g., turn-taking mechanisms, how to open and close a conversation), cohesion and coherence, as well as formal schemata (e.g., knowledge of how different discourse types, or genres, are organized).

Making effective use of all these features during the process of producing a cohesive and coherent spoken text at the discourse level requires a highly active role on the part of speakers. They have to be concerned with the form (i.e., how to produce linguistically correct utterances) and with the appropriacy (i.e., how to make

pragmatically appropriate utterances given particular sociocultural norms). Additionally, they need to be strategically competent so that they can make adjustments during the ongoing process of speaking in cases where the intended purpose fails to be delivered properly. Consequently, an activation of speakers' knowledge from the other components proposed in the framework displayed in Figure 1 (that is, linguistic, pragmatic, intercultural and strategic) is necessary to develop an overall communicative ability when producing a piece of spoken discourse. Each of these components is described in turn below.

Discourse analysis or competence produces distinction between interactional and transactional function of the language. The information-transferring function is called transactional. Transactional function of the language is message-oriented. The purpose is to get things done. Examples are science reports, news stories, eye witness accounts to the police, a talk between a patient and a doctor, etc. In all the cases it is necessary to extract the salient details, to sequence and to present them to the listener or to the audience. This function is performed for "bringing the message across" and for "getting things done".

Other types of conversation are different. People chat with each other for pleasure. They talk in order to feel comfortable and to be friendly with each other. This function of the language is called interactional. Interactional function of the language is listener-oriented. The purpose is to "oil the wheels of communication". Such speech consists of friendly dialogues.

Linguistic competence consists of those elements of the linguistic system, such as phonology, grammar and vocabulary that allow speakers to produce linguistically acceptable utterances. Regarding phonological aspects, speakers need to possess knowledge of suprasegmental, or prosodic, features of the language such as rhythm, stress and intonation.

Apart from being able to pronounce the words so that they can be understood, speakers' linguistic competence also entails knowledge of the grammatical system. Thus, speakers need to know aspects of morphology and syntax that will allow them to form questions produce basic utterances in the language and organize them in an acceptable word order. Similarly, speakers' ability to choose the most relevant vocabulary or lexicon for a given situation will also contribute to the elaboration of their spoken text.

The mastery of these three linguistic aspects (i.e., pronunciation, grammar and vocabulary) is, therefore, essential for the successful production of a piece of spoken discourse since it allows speakers to build grammatically well-formed utterances in an accurate and unhesitating way. However, it has been claimed that it is possible to communicate orally with very little linguistic knowledge if a good use of pragmatic and cultural factors is made. These factors refer to the next two components proposed in the framework, which are also interrelated to build discourse competence through speaking.

Pragmatic competence involves speakers' knowledge of the function or illocutionary force implied in the utterance they intend to produce as well as the contextual factors that affect the appropriacy of such an utterance. Thus, speakers need to master two types of pragmatic knowledge: one dealing with pragmalinguistics and the other focusing on sociopragmatic aspects. On the one hand, pragmalinguistics addresses those linguistic resources that speakers can make use of to convey a particular communicative act. In other words, depending on the meaning speakers want to express, they can choose a particular form from among the wide range of linguistic realizations they may have available. On the other hand, sociopragmatics deals with speakers' appropriate use of those linguistic forms according to the context where the particular utterance is produced, the specific roles the participants play within that contextual situation and the politeness variables of social distance, power and degree of imposition. These politeness factors and the way speakers may use them to save face play a paramount role in successful communication.

REFERENCES

1) http://reja.tdpu.uz/shaxsiyreja/views/openlesson/download.php/?id=11974
2) https://languageskillsiauh912.fandom.com/wiki/2)speaking
3) https://www.scribd.com/document/207540405/Iye
4) https://books.google.com/books?id=CCI4xbDTEnUC
5) https://languageskillsiauh912.fandom.com/wiki/Speaking_skills_by_Nahid_Esfandiari
6) https://www.academia.edu/30891183/Difficulties_and_Problems_that_face_English_Language_Students_in_Speaking_Skills
7) Mllliitod U P English Teaching Methodology. - M.: Drofa, 2007. -P. 114.

8) Current trends in the development and teaching of the four language skills. Edited by Esther I I'm Jlilin. Alicia Martinez-FIor. - Berlin, 2006.
9) Jalalov J.J. Chet til o'qittsh mclodikasi. Foreign Language Teaching Methodology -T.:(t'qituvchi, 2012. - P. 245-246.
10) Рогова Г.В. Методика обучения иностранному языку в средней школе. - М., 1991 175'

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

PROBLEMS OF RATIONALIZATION OF NUTRITION OF PREGNANT WOMEN

Buranova Gulnoza Boymuratovna,
Teacher at the Faculty of Natural Sciences, Karshi State University,
E-mail: gulnoza.2015@mail.ru

Baratova Shokhsanam,
Karshi State University, Student of Master's Degree.

Pulatova Kamola,
Karshi State University, Student.

ABSTRACT
In the article the importance of the nutrition of pregnant women for the growth and development of healthy child is illustrated.

Keywords: balanced diet, trimester, nutritiology, dietology, ketone, hormonal system, total energy, animal proteins.

BACKGROUND

President Of The Republic Of Uzbekistan Sh.M.Mirziyoyev's decree "on measures to radically improve activities in the field of supporting women and strengthening the Family Institute", adopted on February 2, 2018...protection of reproductive health, implementation of measures aimed at increasing the knowledge and sanitation culture of the population in the field of prevention of maternal and perinatal diseases and mortality" indicates that the priority task is increased to the level of Public Policy on the protection of the health of pregnant mothers and children born and the need to further increase the scope of work in this One of the important activities in this regard is the organization and implementation of their adequate and quality nutrition.

The quality nutrition of pregnant mothers has attracted considerable attention from scientists and doctors since ancient times. Galen, Aristotle and Gippocrates note that the proper amount and quality of nutrition of pregnant women prevent many defects in childbirth. At present, these ideas have been proven completely. Therefore, in the birth of a healthy child, every mother should pay enough attention to what she eats and what she drinks, preventing the body from gaining or decreasing weight. It is also wrong for pregnant mothers to try to reduce body mass immediately during pregnancy to give birth to a healthy baby. Collected ketone bodies (intermediates formed during metabolism) as a result of the efforts to reduce the weight can have a negative impact on the development of the fetus. It should be noted that modern biology, medicine, nutritiology and dietology still do not have enough information about optimal nutrition of pregnant women.

Indeed, the quality of food, type, quantity, timely and nutritious food used during pregnancy is one of the most important factors affecting human life [2-182]. It is well know, during pregnancy significant changes in metabolism and hormonal system occur. The need for vitamins and minerals in pregnant women is 1.5 times higher.

In the first half of pregnancy, women's diet is not fundamentally different from the usual state of nutrition or from that before the embryo appears. It should be borne in mind that, the formation of the embryo members occur in the first trimester so the consumption of biologically acceptable proteins, vitamins and macro and microelements taking into account of their similarity to their level is of great importance. Insufficient nutrition of the pregnant woman reduces the stock of nutrients needed for the fetus, leading to a child's metabolism disorder. Insufficient nourishment has led to the abortion of the child, the loss of the baby's ability to live, the dead birth of the baby, and the death of the mother and the child [3-330].

It is hard to tell exactly how much the pregnant woman eats in one day. This figure depends on the weight of the pregnant woman, age, body weight, occupation, climatic conditions, and season of the year as

well. Depending on the height, body weight, and movement of the woman, every pregnant woman should consume on average 60-90 g protein, 50-70 g of fat and 325-450 g carbohydrates a day. The total caloric value of these nutrients should be around 2200-2700 kcal [2-181]. It is also important for pregnant women to have a healthy diet, which is recommended 4 times a day in the first half of the pregnancy and 5 and 6 times in the second half of pregnancy. It's important not to eat overly at once, it is necessary to eat fruits, vegetables and salads first and then to eat from the main meal. Nutritional supplementation should be achieved by selecting foods that are not too long to be consumed in gastrointestinal tract and easily digested. Otherwise, they will go off producing substances as gas, and different kinds of toxic substances. This can, first of all, cause anxiety in the body, and may adversely affect the developing fetus. The share of acceptable total energy consumption compared to the main food stuffs should be 15-30% for proteins, 25-30% for fat and 40-45% for carbohydrates.

Nutrition of pregnant mothers must meet all requirements physiologically. In this context, the diet should include 5 times, and the last meal should be about at 9 p.m. consisting a cup of yoghurt. White and oily foods should be consumed in the first half of the day and the total energy of the dinner should be about 20% of the daily energy. A pregnant woman should not have a rest immediately after eating.

In the second half of pregnancy, due to the increased fetal weight and development of the function of the liver, kidneys, intestines and nervous system of the fetus, maternal nutritional requirements should be increased slightly to 80- 110 g relative to the protein , 50 to 70 g of fats and 350 to carbohydrates - up to 450 g , the total caloric value of these nutrients should be 2300-2800 kcal. 60% of proteins in pregnant diet are animal proteins, 30% of which should be covered by meat and fish, 25% by milk and dairy products, and respectively the other 5% should be covered by egg. [3-326].

Targeted nutrition for pregnant women can be determined based on the increase in body weight. For example, in women who have a normal pregnancy, body mass growth should be between 300 and 350 gr per week . In case of complete pregnancy, body mass should not be exceeded from 8 to 10 kg of former body weight . If the weekly increase is equal to 1 kg, this is not a good indication, but often this is due to the dramatic accumulation of fluid in the tissues. The normal growth of the mass of the pregnant women is a natural phenomenon, which ensures a sufficient amount of nutrients during lactation. In recent years, according to Korolev and A.Yu. the Baranovskiy recommendation ,observations have shown that the daily diet of pregnant women should be as following [3-325]:

Meat or fish 120 to 150 g .
Milk or yoghurt 200 g .
Sour milk 50 g .
One egg.
Bread 200 g .
Pasta and groats 50-60 g .
Potatoes and other vegetables 500 g .
Fruit juices 200- 500 g .

Of course, the aforementioned products and their quantities may not be suitable for many rural conditions, for example, you cannot always find a fish, or sometimes black and white bread is a bit of a difficult to be found. In these cases it is recommended to use polyvitamins for pregnancy.

Milk, sour milk, lean cauliflower and less salty cheese are recommended for pregnant women to provide adequate protein content. The proteins of these products provide an optimal ratio of unchanging amino acids and calcium salts.

Pregnant women should eat fish and meat in boiled form, especially in the second half of the process. It is better not to drink meat, fish, mushrooms soups as they contain extractive substances that are harmful to the body. As a liquid meal, vegetable, milk and fruit soups should be prepared.

Fat serves not only as an energy source, but also an important component of all the tissue and cellulose for the body of the pregnant woman. They also provide normal extraction of calcium and magnesium from fat-soluble vitamins and mineral substances. In addition to fat-soluble vitamins fat also contains phospholipids, sterins, arachidonic and other essential (primary) substances such as linoleic and linolen acids. Milk butter should serve as a source of animal fat for pregnant women's consumption. The daily requirement for it should not exceed 25-30 g. Such women are required to take margarine out of their diet at all . It is not

advisable to consume intestine fat. In daily meals, an average 25-30 grams of vegetable oil is required. Because they contain vitamin E, which is important in the development of the fetus, besides unsaturated fatty acids [2-180] .

In pregnant women folic acid, iodine deficiency, and anemia are common in iron deficiency form. Among them vitamin D, $B_{6,}$ folic acid (B_9 avitaminosises, as well as calcium, iodine, iron, and zinc deficiency is considered dangerous. Vitamins and micronutrient deficiency can cause 1,000 birth defects and, in particular, nervous system and heart failure. Today prevention of such bad circumstances is not a big problem. It is advisable for women to nourish themselves and their children fully during pregnancy and breastfeeding by eating nutrients and polyvitamin-mineral complexes.

Increasing demand for food in pregnancy period is considered a natural condition This, in turn, plays a crucial role in providing the growing fetus with the necessary nutrients This process is characterized by increased natural energy and fat accumulation in the mother, tissue development, increased demand for major metabolism, and increased demand for energy for physical activity. Due to the overweight increase in body weight during pregnancy: blood pressure, pregnancy diabetes, urinary tract infections, changes in blood vessels, complicated maturates, and body weight control after pregnancy can occur. Due to the lack of body weight during pregnancy, there is a high risk of complications, premature birth, low birth weight, delayed pregnancy and even mortality [3, p. 322].

METHODS

Nutrition of pregnant women is studied by questionnaire method (4, p.39). Quantity calculation of food content is made on the basis of special tables (5, p7-180). The maintenance of fats, protein and carbohydrates in the diet was defined accordingly by methods of Gerber, Keldal and Antron using Keltran device (6, p. 469-472)

RESULT

In our observations, we tried to find out nutrition of a group of 18-29 pregnant women living in the Kasan district of Kashkadarya region through questionnaire surveys in order to study current nutrition and create balanced diet rates in pregnant women and have achieved the following results:

Table 1. Provision of pregnant women (18-29 years old) with macronutrients

Macronutrients	Normal measurement [4]	The result	Relative difference, in%
Proteins	61 (+30) *	77.2	-15.1
Animal protein, g	34 (+20)	34.2	-36.4
Fat, g	67 (+12)	69.4	-12.1
Carbohydrates, g	289 (+30)	315.2	-1.1
Energy, kkal	2000 (+320)	2191.2	-6.6

* Everyday principle addition according to age and physical activeness

It is evident that the acceptance of macronutrients in the respondents is at a much lower level in all nutrients. In particular, protein deficiency is higher than other nutrients (15.1%), particularly the absence of animal protein deficiency (36.4%) is dangerous. Fat consumption is also lower in pregnant women(12.1%) and only the level of carbohydrates is on average. Having understood the results, it is important to notice that in some areas of our Republic, especially in rural areas, the main foodstuffs in the diet are carbohydrates - bread and flour products, while the total energy value is close to the norm, while proteins especially animal proteins was noted to be lower than norm. If defects are not eliminated in time, the deficiencies in the normal course of pregnancy are inevitable. As we have already noted, this can have a negative impact on lower fetus body weight, its physical and mental wellbeing. The following table gives an overview on how the respondents receive vitamins from micronutrients .

Table 2. Provision of pregnant women (18-29 years old) with vitamins

Vitamins	Normal measurement	The result	Relative difference, in%
C (mg)	70 (+20) *	79.6	-11.5
B_1 (mg)	1.1 (+0.4)	1.1	-26.6
B_2 (mg)	1,3 (+0,3)	1.3	-18.7
Folate (mkg)	200 (+200)	288.4	-27.9
A (mkg) ret.ekv.	800 (+200)	789.4	-21,0
E (mg) toc. ekv.	8 (+2)	7.6	-24
D (mkg)	2.5 (+1)	2.9	-17.1

* Everyday principle addition according to age and physical activeness [1-13].

As shown in the table, all the studied vitamins were poorly consumed by respondents. In particular, the standard consumption of vitamin C should be about 90 mg every three months of pregnancy. However, the shown result was 79.6 mg. In other words, consumption of vitamin C were 11.5% lower than norm. Whereas normal consumption of vitamin B1is 1.4 mg the result was shown to be 1.1 mg. The consumption of this vitamin couldn't meet with requirement too, being 26.6% lower than norm. Likewise, normal consumption of vitamin B2 is 1.6 mg but the result was shown to be 1.3 mg. This means it was 18.7% lower than the demand. As shown in the table, vitamin B_9 or folate acid is quite deficient in all pregnant women, whereas the demand for it is about 400 мg, the result is 288.4 мg. The demand for fetal acid in pregnant women met only 72%.

Now let's draw attention to the data on the provision of mineral substances to the respondents .

Table 3. Providing pregnant women (18-29 years old) with mineral substances

Mineral substances	Normal measurement	The result	Relative difference, in%
Calcium (mg)	800 (+300)	786.2	-28.5
Phosphorus (mg)	1200 (+450)	1123.1	-31.9
Magnesium (mg)	400 (+50)	379.4	-15.6
Iron (mg)	18 (+20)	21.6	-43.1
Zinc(mg)	15 (+5)	16.2	-19,0
Iodine(mg)	0.15 (+0.03)	0.14	-22.2

* Everyday principle addition according to age and physical activeness [1-13,14]

The deficiency of investigated substances here is even more apparent. Thus, the calcium content of the respondents is 786.2 mg (norm 1100 mg). The deficiency of this element is 28.5%. 1123.1 mg phosphorus instead of 1650 mg was consumed and deficiency is about 32%. If the magnesium element is to be consumed at an average of 450 mg, the result is 379.4 mg. The deficiency of this element is more than 15.5%. The demand for microelement iron, important for fermentation meets only about 57%. (If the norm is 38 mg, the result is 21.6 mg). If the norm of zinc is 20 mg, the result is 16.2 mg it means 19% lower. Iodine is consumed 22% less than the norm.

As can be seen above, there are a number of serious shortcomings in the diet of pregnant women . One of the crucial ways to overcome the issue is to broaden the population's awareness of normal of nutrition, which is an essential component of a healthy lifestyle. This includes reporting on the same topic in the media and at home, as well as organizing workshops or special sessions on rational nutrition for pregnant women, as well as courses.

CONCLUSION

Average fats and protein content of daily diet of investigated pregnant women are less than average standard values. Average amount of carbohydrates in their diet is 98,8 %. Also it is found out that the maintenance of vitamins on the average on 11,5-27,9 %, mineral substances – on 15,6-43,1 % is lowered. It can be explained by lowered maintenance of animal products in their diet and the raised use of bread and flour products.

In conclusion, by studying the nourishment of pregnant women and developing recommendations for their rationalization, it is possible to create a basis not only for women but for the healthy and well-being of the future children.

REFERENCES

1) Шарипова Н.В., Дусчанов Б.О., Шайхова Г.И. ва б. “Ўзбекистон Республикаси аҳолиси турли гуруҳларининг озиқ моддалар ва энергияга бўлган физиологик талаб меъёрлари, қоидалари ва гигиена нормативлари. Сан Пин. № 0250-08, Тошкент, ТТАИФ, 2008 - 38 p.
2) Қурбонов Ш.Қ. Овқатланиш маданияти. Тошкент, 2005. - 206 pages.
3) Қурбонов Ш.Қ., Дўстчанов Б.О., Қурбонов А.Ш., Каримов О.Р. Соғлом овқатланиш физиологияси. Қарши, 2018 -435 pages.
4) Методические рекомендации по вопросам изучения фактического питания и состояния здоровья населения в связи с характером питания. /Зайченко А.И., Волгарев М.Н., Бондарев Г.И. и др. Москва 1986. – 86 с.
5) Химический состав пищевых продуктов: Книга 1,2: Справочные таблицы содержания основных пищевых веществ и энергетической ценности пищевых продуктов. /Под ред., проф., д-ра техн наук И.М.Скурихина, проф., д-ра мед наук М.Н. Волгарева – 2-е изд., перераб., и доп. – М.: ВО «Агропромиздат», 1987. – 224 с.
6) Биохимические методы исследования в клинике /Под ред., акад. А.А.Покровского. – М.: Медицина, 1969. – С. 469-472.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

STUDY ON THE DISTRIBUTION OF BEE TRACHEA ACARAPIS WOODI TICKS IN BEE YARD OF KASHKADARYA REGION

BobonazarovG`apporYadgorovich,
Associate Professor of the Karshi State University.

Omonova Nafisa Rahimovna,
Teacher of the Karshi State University.

RabimovaZilolaSHuhratqizi,
Master degreeof the Karshi State University

ANNOTATION
Beekeeping (apiculture) is one of the main branches of agriculture and plays an important role in increasing the productivity of bees by increasing the number of bees for honey production and pollination of agricultural crops. Along with the development of beekeeping in the world economy, various invasive and infectious diseases of bees are also widespread. The parasitic mites Acarapis woodi (called an acarapidosis by the name of the causative agent) parasitize in the first pair of bee's chest tracheas. The life cycle of the tracheal tick Acarapis woodi completely passes on to an adult bee and causes a serious illness - called acaripidosis. Bees infested with Acarapis woodi canes die without being able to fly, and bee families are weakened and productivity is reduced. Compared to a family of healthy bees in one season, bee families infected with acaripidosis produce 50-70% less honey.The study of bioecology and the spread of Acarapis woodi ticks is one of the essential tasks of theoretical and practical importance.

Keywords: agriculture, apiculture, bee,disease, ticks, Acarapis woodi,acarapidoz, trachea; financial loss; acaricide; prevention;

INTRODUCTION

Beekeeping is one of the main sectors of agriculture and is vital in carrying out large-scale donations to strengthen the environmental security of a farm, along with the relocation of bees for honey production. Along with the development of beekeeping in the world economy, various investments of bees and information diseases are also widespread. Among them is acarapidosis, a disease caused by Acarapiswoodi ticks, which parasitize the respiratory tract of bees. The bioecology of the ticks that cause this disease in the world, the study of its spread and the implementation of preventive measures to better control it remains a pressing issue.

The mass extinction of bees from the unknown disease was observed in 1904 on the British island of White. This is stated by the British professor August Imms (Augustus Daniel Imms, 1880-1949) in his book "Diseases of the White Island." Within 2 years of this disease, a large proportion of White Island bees die. This is later the case in Scotland and Ireland. In 1920, John Renin, a professor at the University of Aberdeen in Scotland, found a microscopic mite in the trachea of a sick bee and named it Acarapis woodi in 1921 in honor of the English entomologist Wood. The name Acarapis family was later suggested ("acar" - mite and "apis" - bees). The name of the disease they cause, the term "acarapidosis", appeared in 1940 after the disease was recorded throughout Europe.Today, Acarapis woodi ticks are widespread in almost all over the world: Europe, Asia, North America, South America and Africa. However, they cannot be found in Australia and New Zealand. It was first identified in the United States in 1984. It was first recorded in Russia in the Voronezh region in 1926, and later spread to other regions of the former USSR: Chernigov region of Ukraine (1937), Estonia (1959), Georgia (1971). It was recorded in the 80s and 90s of the last century in Kazakhstan and the Central Asian republics, including Uzbekistan.

Bees infested with Acarapiswoodi ticks die without being able to fly, and bee families are weakened and productivity is reduced. Compared to a family of healthy bees in one season, bee families with acarapidosis produce 50-70% less honey.

THE AIM OF THE WORK

Acarapiswooditicks parasitize the respiratory organ - the first pair of thoracic tracheas of bees. The disease they cause is called in veterinary medicine - acarapidosis. The mite and its larvae pierce the wall of the trachea and feed on the hemolymph.

To study the distribution, morphology, biology and ecology of Acarapiswoodi ticks in Kashkadarya region, to determine the causes of bee acarapidosis in beekeeping farms and private homes, to recommend the most advanced, modern, environmentally safe, highly effective measures against bee acarapidosis is aims of the work.

MATERIAL AND METHODS

Collection of material on the distribution of Acarapiswoodi ticks in Kashkadarya region, detection and diagnosis of acarapidosis in bees was carried out in accordance with the METHODICAL INSTRUCTION "Diagnosis of bee exoacarapidosis and acarapidosis" approved by the Veterinary Department on June 13, 2002.

In a laboratory samples taken from bees suspected of acarapidosis are washed in a Petri dish or test tube immersed in water, and if the bee's body is infected with acarapidosis, it is released into the water and can be observed under a microscope in a darkened field of view. It is also possible to examine sick bees using MBS-1 or MBS-2 binocular magnifiers and collect canals in the body using fine preporaval needles. When examining bees individually, ticks are also removed from inside the tracheal tubes by splitting the body. After that, the type and systematics of the collected ticks are determined and a morphological description is given.

Bee tick or acarapis wood (lat. Acarapiswoodi) parasite thrombidiformProstigmata subfamily of Trombidiidae ticks, a species belonging to the family Tarsonemidae, is a dangerous parasite of bee trachea. They are the object of quarantine, causing the weakening and extinction of the bee family.

The body of Acarapiswooditicks is so small that they can only be seen with the help of magnifying instruments (magnifying glass, microscope, etc.). They are oval in shape, 125-174 mms in size, pale transparent, white. When cane bees multiply in large numbers in the tracheal tube, they block the airway and cause death. The life cycle of the ticks takes place in the complete trachea of bees. Ticks are not found in bee larvae. But it can harm young bees from birth.

The females of the acarapiswoodi enter the first pair of thoracic tracheas of bees through the respiratory stigmas and lay 5–7 eggs. The eggs hatch in 3–4 days. The six-legged larva emerges from the egg, the male mite matures at 11-12 days from the mushroom stage, and the female mite at 14-15 days. Fertilization channels take place in the trachea of developed bees. After fertilization, the female mite leaves the trachea through the respiratory stigmas and attaches itself to the hairs that cover its body. Infected bees in this way spread the ticks as they mix with other healthy bees. Repeating the process in this order will harm the entire bee family. Infected bees fly away and infect other family bees as well. In this way it spreads to other families and other bee applicants (pasekas). In addition, beekeepers themselves are responsible for the spread of acarapidosis due to non-compliance with the rules of zoohygiene.

More young bees (at least 4 days old) are affected by acarapidosis because the physiological condition of the trachea of adult bees is a key factor in their self-protection from their ticks. The ticks pass very easily from one bee to another, and the vibrations of their wings help the canes find the stigmas of the thoracic trachea at the base of the wing.

RESULTS AND ARGUMENTS

Acarapiswoodi ticks are also found in bees in Uzbekistan. But in our dramatic temperate climate, their bioecological properties are almost unexplored.

The general appearance of bees infected with acarapidosis is mainly due to the fact that they crawl in front of the hive, around which bees can not fly weakly on the ground. This disease can be caused by other diseases of bees (bacterial, viral and other diseases). Therefore, to make a definitive diagnosis of acarapidosis, the head of bees suspected of being infected is cut off using a scalpel. The thoracic portion is divided transversely and the thoracic trachea is observed under a microscope. Black or brown spots appear

on the trachea of bees infected with acarapidosis. Bees are not infected with acarapidosis, if they are healthy, their trachea will be clear, transparent in color, and mites or their larvae will not be visible.

In order to study the infestation of bees with acarapidosis in the conditions of Kashkadarya region, we conducted research in bee applications (pasekas) belonging to the state forestry of Kashkadarya region. To do this, in early spring (March 2019) we collected fragile bees, which do not fly, crawling in front of bee families. We kept them in a closed Petri dish under laboratory conditions and performed acaralogic examinations using generally accepted methods of diagnosing acarapidosis.

In doing so, we cut the head of the bees with a scalpel, they opened the first pair of tracheas of the thoracic part and observed under a microscope. We collected 83 sick bees that were crawling in front of 52 hives of the bee applicant, where 202 bee families were sampled for testing, and all the bees underwent acarological examination. Of the 83 bees we examined, 27 (32.5%) found Acarapiswoodi canals in the trachea (table).

Distribution of Acarapiswooditicks in bee trachea in Kashkadarya region

Region	The number of bee families present in the applicants	Number of sick bees examined	Number of bees Acarapis woodi ticks were found in the trachea	Sickness (%)
a state forestry in Kashkadarya region	2019year			
	Spring			
	202	83	27	32,5
	Autumn			
	263	23	2	8,1

In this way, these applicant bees were found to be infected with acarapidosis, from which live and dead ticks were found. All beehives of the applicant were then treated with acaric acid against acarapidosis. During the spring, summer and early fall, bee families were cared for under normal conditions and they were harvested. In the same application, which we conducted in the spring, we conducted another acrological examination in late autumn (November). An autumn survey found that 8.1% of sick bees were infested with Acarapiswoodi canes.

CONCLUSION

Acarapidosis is a very dangerous infectious disease that cannot be cured by treating infected bee families alone. The method of treatment can be considered as an adjunct to the measures taken to get rid of acarapidosis. A once treatment cannot ensure complete recovery of the bee family from acarapidosis. In this case, the bee families are partially cured of the disease. Therefore, treatment is chronic and needs to be repeated every year. In addition, it is required to take measures to prevent it and comprehensive control.

Organizing timely diagnosis of bees infested with Acarapiswoodi canes in their applicants and using preventive measures against it will prevent the development of acarapidosis and limit its spread. As a result, bee colonies are healthier and more productive.

REFERENCES

1) Бобоназаров Ғ.Ё., Рабимова З.Ш., Юлдашева Ж.Х. Асаларилар паразити Acarapis woodi канасининг биоэкологик хусусиятлари. “Ўзбекистон зоология фани: Ҳозирги замон муаммолари в ривожланиш истиқболлари”. Республика илмий-амалий конференция материаллари (20-21 июнь 2019 йил). Тошкент, 2019 й. 57-59 б.
2) Блинов А. В. Изыскание новых экологически безопасных средств борьбы с акарапидозом пчел. Автореферат диссертации на соискание ученой степени кандидата ветеринарных наук. Москва. 2001. - 27 с.
3) Гапонова В. С., Гробов О. Ф. Клещевые болезни пчел. - М.: Россельхозиздат, 1978. - С. 5-37.
4) Пашаян С. А. Эколого-биологические основы, определяющие резистентность пчел к заболеваниям. Автореферат диссертации на соискание ученой степени доктора биологических наук. Екатеринбург. 2012. -36 с.

5) Методические указания по диагностике возбудителей акарапидоза и экзоакарапидоза пчел. УТВЕРЖДЕНО Департаментам ветеринарии РФ. 13 июня 2002 г.
6) Petti, J. S., W. T. Wilson, andFs. A. Eischen. Nocturnal dispersal by female Acarapiswoodi in honey bee (Apismellifera) colonies // Journal of Experimental and Applied Acarology :Журнал. - 1992. - Vol. 15. - P. 99-108.

CONFERENCE PARTICIPANT QUESTIONNAIRE

Name:	BobonazarovG`apporYadgorovich
Section:	International cooperation in the field of ecology, environmental protection and rational use of natural resources
Name of the article:	STUDY ON THE DISTRIBUTION OF BEE TRACHEA ACARAPIS WOODI TICKS IN BEE YARD OF KASHKADARYA REGION
Place of work and address:	Karshi SU, Karshi city 730180, Kuchabog street 17.
Position:	Karshi SU, Head of the Department of Zoology and Physiology
Academicdegreeandtitle:	Candidate of Biological Sciences, Associate Professor
Phone number:	+ 998 93 931 79 31
e-mail:	g.bobonazarov@list.ru

CONFERENCE PARTICIPANT QUESTIONNAIRE

Name:	Omonova Nafisa Rahimovna
Section:	International cooperation in the field of ecology, environmental protection and rational use of natural resources
Name of the article:	STUDY ON THE DISTRIBUTION OF BEE TRACHEA ACARAPIS WOODI TICKS IN BEE YARD OF KASHKADARYA REGION
Place of work and address:	Karshi SU, Karshi city 730180, Kuchabog street 17.
Position:	Karshi SU, Teacherat the of Zoology and Physiology
Academicdegreeandtitle:	Teacher
Phone number:	+ 998 90 639 10 43
e-mail:	nafisa.omonova1@mail.ru

CONFERENCE PARTICIPANT QUESTIONNAIRE

Name:	RabimovaZilolaSHuhratqizi
Section:	International cooperation in the field of ecology, environmental protection and rational use of natural resources
Name of the article:	STUDY ON THE DISTRIBUTION OF BEE TRACHEA ACARAPIS WOODI TICKS IN BEE YARD OF KASHKADARYA REGION
Place of work and address:	Karshi SU, Karshi city 730180, Kuchabog street 17.
Position:	student
Academicdegreeandtitle:	Master degree of Karshi State University
Phone number:	+ 998 91 224 62 62
e-mail:	Komronzilola1994@gmail.com

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

MATERIAL MOVEMENT MECHANISM FOR UNIFORM MOVEMENT OF DENSE MATERIAL IN A SEWING MACHINE

Ismoilova Nozigul Ikromjonovna
Tashkent Institute of Textile and Light Industry
mamedova_madina_2019@inbox.ru
Phone number: 90 612 00 92

ABSTRACT
The article provides a mechanism for moving the material at a uniform movement of dense material in a sewing machine. The constructional scheme of the mechanism for moving the material is presented.

Key words: Sewing machine, thread guide, compound, rubber, stitch, foot, rigidity, friction force, material.

INTRODUCTION

At the present time in the world of modern business under conditions of fierce market competition among the most urgent problems of sewing enterprises are the efficiency of technological processes and the quality of manufactured products. The successful resolution of these issues is primarily associated with the introduction of new technologies and the equipping of technological processes for the production of garments with modern high-performance equipment. Sewing machine building is a fast growing industry that consumes high technology, so the emergence of new equipment for enterprises producing garments is inevitable. At present, industrial sewing companies and enterprises of consumer services have a wide variety of sewing equipment with advanced technological capabilities.

Sewing equipment is extremely diverse because of the variety of technological operations performed by sewing machines and depending on the design of machines and their control principles. Adjusting the mechanism for moving the material in the sewing machine company Juki (Japan), is as follows. The movement of the material lower rail 11 (Fig. 1) is adjusted by turning the lever 1 after loosening the nut 2. If it is turned counterclockwise (when viewed from the front of the machine), the displacement will increase. The upper rail 36 material displacement is adjusted by turning lever 5 after loosening nut 3. Turning it anticlockwise will increase the movement of rail 36. In order to secure the stitching, the operator moves the crank 4 downwards. Lifting height of the lower lath 11 is adjusted by turning the rocker 10 after loosening the screw 9. The teeth of the lath should rise 1 mm above the needle plate.

The position of the tines of the rack 11 in the slots in the needle plate is adjusted by turning the rocker 14 after loosening the tightening screw 13, if the rack 11 is to be moved across the platform of the machine. If it is necessary to move the rail 11 along the platform loosen the screws 9 and 13 and rocker 10 and 14 together with the lever 12 move along the shafts 8, 15. The lifting height of the upper lath 36 and the foot 34 is adjusted by moving the threaded rod 26 along the slot in the rocker arm 27. If the threaded rod 26, together with the front head of the connecting rod 24, is lowered, the vertical movements of the upper rack 36 and foot 34 will increase. The timing of the vertical movements of the upper rack 36 and foot 34 is adjusted by turning the main shaft after loosening the eccentric shaft screws 23 22. The position of the upper rail 36 relative to the foot 34 is adjusted by turning the rocker 29 after loosening the tightening screw 28. The vertical position of the foot 34 relative to the upper rail 36 is adjusted by vertical movement of the rod 18 after loosening the screws 19, 17 of the coupling 16.

The position of the upper lath 36 relative to the foot 34 across the machine platform is adjusted by turning the frame 32 after loosening the rocker screw 30 31. The vertical position of the upper lath 36 relative to the foot 34 and the parallelism of their horns is adjusted by moving the upper lath 36 vertically along the rod 33 or by turning the lath 36 after loosening the screw 35.

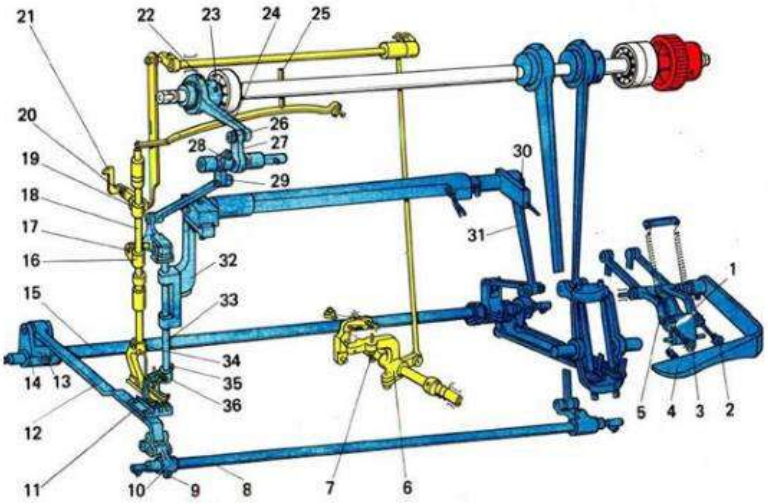


Figure 1. Design diagram of the material handling mechanism

Sewing quality, machine productivity, labour and maintenance costs are greatly influenced by the mechanisms that transport the product during machining.

Types of transport mechanisms. In sewing machines, mainly three types of fabric transport mechanisms are used: toothed rack, grooved roller and toothed rack, grooved roller and bottom transport ring.

The slat conveyor transports the fabric by the forces of the teeth of the slat gripping the material and pressing the material against the upper spring-loaded foot or roller. The material of the battens is usually caught by the teeth every time the main shaft is turned, so the semi-finished product moves intermittently. The quality of the stitch, and therefore the quality of the product depends largely on the sewing machine equipment and the skill of the worker. Fluted (serrated) roller conveying is mainly used for stitching leather, where the roller can have an intermittent rotating movement, while if the conveying is performed by a roller and a bottom conveying ring, they rotate continuously (Fig. 2).

The following requirements are placed on the rack-and-pinion conveyor belts: 1. The transport should take place with the smallest possible deviations from the set value and should end at certain angles of rotation of the main shaft. Preferably, the fabric feed should start after the stitch is tightened and end before the needle enters the fabric.

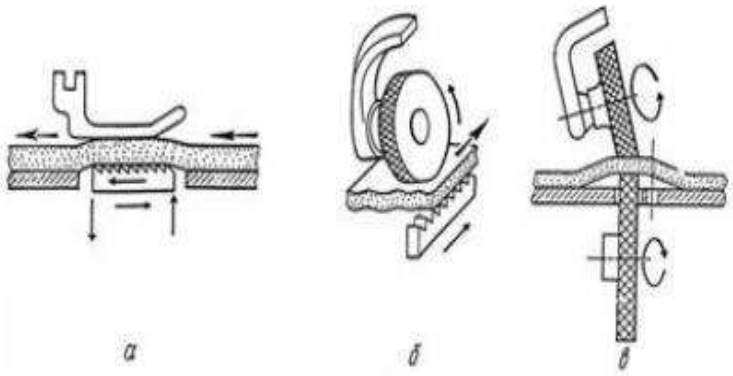


Fig. 2. Crosslinking transport mechanisms: a - Rack and pin; b - Rack and roller; c - Roller and bottom conveyor ring

This would give a stroke angle of 50-60°. In existing machines, however, this is approx. 110°. Thus, the stitch is tightened after the fabric has moved a large proportion of the stitch pitch, and the hole in the fabric is offset in relation to the hole in the needle plate. This increases the tension of the thread when it is pulled out of the hook set, and therefore the possibility of thread breaks. In addition, the loose stitch may be caught between

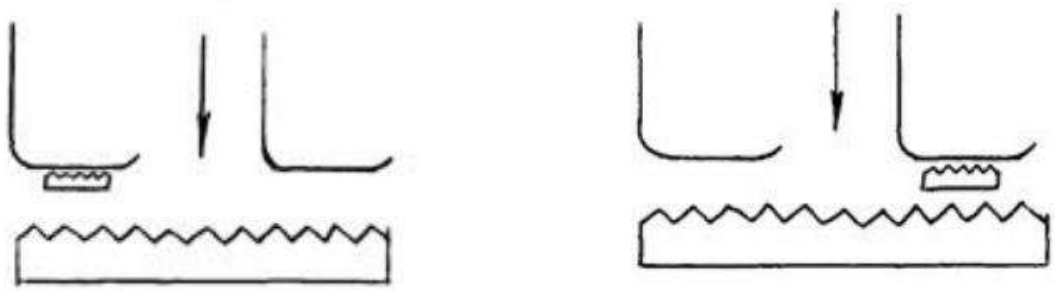
the foot and the needle plate, and the thread tensioner will not tighten the stitch, but will wind off the thread from the bobbin. The machine will then loop from the bottom.

2. In order to reduce inertial loads at the moment of feed, the rack's acceleration should be minimal and change smoothly, without jerking. It is desirable that the direction of horizontal components of the rack teeth acceleration does not coincide with the direction of material movement. In this case, the forces of inertia of the workpiece to be fed will contribute to its advancement.

3. The rake teeth must not leave visible marks on the workpiece and must not damage the fabric during transport. The profile of the teeth and their height are selected according to the type of physical and mechanical properties of the fabric. The penetration of the battens into the fabric is largely dependent on the pressure of the presser foot which can be adjusted by means of a screw or a nut.

4. A stitch pitch regulator must be provided in the transport mechanism. In universal machines, the stitch pitch is adjustable in the range 1-5 mm. In heavy duty machines, the stitch pitch can be varied up to 10-12 mm. Some machines have a reverse feed of the fabric for tacking stitches. The most common are rack and pinion mechanisms: the slat and presser foot. Rails can be 2-threaded for light to medium materials and 3-4-threaded, which are used in twin needle machines and with a large distance between the needles. The foot usually follows the shape of the lath.

The press force on the presser foot is chosen for the following reasons: on the one hand it is necessary to ensure constant contact between the presser foot and the rail when moving the material, but on the other hand an excessive increase in press force can lead to irreversible deformation of the material, an increase in the forces acting in the hinges of the mechanism, and therefore premature wear of the mechanism. Incorrect choice of nip force can lead to variations in stitch size at different machine speeds. An important factor in machine performance is the trajectory of the rake teeth. The most common is an eliptical trajectory. Due to the unevenness of the slat speed when moving the material, it can lead to fabric seating. Therefore, a rectangular rake path is preferable. However, at high speeds high forces of inertia occur, consequently leading to vibration and wear on the mechanism. For this reason the trajectory is optimised by bringing the upper section of the trajectory closer to a straight line. To eliminate seating of relatively rigid materials a mechanism with a deflecting needle which moves synchronously with the material and prevents sliding of layers is used. This method is not suitable for elastic, non-rigid materials. For such materials, a differential mechanism with two slats is used when milling without seating. For example, the Juki HZL E40. A similar mechanism can also be used for sewing over a material, e.g. chain stitch machines. If only one layer of fabric needs to be tacked, a separating plate is inserted into the machine. The most rational, but more complex mechanism is the one with upper and lower slats, which clamp the material and move it synchronously. This type of mechanism makes it possible to move materials that are difficult to transport without a landing. Two types can be distinguished:



a b

a) a pulling mechanism with the top rail behind the needle (for grinding stiff, heavy materials);
b) pusher mechanism where the upper rail is in front of the needle (for sewing easily deformable materials or parts made at an angle to the warp thread)

Double-rail mechanisms with a swivelling needle are available, e.g. on the Juki HZL E40. These are used for complex operations, such as edging workpieces. There are three ways of adjusting the stitch length:

- Changing the length of the slave or drive arm of the mechanism or eccentric;
- Changing the trajectory of the slave link in the controller by changing the position of the movable support of this link. This is the most common mechanism in speed machines;

- Changing the angle between the axis of a link engaged in a complex plane-parallel movement and the guide of that link.

REFERENCE

1) Bozorova Farida, Mukhamedjanova Sabrina "Simulation Of Forced Vibrations Of The Elements Of A Sewing Machine's Compound Foot" Acta of Turin Polytechnic University in Tashkent*:* Vol. 10 : Iss. 3 , Article 5.p.22-25.
2) Ganchini Shukhratzoda, A.Djuraev, M.A.Mansurova, S.Dj.Mukhamedjanova, "Design development and mathematical model of vibrations of plates of the tension regulator of the tension needle sewing machine"/ International Journal of Advanced Research in Science, Engineering and Technology. Vol. 6, Issue 7, July 2019, p.10208-10210.
3) A.Djuraev , K.Yuldashev , C.Dj.Muxamedjanova "Calculation of the power of the undulating surface of the screw conveyor for cleaning lint" Acta of Turin Polytechnic University in Tashkent*:* Vol. 10 *:* Iss. 4 , Article 3.p. 59-64
4) Ш.Х.Бехбудов, С.Дж.Мухамеджанова, У.С.Гайибова "Разгрузка кинематических пар кривошипно-ползунного механизма иглы" Молодой ученый. — 2014. — № 19 (78). — С. 180-182.
5) A.Djuraev, F.Bozorova, A.Zukhritdinov, S.Mukhamedjanova, I.Mavlonova, G.Tursunova " Dynamics of machine aggregates with mechanisms of working bodies for cleaning cotton from fine impurities" /Solid State Technology Vol. 63 No. 6 (2020). p.169-181.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

S-XRANENIE ALKALOIDOV - INFORMATION O DIPTOKARPAMINE

Djoyaraeva Orzuxon Bahodir kyzy
Kokand State Pedagogical Institute, Rasteniya
Bogatyy Istochnik Razlichnyx Prirodnyx Soedineniy.

ABSTRACT
High biological activity of plant matter increases its significance in human life. Not long ago it was discovered that xorosho izuchennыe prirodnыe soedineniya - alkaloids - soderjat N i C.

INFORMATION ABOUT DIPTOCARPAMINE IN THE LITERATURE

Diptocarpamine is a white optically active crystalline substance with a liquid temperature of 101-1020 ° C, C11H24N2O2S (I), M + 248, chloroform, methanol, soluble in water and poorly soluble in ether, benzene, acetone. IR spectrum: I NH, 3330-3335 cm-1, carbonylamide (1630 cm-1) and 1045 cm-1 (S → O) intensive band (synth) binding. Under the action of the flow of electrons ion M + is distributed to the following ions: 233 (32%), 218 (15), 190 (29), 185 (63), 171 (20), 162 (15), 70 (51), 61 (20), 58 (100).
Signals of molecular ions characterize the distribution of the intensity of polyisotopes, indicating the presence in the molecule of 1 atom of carbon. This is confirmed by the results of elemental analysis. Element I (CDCl3) in the YaMR spectrum is 1.10 m.e. in the field is the signal of protons (6H, d., J = 7Gs, = C (CH3) 2);

O O

1.25-2.00 / 8H, m, - (CH2) 4- /; 2.54 (3H, c, -S - CH3); 2.65 (2H, k, J = 8Gs, -S - CH2-); 3.04 (2H, t, -CH2-N <); 3.76 (1H, m,> N-CH <); 5.45 i 5.64 (IH, d, J = 6Gs i IH, t) obmenivayutsya na deyteriy iz gruppy 2NH.

Oxidation of diptocarpamine Cr2O3 in acidic medium gives acetone, which is identified as 2,4-dinitrophenylhydrazone. Sledovatelno, soedinenie I soxranyaet isopropilnuyu group. [1] Alkaloids biureticheski reagiruyut s mochevinoy, i dannыe YaMR-spectra pokazыvayut, chto isopropilovыy radical svyazan s N. This fact confirms the nalichiem maximum signal 58 m / z ion in mass spectrum I. This ion (58 m / z) image rupture of ligaments (CH3) 2-CH-NH-CO. Sledovatelno, diptocarpamine yavlyaetsya N-alkyl proizvodnыm isopropilmocheviny.
During the recovery of alkaloids I rastvorom Zn in HCl was obtained optically inactive substance (II), the temperature of liquefaction kotorogo sostavlyala 108-1090 ° C, M + 232. IK-spectrum II otlichaetsya otsutstviem signals from nitrosulfoxidnoy group. Ix molecular mass 16 m.b. Raznitsa ukazыvaet na to, that sulfoxigruppa bыla vozvrashchena.
When gidrirovanii diptocarpamine in the presence of nickel-renievogo catalyst bыlo polucheno amorphous substance (III) with temperaturoy ojijeniya 79-800 ° C. The difference in the molecular mass of diptocarpamine with veshchestvom III III, 62 m3 t) in the spectrum of YaMR, the division of the group CH3-S → O vo vremya kataliticheskogo gidrirovaniya i vozvrat etoy obligatsii. YaMR spectrum and data mass spectra Stati III (M-15) +, (M-29) +, (M-43) +, (M-57) +, (M-71) + i (M-85) . nalichie + ukazыvaet na to, chto vtoraya alkylnaya gruppa predstavlyaet soboy H-geksil [2].
Isxodya iz ximicheskix izmeneniy i spektralnyx dannyx, veshchestvo I predstavlyaet soboy N-isopropyl-N-6-methylsulfoxy-n-geksilmochevinu, struktura kotorogo opredelyaetsya formuloy I.

REFERENCES

1) Abdilalimov O.A., Abdullaev Yu.A., Aripova S.F. // Chemistry prirod.Soedinenie 1980 № 3.S.365-370.
2) Aripova S.F., Abdilalimov O. // Chemistry prirod.soed. V 1992.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

THE USE OF EXCIMER LASER IN THE TREATMENT OF VITILIGO

Narzikulov R.M.
Samarkand state medical Institute, Department of dermatology and venereology

ABSTRACT
The study of the pathogenetic mechanisms of depigmentation development and the search for adequate combined methods for the treatment of patients with vitiligo is one of the most relevant areas of modern dermatology; The study was conducted on the basis of the regional dermatovenerological dispensary. The study was conducted in the time period from 2019-2020. We conducted a randomized comparative study of seventeen male patients with extensive depigmented spots on the face, which were snow-white when examined by the Wood lamp, were clinically diagnosed with vitiligo, and they were examined in the regional dermatological dispensary of the city of Samarkand. These patients had chronic vitiligo, which remained stable for 3 to 10 years.

Keywords: excimer laser, vitiligo, treatment

INTRODUCTION
Vitiligo is characterized by a sudden loss of pigment on any part of the skin. Depigmentation foci are prone to peripheral growth, occur due to a violation of the secretory function of melanocytes or their death. The development of the disease is not accompanied by subjective symptoms, does not pose a threat to life, but is an unfavorable factor that has a serious impact on the quality of life, the psychoemotional state of the patient, his mood and leads to violations of social ties and maladaptation. According to WHO, there are up to 40 million people in the world (about 2.8% of the world's population) suffering from this disease. Vitiligo occurs everywhere regardless of race, gender or age, occurs at any age, but most often from 8 to 25 years. Until now, it is unclear as a result of the action of what factors abruptly stops the synthesis of melanin and melanocytes die. Some exogenous factors may have a direct or indirect effect on melanocytes, infeonic, chemical and toxic agents, excessive ultraviolet radiation, and stress. At the same time, chronic liver diseases of infectious or toxic origin, helminthic invasion, combination with autoimmune diseases (autoimmune thyroiditis, lupus erythematosus, rheumatoid arthritis, focal alopecia, atonic diseases), can probably contribute to the appearance of vitiligo. Vitiligo is a multifactorial disease with a genetic predisposition. A significant number of genes involved in the pathogenesis of vitiligo have been identified, but it is not yet possible to name the key ones. Currently, several theories of the pathogenesis of vitiligo have been formulated, among which the most well-founded are the theory of immune disorders of the regulation of melanogenesis, the neurogenic theory and the theory of oxidative stress. Studies in the field of immunology confirm the crucial role of cell-mediated reactions in the development of the autoimmune process, as well as in the violation of the immune regulation of melanogenesis. At the same time, the results of numerous studies are often contradictory and conclude statements concerning both pronounced changes of a subpopulation nature and violations of the activation and synthetic ability of cells of the immune system in vitiligo. Therefore, research in this area is still relevant. Vitiligo, according to a number of researchers, can occur after suffering stress, in turn, the appearance of depigmented foci causes a stress-dependent state, which is expressed in the development of autonomic, neuroendocrine, immune, metabolic and trophic dysfunctions that form the picture of a psychoemotional disorder. The formation of affective disorders is accompanied by neurophysiological, neurochemical disorders; a vicious circle is created that contributes to the maintenance of the pathological process and the appearance of new foci of depigmentation. Results of the study of the causes and mechanisms of development vitiligo does not give a clear answer, and therefore the treatment of this disease is still one of the most difficult problems. Considering vitiligo as an autoimmune process, foreign researchers use immunosuppressive therapy, systemic corticosteroid drugs, cyclosporine, which cause inhibition of the activation of cells of the immune system. On the one hand, these treatments can be effective at the beginning of the disease; on the other hand, they cause serious complications and side effects. Insufficient effectiveness, and with the long-term existence of vitiligo, the lack of effect and high risks of complications and side effects, limit the widespread use of these methods of treatment. In modern medicine, in the complex treatment and prevention

of vitiligo, medical immunocorrective drugs are traditionally used. The chronic persistent nature of dermatosis with an immune component in the pathogenesis requires long-term use of this group of drugs. However, taking into account the need for their long-term use, there is a high risk of developing a wide range of side effects and a tolerance syndrome to the drug taken, as a result of which foreign researchers are currently studying the clinical effectiveness of non-steroidal inhibitors of pro-inflammatory cytokines pimecrolimus and tacrolimus, as a result of which the spectrum of side effects decreases, in various forms of vitiligo. Also, many autorotes emphasize the high effectiveness of the combination of treatment with ultraviolet physiotherapy. Therefore, to date, ultraviolet vitiligo physiotherapy is considered the safest and most popular method of treating various forms of vitiligo. Experimental studies have shown high efficiency of phototherapy using UVB rays of the UVB range (280-315 nm). It has been proven that rays with a wavelength of more than 315 nm (UVA) are ineffective in the treatment of vitiligo, and short-wave radiation of the UVC range causes mutations and is carcinogenic. UVB therapy is a relatively safe method of treatment, due to the minimal impact of radiation on the human body. The rays of this wavelength range are completely dispersed in the epidermis, initiating photobiological reactions that contribute to the improvement of the skin. Along with the spectral composition of ultraviolet radiation, an important parameter in the process of phototherapy, which has a significant impact on the effectiveness of treatment, is the level of the dose of ultraviolet radiation when irradiating the patient's skin. Optimal from the point of view of the effectiveness and safety of phototherapy in the treatment of vitiligo, as a rule, is the value of the minimum erythema dose (MED), which determines the level of sensitivity of the patient's skin to UVB radiation. To determine the patient's MED, there is a well-known technique. When using a UVB dose less than MED, phototherapy may be ineffective, and irradiation of the skin with a dose of a level higher than MED will lead to a burn of the patient's skin, which can provoke an exacerbation of the disease. Excimer lasers capable of generating coherent and directed radiation at a wavelength of 308 nm are often used as a source of UVB radiation. Laser radiation produced by the decay of an exciplex molecule has stable spectral-energy characteristics and is easily dosed, which is why excimer lasers are traditionally used in dermatology.

AIM

Thus, the study of the pathogenetic mechanisms of depigmentation development and the search for adequate combined methods for the treatment of patients with vitiligo is one of the most relevant areas of modern dermatology.

MATERIALS AND METHODS

The study was conducted on the basis of the regional dermatovenerological dispensary. The study was conducted in the time period from 2019-2020. We conducted a randomized comparative study of seventeen male patients with extensive depigmented spots on the face, which were snow-white when examined by the Wood lamp, were clinically diagnosed with vitiligo, and they were examined in the regional dermatological dispensary of the city of Samarkand. These patients had chronic vitiligo, which remained stable for 3 to 10 years. They were previously treated with a variety of topical medications, including topical steroids and calcipotriene, for at least two years (2 to 6 years) without significant repigmentation. For treatment, an excimer laser was selected in combination with vitamin D for topical application twice a day. Laser therapy was performed twice a week until patients developed significant repigmentation. Patients began using an excimer laser at a dose of 200 MJ / cm2, which increased by 10 percent per visit, until patients experienced phototoxic side effects, including severe erythema and blistering. Treatment dosages were then maintained or reduced by 10 percent, depending on the severity of the side effects. None of the patients stopped treatment due to the side effects of laser therapy. The total number of procedures, the duration of treatment, and the average dose of laser energy exposure were recorded. As in other studies, we had the percentage of repigmentation was selected as the main evaluation criterion with the ranges: <25, 25-50, 50-75 and> 75 percent.

RESULTS:

All patients underwent the recommended course of treatment, including laser therapy with topical use of vitamin D. Table 1 shows the effect of combination therapy on patients. Seven of the sixteen patients achieved more than 75% repigmentation after 22 procedures or less. Nine patients achieved similar results, but after 40

treatment sessions. There was no correlation between the average dose of laser energy exposure and the percentage of repigmentation**.**

Table No. 1.

Number of patients:	Age of patients	Duration of the procedures performed	The number of procedures performed.	Laser radiation dose.	Repigmentation %
4 3 2 7	18-25 26-31 32-36 37-41	11 недель 10 недель 16 недель 20 недель	22 20 35 40	220 308 350 380	>75 >75 >75 >75

DISCUSSION

Vitligo is a chronic, psychologically debilitating and difficult-to-treat condition. Many of the currently used treatments require treatment intervals of more than one year to achieve obvious repigmentation. In this study, patients achieved more than 75% repigmentation of facial injuries between 10 and 20 weeks.

There are many theories that explain the effectiveness of light therapy in the treatment of vitiligo. The data show that inactive melanocytes present in the outer membranes of hair follicles persist in people with vitiligo. Then, the initiation of therapy can cause the maturation of these latent melanocytes with an initial migration up the hair follicle with a final spread in the epidermis. In addition, those characterized by a reduced potential of the hairline have the most stable areas.

Seven patients in this series achieved excellent results (repigmentation> 75%) in a short time (5 months or less) compared to other treatments such as topical steroids, PUVA, and NB-UVB. These patients achieved rapid results with such excellent results due to the increased sensitivity of the facial hair follicles to the excimer laser. Further studies on the prognosis of the response to excimer laser therapy may provide additional insight into the disease process.

Some studies show that people in different age groups from 18 to 31 may respond faster to therapy and have better outcomes than the age groups from 32 to 41. Further research is needed with a large number of applications performed by skin type.

CONCLUSION

The excimer laser has proven to be a useful tool in the treatment of vitiligo. Patients receiving excimer laser treatment achieve excellent results within a few months, rather than many months or years. More data is needed to determine whether the skin type, gender, or other characteristics of the hair follicles lend themselves to a greater response to excimer therapy. More broadly, there are very few estimates of relapse rates in patients undergoing any light treatment. This information will be critical to the patient's decision-making and deserves attention.

REFERENCES

1) Yanfei Zhang, Jessini Soranambal Mooneyan-Ramchurn, Nan Zuo, Yiguo Feng, Shengxiang Xiao, Vitiligo nonsurgical treatment: a review of latest treatment researches, Dermatologic Therapy, 10.1111/dth.12143, 27, 5, (298-303), (2014).
2) Juan Jorge Manriquez, Sergio M. Niklitschek, Vitiligo, Evidence-Based Dermatology, 10.1002/9781118357606, (464-469), (2014).
3) Russell Wong, Andrew N. Lin, Efficacy of topical calcineurin inhibitors in vitiligo, International Journal of Dermatology, 10.1111/j.1365-4632.2012.05697.x, 52, 4, (491-496), (2013).
4) E.J. Nordal, G.E. Guleng, J.R. Rönnevig, Treatment of vitiligo with narrowband-UVB (TL01) combined with tacrolimus ointment (0.1%) vs. placebo ointment, a randomized right/left double-blind comparative

study, Journal of the European Academy of Dermatology and Venereology, 10.1111/j.1468-3083.2011.04002.x, 25, 12, (1440-1443), (2011).

5) Inflammatory Dermatoses, British Association of Dermatologists' Management Guidelines, 10.1002/9781444329865, (1-90), (2011).
6) Saeedeh Farajzadeh, Zahra Daraei, Iraj Esfandiarpour, Seyed Hamed Hosseini, The Efficacy of Pimecrolimus 1% Cream Combined with Microdermabrasion in the Treatment of Nonsegmental Childhood Vitiligo: A Randomized Placebo–Controlled Study, Pediatric Dermatology, 10.1111/j.1525-1470.2009.00926.x, 26, 3, (286-291), (2009).
7) S. Klahan, P. Asawanonda, Topical tacrolimus may enhance repigmentation with targeted narrowband ultraviolet B to treat vitiligo: a randomized, controlled study, Clinical and Experimental Dermatology, 10.1111/j.1365-2230.2009.03712.x, 34, 8, (e1029-e1030), (2009).
8) D.J. Gawkrodger, A.D. Ormerod, L. Shaw, I. Mauri-Sole, M.E. Whitton, M.J. Watts, A.V. Anstey, J. Ingham, K. Young, Guideline for the diagnosis and management of vitiligo, British Journal of Dermatology, 10.1111/j.1365-2133.2008.08881.x, 159, 5, (1051-1076), (2008).
9) D Fai, N Cassano, GA Vena, Narrow-band UVB phototherapy combined with tacrolimus ointment in vitiligo: a review of 110 patients, Journal of the European Academy of Dermatology and Venereology, 10.1111/j.1468-3083.2006.02101.x, 21, 7, (916-920), (2007).
10) SM Goldinger, R Dummer, P Schmid, G Burg, B Seifert, S Läuchli, Combination of 308-nm xenon chloride excimer laser and topical calcipotriol in vitiligo, Journal of the European Academy of Dermatology and Venereology, 10.1111/j.1468-3083.2006.02016.x, 21, 4, (504-508), (2007).
11) Bärbel Greve, Christian Raulin, Edda Fischer, Excimer laser treatment of vitiligo – critical retrospective assessment of own results and literature overview, JDDG: Journal der Deutschen Dermatologischen Gesellschaft, 10.1111/j.1610-0387.2006.05879.x, 4, 1, (32-40), (2006).
12) Thierry Passeron, Jean-Paul Ortonne, Medical Treatment of Vitiligo, Surgical Management of Vitiligo, 10.1002/9780470987568, (31-38), (2006).
13) Thierry Passeron, Jean-Paul Ortonne, Laser for Repigmenting Vitiligo, Surgical Management of Vitiligo, 10.1002/9780470987568, (255-258), (2006).
14) Somesh Gupta, Surgical Management of Vitiligo of Eyelids and Genitals: Special Issues, Surgical Management of Vitiligo, 10.1002/9780470987568, (220-224), (2006).
15) Thierry Passeron, Jean-Paul Ortonne, UVB Therapy for Pigmentary Disorders, The Pigmentary System, 10.1002/9780470987100, (1183-1187), (2006).
16) C-C.E. Lan, G-S. Chen, M-H. Chiou, C-S. Wu, C-H. Chang, H-S. Yu, FK506 promotes melanocyte and melanoblast growth and creates a favourable milieu for cell migration via keratinocytes: possible mechanisms of how tacrolimus ointment induces repigmentation in patients with vitiligo, British Journal of Dermatology, 10.1111/j.1365-2133.2005.06739.x, 153, 3, (498-505), (2005).

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

METHODS FOR FORMING BASIC NATIONAL AND SOCIAL COMPETENCES IN STUDENTS

S.A. Ergasheva
Scientific Research Institute of Pedagogical Sciences of the Republic of Uzbekistan
Basic doctoral student, stage 3

ABSTRACT
This article describe how students develop core national and multicultural competencies . The article also pays attention to the national and cultural competence of students, the pedagogical process, teaching materials, national values, ethical relations, social environment, cultural worldview and art.
Recommendations for the selection of educational materials, the pedagogical process aimed at the formation of national and intercultural profile competencies. Today, the teacher's activity in the field of spiritual and moral education is of a very responsible nature and requires, first of all, the formation of an objective attitude towards mass culture among students. In this sense, the teacher must work in collaboration with representatives of art and culture in order to master innovations in this area, in order to be able to deeply analyze the situation in all its aspects.
This article describes how to build national and intercultural core competencies in students based on membership. The article also provides recommendations on the pedagogical process, the choice of educational materials aimed at developing students' national and intercultural profile competencies. Today, the teacher's activity in the field of spiritual and moral education is of a very responsible nature and requires, first of all, the formation of an objective attitude towards mass culture among students. In this sense, the teacher must work in collaboration with the minds of art and culture in order to master innovations in this area, to be able to deeply analyze the situation in all its aspects.

Keywords: reader student national and intercultural basic competence, membership, pedagogical process, educational material, national values, moral relations, social environment, cultural worldview, art.

INTRODUCTION

The activities aimed at organizing the educational process are based on the formation of a national educational ideal. This is the main purpose of education. High moral values of a person as the main subject of national life determine the direction of education and development of students. The basis of the way of life of the Uzbek people is family relations, education and state care for its citizens.
The goal of the educational process is determined by the idea of forming a spiritually mature personality. One of the important tasks facing the state and society is the formation of a competent, highly spiritual, creative, enterprising person who knows the history and culture of his people and includes them in his work. The solution of such a problem requires a very complex pedagogical process, organized taking into account modern requirements. The centuries-old experience of ancestors, pedagogical activity, spiritual and moral values, family traditions, educational content, interpersonal social relations, social environment, global information flows, mass media, literature and art influence the formation of a healthy spiritual and cultural outlook in students. This is why educators who work with students create the foundation for a healthy spiritual and cultural worldview.
By the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 187 of April 6, 2017 "On the approval of state educational standards for general secondary and secondary specialized, vocational education" , the main competencies necessary for the socialization of youth are defined . This core competence: communicative competence, information processing competence, independent competence and social development of active civic competence, national and umummadaniy competencies, mathematical literacy, science and technology news and competence, including, in particular: the development of self-knowledge T pathetic competence, national and Intercultural core competencies require general cultural skills from students and teachers.

In the information society, from the earliest stages of their conscious life, each student must learn to independently seek information, be creative in what he or she sees, reads and hears through the channels of art and culture, and critically analyze and evaluate texts on art and culture. ...

With the rapid development of information and communication technologies, the number of Internet users is growing. In recent years, the Internet has evolved into a global network. As a result , not only an informed society has appeared in the world, but also the processes of globalization in the world community have accelerated. If we look at the history of the information world, we will see that it went through a long evolutionary period before reaching its current level. The teaching skills of today's teacher are tested in everyday life in a highly informed and technocratic society with difficult interactions with adolescents. Currently, the acquisition of national and intercultural profile competencies is one of the most important qualities of a person, and its formation remains one of the most pressing problems of general pedagogy. In some studies, the acquisition of national and intercultural competences is seen as synonymous with art and cultural literacy.

In the encyclopedia of pedagogy, it is interpreted as "Nationality - a set of characteristics inherent in a particular people, nation, distinguishing it from others", which is reflected in the history, values, traditions, culture and way of life of the people. nation. To know and understand nationality, it is necessary to study the differences and differences between peoples, as well as pay close attention to the aspects that unite them. Because the study and assimilation of the achievements and positive experience of other peoples enriches and develops nationalism. The acquisition of national and intercultural competences requires from each student knowledge about the products of art and culture, a creative approach to working with information, communication skills, critical thinking, defining the main goals and hidden ideas transmitted through information, critical analysis and assessment of art and culture. products, filtering information requires the formation and development of skills, such as

Today, the work of a teacher in the field of spiritual and moral education is very responsible and requires, first of all, the formation of an objective attitude of students towards mass culture. In this sense, the teacher should be able to work with art and culture, master innovations in this area, be able to deeply analyze the situation. Obviously, the tasks of the teacher are very difficult. The teacher should be in some sense an actor, but one cannot be mistaken in the process of improvisation that the teacher conducts . Today, rapid changes are taking place in various fields such as arts, culture, science and technology, and economics. Therefore, an important task of the teacher is to teach students to accept new truths. For this, students need to develop knowledge and skills to use new realities. Among the new requirements for education is to teach students to acquire knowledge, acquire new knowledge and skills, and develop competence for their application in real life situations.

It is well known that in order to be competitive in all areas of life, everyone must improve. Only then will such people move forward, become more successful and grow spiritually. To do this, each person must regularly receive new knowledge. The role of the teacher is invaluable. Because he must be able to be creative in the educational process, demonstrating his abilities. For this, it is important for the teacher to be able to create a harmonious environment in the school. Education of students based on high spiritual and moral principles is a two-way pedagogical process. On the one hand, the teacher must mobilize all his resources for the spiritual and moral development of students, the formation of their national and cultural basic competencies, on the other hand, strive for independent learning as a professional, encourage students and students. colleagues do the same. At the same time, the social environment in which students live must be able to accept education as an actual phenomenon.

This means that it is important for students to value education, and for a highly developed community to understand that it is a product of the learning process. The main task of the state and society is to instill in students high moral standards through the heritage of our ancestors in order to form an objective idea of "mass culture". The main national and multicultural competences form the artistic and cultural literacy of students and develop their national, spiritual, aesthetic and intellectual skills in speaking, communication and creative thinking.

In today's information society, it is unlikely that students will be able to block and block various types of information from the Internet, including Youtube, Mytube, Facebook, Telegram, Instagram, WhatsApp, Twitter and other topics. The composition of core competencies will further increase the opportunities for its

further development in the field of education. Of course, it is not for nothing that it is necessary to instill in students national and cultural profile competencies in the educational process. In particular, the Resolution of the President of the Republic of Uzbekistan dated August 14, 2018 "On measures to educate young people spiritually, morally and physically, to raise the education system to a qualitatively new level" states that there are a number of shortcomings in the educational process in the spiritual and ideological spheres:

- firstly , measures aimed at instilling in the minds of the younger generation a sense of loyalty to the Fatherland and involvement in its fate, the formation of ideological immunity from the negative influence of other people's ideas and views;
- secondly, the activities of state bodies and public organizations to strengthen adherence to national and universal values, religious tolerance and interethnic harmony, as well as the formation of intolerance towards extremism, terrorism and other destructive ideas is still insufficient;
- thirdly, the lack of cultural and entertainment institutions, out-of-school educational institutions, including various creative and educational clubs, sports sections necessary for the meaningful organization of students' leisure, negatively affects the healthy upbringing of children and their choice of upbringing. correct lifestyle.

The emphasis is on the presence of certain features in the curriculum in the formation of national and intercultural core competencies based on membership. In particular, the formation of students' national and intercultural basic competencies should encourage students to creative work based on national traditions. Examples include novels, short stories, films and television series that do not prompt the reader to think, but only a series of stories, and light songs and music. They do not evoke high feelings in the student (feelings of homeland, compassion, kindness, generosity and honesty), but rather the desire for an easy way of life. National and universal values should be a priority in teaching materials aimed at developing students' national and intercultural core competencies. He must promote such qualities as patriotism , humility, honesty, hard work, wisdom and, conversely, condemn laziness, betrayal of friends , Motherland, humility and frivolity.

Teaching materials aimed at developing students' national and intercultural core competencies should focus on the education of humanity, kindness, modesty, faith, conscience, purity, purity, wisdom, patience, perseverance, kindness, generosity, gentleness; exemplary people, thinkers, their excellent qualities, the image of brave and courageous people who fought for the freedom and development of the Motherland, the image of a high intelligentsia; It is required to reflect the views of scientists on education, service to the Motherland and the people, good human qualities.

REFERENCES

1) Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated April 6, 2017 No. 187 "On approval of state educational standards for general secondary and secondary specialized, vocational education" // Collected Legislation of the Republic of Uzbekistan, 2017. No. 14, article 230.
2) Pedagogy. Encyclopedia. Volume II / Compiled by: Team. - Tashkent: State Scientific Publishing House "National Encyclopedia of Uzbekistan". 2015.368 p.
3) Safarova R.G., Dzhuraev R.Kh. other. Tools for the development of teachers' competencies in the formation of skills to combat "mass culture" among students // Methodological manual. T .: Wing of contemplation. 2020 160 pp.
4) Resolution of the President of the Republic of Uzbekistan "On measures to educate young people spiritually, morally and physically in harmony, to raise the education system to a qualitatively new level" (August 14, 2018). - http://uza.uz/oz/ documents / spiritual-moral-physical-harmonious-education-youth -14-08-2018.
5) Aminov, A. S., Shukurov, A. R., & Mamurova, D. I. (2021). Problems Of Developing The Most Important Didactic Tool For Activating The Learning Process Of Students In The Educational Process. International Journal of Progressive Sciences and Technologies, 25(1), 156-159.
6) Marufovich, Badiev Mahmud. "FEATURES OF ARCHITECTURAL ELEMENTS." E-Conference Globe. Vol. 3. No. 1. 2021.

7) Mamurova D. I., Shukurov A. R. Scientific And Methodological Bases Of Development Of Creative Activity Of Students In Drawing On The Basis Of Computer Animation Models //International Journal of Psychosocial Rehabilitation. – Т. 24. – №. 4.
8) Islamovna M.F., Umedullaevna S.S. SHADOW FORMATION IN PERSPECTIVE //International Engineering Journal For Research & Development. – 2020. – Т. 5. – №. 4. – С. 5-5.
9) Salimovich, Sharipov Sohib, and Nematova Mohibegim Fazliddinovna. "Dictionaries in Modern Life." International Journal on Integrated Education 2.6: 166-168.

SCIENTIFIC-RESEARCH IN THE AGRARIAN SPHERE: FINANCING, IMPROVEMENT AND INNOVATION

Babadjanov Abdirashid Musayevich
Candidate of Economic Sciences, Senior Research Fellow. Associate Professor of the Department "Accounting and Audit". Tashkent Institute of Irrigation and Agricultural Mechanization Engineers; Scopus Author ID: 7611319; ORCID: 0000-0003-0164-0475 (Kori Niyoziy-39 Street, Mirzo Ulugbek District, Tashkent City, 700000, the Republic of Uzbekistan);
E-mail: pirbobo@mail. Ru Tel: + 99 897 745 18 12

ABSTRACT
Expansion of the scope of research work in the agrarian sector of the country and improvement of its financing system. In the development of agricultural production, in solving the problems of the industry, it is important to establish a scientifically based system of sectoral production from the current state of the country. Agricultural crops growers are mainly farmer and the peasant farms, they should be developed on the scientific basis of their activities, as well as a new approach to the system of scientific supply at a new stage of economic reforms and its effective financing.
In the article it is necessary to analyze in depth the activities of research in the agrarian sphere of the country, it is necessary to improve the financing system. Also, conclusion and practical recommendations were made based on the findings of the study.

Keywords: agrarian sphere, scientific research, scientific supply, mexanizm, financing, improvement, farmer and peasant farms, economics.

INTRODUCTION
In current days, the ultimate objective of conducted economic reforms in the state's economy sectors is the improvement of socio-economic conditions of the population. One of the basic means for achieving this objective, i.e. considered relevant nowadays, is expanding the implementation of research scientific operations in the agrarian sector, development of its funding system as well as introduction of findings of research scientific operations.
The issues in the agrarian sector of the state are directly associated with searching for non-traditional sources and development of the funding system on conducting the promising projects in directions such as expanding the implementation of research scientific operations, accelerating advancement of science and technology in the industry - defining its directions in line with contemporary demands, systematically and promptly introducing the innovation. However, the researches exhibit that the current mechanism for funding research scientific operations does not fully meet the up-to-date demands. Especially, there are series of issues such as repetition of topics, put for selection, dedication of project topics to addressing issues in a narrow context, low-efficiency use of funds, allocated for research scientific operations, lack of attention to issues on funding innovative research scientific operations and unexpanded use of non-traditional methods on funding of research scientific operations and others. In addition, the research scientific operations, currently conducted, are only mainly linked to the process of manufacture of agricultural products. Little attention is paid to funding the research scientific operations on issues of development of technologies and engineering of post-production process [1].
Expanding the implementation of research scientific operations in the agrarian sector, development of non-traditional methods for funding of research scientific operations, increasing the efficiency of funds, allotted to conduct research scientific operations, development of stimulating mechanism on the introduction of scientific developments in practice are considered to be the issues overdue for solution.

MATERIALS
Increase in the product competitiveness will be attained via advancement of scientific infrastructure of agriculture, strengthening the existing innovative potential, expanding the scope of conducted research

scientific operations, introduction of scientific development in practice and improving the scientific support and its funding system of the sector. Whereas in contrast, in developed countries, conducted research scientific operations are primarily centered on modernization of technologies, involved in the post-production process. As world practice depicts, expanding the implementation and increasing the efficiency of research scientific operations are defined by improving the funding system [2].

In recent years, in the republic , practical works have been conducted on supporting research scientific operations and innovation activities, reforming the system of personnel training [3]. In this regard, in every aspect of expanding the implementation of research scientific operations, nowadays, research institutions are required to conduct large-scale research, not only on issues that need to be addressed, but also on issues, associated with sustainable development of agrarian sector in the future.

The influence of agrarian science on agriculture is defined not only by achieved results of research scientific operations, but also by results of activity in research scientific operations and introduction of intellectual property and technologies in practice. Demand for scientific developments is formed on the grounds of a necessity to raise the quality of scientific products in agricultural production and in its fields, using the results of scientific production. In other words, demand for the production should make up of an important part of scientific support in the agro-industrial complex.

Transition to market relations in the industry is leading to an increased demand for scientific advances [4]. Therefore, at a new stage of economic reforms, the significance of opportunities for the wider introduction of scientific and technological achievements into production is growing.

In view of this, in every aspect of agrarian's scientific provision, the scientific research institutions, nowadays, are required to conduct large-scale researches not only on the issues that need to be addressed, but also on the issues, associated with the improvement of the agrarian sector in the future. In light of this, it is required to revise radically and improve the selection of scientific research topics for scholars and research institutions as well as funding mechanism [5].

Exporting the agricultural products will contribute to increasing the country's currency earnings. It is worth noting that agriculture in the Republic has great potential in this domain and its effective utilization should make up one of the main directions in the country's agrarian policy.

Agrarian sector is deemed to be the most affected sector due to global warming, high rainfalls or droughts, water scarcities, various natural disasters and an increase in pest insects. Agrarian sector must adapt to global climate change. This, in turn, demands expanding the scope of research scientific operations and searching for the newest directions [6].

Moreover, the assortment, in regions where there is sufficient food, does not always meet the demands. This, in turn, demands to increase the production volume of foodstuffs, to expand its assortment and to improve its quality as well as, in this regard, to expand the scope of research scientific operations.

Generally, agrarian sector with its features is fundamentally different from all sectors of the economy and agrarian sector plays an important role in the development of the society. On contrast, it is worth noting that land and water resources, forming the basis of agrarian sector, are limited and declining in numbers per capita. This is, on the one hand, connected with the growth of the population, and on the other hand, with a decrease in the absolute amount of land and water resources, suitable for agricultural use. Under these conditions, issues of increasing productivity of agricultural crops and livestock, improving the product quality, reduction of resource waste, cheapening the product's prime cost, long-term storage, processing, and delivery to customers are becoming the priority. Addressing of these issues requires expanding the implementation of research scientific operations in the field and revising its funding system.

Modernization demands development of scientific ideas, selection of topics, raising the level of research scientific operations to international standards, improvement of mechanism for introducing the findings of research scientific operations into the sector, conversion of scientific products into commodities and increasing the knowledge of customers on scientific products. Scientific support is not only limited with the execution of research scientific operations but also forms its implementation and increasing the knowledge of customers on scientific products into one of the main directions. Science breakthroughs cannot be promptly and efficiently introduced into the production if the

conducting research scientific operations are not put on a proper way in terms of priority and few efforts are made to creating stimulus mechanism for introduction of their findings, to disseminating knowledge and to increasing the knowledge of customers.

If even a series of changes have been made in conducting research scientific operations and funding in the agrarian sector, the old approaches are still maintained there. Research scientific institutes in agrarian sector have been attached to Research and Production Center for Agriculture and Food Supply. However, research scientific operations that are being conducted at higher educational institutions are out of the operational activity of the center. Consequently, incomplete coordination of research scientific operations has led to causing repetition in the research operations and preservation of insignificant conditions.

The demand for technological solutions, advanced technology and engineering, in general, is increasing more rapidly, compared to the previous period. It is demanded to maintain competitiveness in the global market and to introduce innovations in the industry in response to changing requirements of the market. Firstly, it is needful to introduce technologies, targeted at increasing the efficiency of labor force, land and water use with a view of adapting to the ever-changing climate. Contemporary technologies should reduce the impact of climate in agriculture and damage, incurred by the shortage of resources.

At a time when shortage for land and water resources is increasing, growth of agricultural production, growing demand for types and quality of the population's foodstuffs and the industry's need for the raw materials should be taken into account too.

Nowadays, it is demanded to maintain competitiveness in the global market and to introduce innovations in the industry in response to the ever-changing requirements of the market. In this, first of all, it is necessary to adapt to the constant climate change of our planet. For this, it is required to introduce the technologies, targeted at increasing the efficiency of labor force, land and water use [7].

Technologies should minimize the impact of climate change on agriculture and damages, incurred by shortage of resources. Technological changes should not only increase the fertility of crop yielding but also shall meet the demands on ensuring saving of water and energy resources, reduction of expected risks, improvement of product quality, prevention of damages, caused to the surrounding environment, and the employment specifications of population segments in utilization of labor force.

At this juncture, the fields of science and technology are undergoing rapid changes. The farming houses that are adapting to the market's conditions need to use effectively information technology in confronting against droughts, diseases of plants and damages to harvest, caused by pest insects thus increasing their competitiveness.In this regard, biotechnology that is used in cotton cultivation and other industries can be attributed as an example.

Application of biotechnology, first of all, decreases the impact of diseases and pest insects, secondly, provides an increase in productivity and in gaining income by farmers contributing to reducing the utilization volume of various toxic chemicals. However, the smaller the sizes of a farming house, the more difficulties appear in the introduction of innovations of science and technology. By virtue of the fact that introduction into the life of institutional changes, related to technological innovation with a blistering pace, requires the implementation, in a complex way, of innovation process, including sources of innovation [8].

The next success of the agrarian sector is associated with the involvement of all participants in the process of technological development and innovation. In stimulating the development of the innovation market, it is required to take into account research scientific operations as well as the proper development of demands for scientific developments.

METHODS

Taking into account the development of Agrarian science and the dissemination of advanced experience, the modernization of technology and equipment, technological processes on the basis of widespread use of innovations, it is necessary to move faster to the path of innovation development. In general, innovation is the final result of an activity created in the form of a new or improved product, a

new or improved process, a new approach to social services to the market. Innovations in relation to the agrarian sector-new plant varieties, new or improved food products, Materials, Plant Science, new technologies in the livestock and processing industry, means of protection of plants and animals, new methods of treatment of animals and poultry, new forms of organization and management of various sectors of the economy, new approaches to social services that increase production efficiency.

It is worth noting that the transition of the agrarian sector to innovation path largely depends on the ability of economic entities to mobilize available resources for the implementation of innovative activities. One of the important conditions for achieving the set goal is the formation and development of adequate financing of innovative activities.

Financing innovative activities in the agrarian sector is a very complex and constantly developing economy [9].

In modern conditions, the methods of financing innovations in the agrarian sector are divided into direct and indirect (Table 1).

1- Methods of financing innovation activities in the agrarian sphere

Financing method	Features
Direct methods	
Internal self-financing	Use only internal own financial resources of the enterprise
Financing External with the use of capital market	investors to borrow funds or attract capital
Financing the loan market using	Financing of innovation processes is carried out from the bank's credit account, which is also one of the main indicators
Financing from the budget	Financial resources are allocated from the budget
Financing through combined schemes	Using several methods of attracting funds to the innovation sector
Indirect methods	
Procurement of material and technical means for a loan synchronized with the period of implementation of an innovative project	The Binding of the loan term is carried out with the term of receipt of benefits from innovative activity, as a result of which the goods are serviced and paid for the loan
Acquisition of material property in synchronization with expected returns	The buyer receives the right to use the goods without the right of ownership, he buys only after the payment and the final payment of interest
Obtaining a license for the technology included in the innovation project when paying the license only in the form of royalties	Payment as a percentage of the volume of sales of products, services under license
Attraction of labor resources paid in the securities of the company issued for the innovation project	Almost the salary is made with dividends from income on the investment project

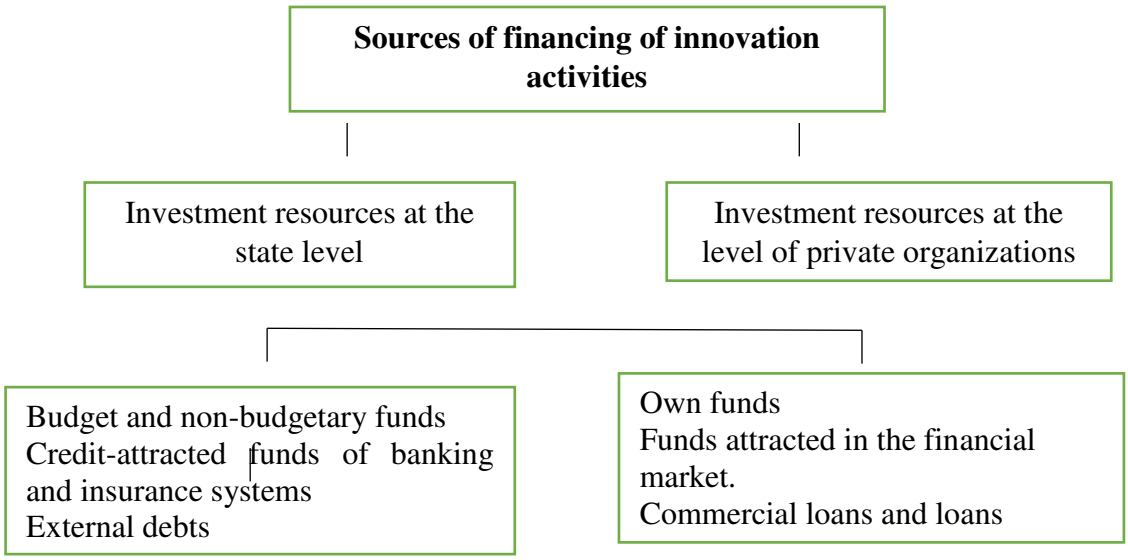
In the economic context of the innovation activity of the agrarian sector, the sources of the formation of financial resources for the implementation of an investment project play an important role. It is characteristic to obtain multichannel financial resources to finance innovative activities in the agrarian sector of the economy, to include them in innovative projects and targeted innovation programs, as well as to control their effective use.

In the economic context of the innovation activity of the agrarian sector, the sources of the formation of financial resources for the implementation of the investment project play an important role. In order to finance innovative activities in the agrarian sphere of the economy, it is characteristic to obtain multichannel financial resources, to include them in innovative projects and targeted innovation programs, and to control their effective use [10].

Sources of financing of innovation activities in the agrarian sector by type of ownership are divided into private and public investment resources (Figure 1).

The analysis of innovative activities in the agrarian sector of our country shows that one of the main problems facing agricultural producers is the attraction of funds for initial development.

In recent years, positive trends in the development of innovative activities in the agrarian sector have been associated with the existence of significant state support within the framework of the national project "development of the agrarian sector" and the state program for the development of Agriculture and the regulation of agricultural products, raw materials and food markets. In accordance with these documents, the main emphasis is on technological modernization of local enterprises, which is a necessary condition for the activation of innovation activities in our country.



1-picture. Sources of financing of innovation activities in the agrarian sector.

ANALYSIS AND RESULTS DISCUSSION

Now, we will focus on the factors that have been identified through our research and their implications for addressing the issues.

At the moment, it is necessary to commercialize the practical disciplines, associated with the practice of the agrarian sector, and to form its specific mechanisms as an integral part of the agrarian market. This, in turn, demands the development of cooperation of scientific institutions with local agro-industrial complex entities. The product, supplied by the agrarian sector to the agricultural producers, should be a finished product, in which each author of scientific result shall clearly show the economic outcome, gained from the introduction of its scientific development in practice. In future days, raising the personnel qualification shall occur accordingly with the complexity level in the development of the sector. It is needful to develop a new concept of functioning of the agrarian science, to improve the country's scientific potential and to increase the efficiency of scientific activity. It is required to develop principally new mechanism in mutual relations between the agrarian sector and the agricultural production under the position of the country's main reformer.

Including: timely coordination of research scientific operations; implementation of introduction of scientific developments in practice via an in-field program; incorporation of clear measures on the introduction of developed programs, final scientific product in practice, including their funding and supervision; formation of the system for effective introduction of ready scientific developments in production, interconnected with the agricultural production.

The most urgent issues for nowadays in the agrarian sector are: enhancement of the legal and regulatory framework for land relations; enhancement of financial condition of the country's agrarian sector; performing works on enhancement of the relations between the activity of agricultural subjects and directions of the country's agrarian policy.

The tasks, implemented for accelerating the introduction of scientific and technological achievements in the field, shall be training the scientific personnel and preparing them to implement research scientific operations in the market conditions.

In this regard, the following directions can be recommended: establishment of a school of highly qualified young researchers in the leading research scientific institutions on the main directions of agricultural science, as well as vitalization of postgraduate training program and post-doctoral program; organization of training of scientific personnel in foreign countries in the most necessary directions of the agrarian science. In this, special attention shall be paid to research scientific operations, implemented on biotechnology and genetic engineering.

It is known that in today's fast-growing world market, the volume of GM food products is growing. In developed countries, a large-scale research operation on cultivation of food products, based on the genetic engineering, are conducted, and we shall have a scientific base and the relevant knowledge to identify the virtues and shortcomings of this process.

To date, the introduction of energy-saving technology and the energy saving in the agrarian sector is executed through reducing the absolute volume of capital investments per one hectare of the land: increasing the efficiency of energy resources; reduction of non-renewable resources and vitalization of ecological and biological processes; selecting a farming system, giving an opportunity to reduce the amount of expenditures at the expense of intensive factors (selecting crop types, adapted to the local conditions, their sorts, having high-grade indicators and technologies).

Another major issue is that the republic is divided into different regions, depending on natural climatic conditions, soil fertility, water supply, labor force supply and other natural resources. Considering this, it is demanded to revise changes in natural climatic conditions (global temperature rise), changes in soils (decrease of soil bonitet and salinity), changes in structure of crops, changes in business management and forms of property ownership, inventory and logistics framework and types of resources (types of mineral fertilizers), decrease of local fertilizers' volumes, introduction of water-saving technologies, today's scientific bases of agricultural management [11].

Currently, it is needful to determine the subject of scientific product user and further identify this subject's role and participation in selecting the research topic, making orders, funding and introducing in practice the completed research scientific operations. Without clarifying these issues, it is hard to find the solutions of the aforesaid issues. Indeed, nowadays, the state remains the main customer of research scientific operations in agriculture.

The activity of product cultivators, i.e. farmers and farming houses, shall be focused on scientific basis. However, farmers and farming houses have no opportunity to make orders and fund the research scientific operations. Apart from that, the research scientific topic covers not only the issues of one of the farmers or farming houses but rather the issues of several farmers and farming houses. Even in case they allocate funds for research scientific operations, there is no opportunity to sell the scientific results as a commodity after their use. Therefore, it is necessary to adopt a new approach to scientific support of the agrarian sector in the market economy conditions and to develop an effective mechanism for it. Development of this kind of mechanism at the regional level would be desirable. In light of the fact that if research covers the issues of a particular region depending on a demand of this region's subjects, producing goods, it will be possible to know, on the one hand, the orientation of the researches and on the other hand, for what purposes the funds for research scientific operations, allocated by the farmers and farming houses, are used. Taking into account the aforementioned, by accumulating the targeted funds, on behalf of the farmers and peasants and depending on their demand, a system should be formed for organization of funding the research scientific operations, supervising the conduct of research scientific operations, receiving the final result of the research scientific operations and introducing them in practice.

In our point of view, such a system can be established within the territory of the regions and in the form of a regional center for scientific support. The ultimate objective of this region's center for scientific support will be selecting a research topic and making orders regarding research scientific operations through accumulating the funds of the customers of research scientific operations. They shall execute their activity via coordinating with Regional Administration, the Department for Agriculture and Water Management [12].

This shall be the issues overdue for the current implementation for research institutions under Research and Production Center for Agriculture and Food Supply, the Regional Center for Agricultural Scientific Significance and Regional Scientific Support.

CONCLUSIONS AND RECOMMENDATIONS

In every aspect of expanding the implementation of research scientific operations in the agrarian sector, nowadays, research institutions are required to conduct large-scale research, not only on scientific issues that need to be addressed but also on issues, associated with funding the research scientific operations of the agrarian sector in the future. As a result of conducted research scientific operations, the following main scientific conclusions were developed:

The following issues may arise while expanding the implementation of research scientific operations and developing the funding system in the agrarian sector. The issues are as follows: no new approach mechanism is created regarding the research scientific operations; no new system is introduced regarding the funding of research scientific operations; scientific products are still being utilized free of charge by users; lack of knowledge regarding the utilization of scientific developments in agriculture and the benefits of new technologies; lack of understanding of farmers and farming houses in production, improvement of financial condition and earning of income; no favorable conditions are created in introducing the science-technology and technological development in the agricultural production.

It is necessary to pay attention to the following in preventing and addressing the issues, found as a result of research scientific operations:

Now, there are available the regional divisions of Research and Production Center for Agriculture and Food Supply. It is envisaged that the Center will provide the regional agricultural scientific support.

Including: complete addressing the issues on organizational, legal and economic relations in implementing the activity by the regional agricultural scientific support; undertaking complete responsibility for the tasks of abovementioned activities as a low stream of the scientific center; establishment in regions of the scientific council constituting the subjects of agriculture and the agrarian sector under the centers for scientific support; it is important to include in the composition of scientific council the regional administration and agricultural department, including district administrations and the representatives of farmers and farming houses.

In the regions, the further development of agricultural production, creation of a scientifically sound system of regional agriculture taking into account the current state of each region, first of all, shall make up one of the important features in addressing the issues, listed in the agrarian sector.

In the republic, mainly two types of business subjects i.e. farmers and farming houses are currently engaged in the cultivation of agricultural products. Hence, in our point of view, it requires developing mechanisms and measures on expanding the implementation of research scientific operations by present business subjects, involved in cultivating agricultural products, selecting the priority innovative topics as well as active engagement in directions on the introduction of scientific solutions and practical results in production. Wide involvement of product cultivators in conducting research scientific operations in the agrarian sector, in their funding and in the process of introduction of scientific developments will increase the potential for sustainable advancement of the agrarian sector.

REFERENCES

1) Babadjanov A. M. (2010) The main directions of scientific support of agriculture in Uzbekistan in the conditions of development of farms. Journal. “Economics and Finance ". Moscow. No. 1, Pp. 36-37.
2) Babadjanov A. M. (2007) Improve the financing of agricultural science. Journal. AIC: Economics, management, Moscow. No. 3, Pp. 12-13.
3) Babadjanov A.M. (2011) Improving labor productivity and improving the training system are important factors in increasing the competitiveness of agriculture. Journal. “International Agricultural. Moskow. No5. Pp. 16-17.

4) Kondratev N. D. (1993) Selected works. Journal. Moscow.Economics, 47 p.
5) Babadjanov A.M. (2011) Prospects of scientific supply in the agricultural network. Monographs. Tashkent. "National Encyclopedia of Uzbekistan", 216 p.
6) Ogloblin E. (2006) Financing of innovative processes in the AIC. Journal. AIC: Economics, management. Moscow. Pp. 13-15.
7) Shumpeter, I. (1982) Theory of economic development. Journal. Progress, Moscow. Pp. 169-170.
8) Babajanov A.M. (2012) Development of science-intensive production and use of scientific ideas in the agricultural sector of Uzbekistan. Journal. "Innovative development of the Russian economy" Omsk: Omsk STU. Pp. 26-29.
9) Soji Adeleja, (2007) Chris Peterson and others. Enabling Innovation in Michigan Agriculture. The MSU Land Policy Institute. January. 6. p.
10) Ushachev I. G. (2005) Problems of formation of the innovation management system in the AIC. Materials of the international scientific and practical conference ". Journal. Innovative activity in the AIC: experience and problems". Moscow, 3 p.
11) Babadjanov A.M. (2013) Agricultural research for development: investing in Uzbekistan's future. Journal. "Agricultural Sciences", USA.: VoI. 4, No.2. Pp. 62-65.
12) Babadjanov A.M. (2011) Effective use of scientific cum technologically achievements and financing innovative projects in the agricultural sphere. J: "Agricultural Sciences", USA.: VoI. 2, No.1, Pp. 28-33.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

FEATURES OF HEART DAMAGE IN PATIENTS WITH VIRAL CIRRHOSIS OF THE LIVER

Khusainova Munira Alisherovna,
Samarkand State Medical Institute, Samarkand, Uzbekistan

Gaffarov Xudoyor Xudoyberdiyevich
Samarkand State Medical Institute, Samarkand, Uzbekistan

ABSTRACT
The study analyzed the results of a survey of 96 patients (51% men, 49% women) with viral cirrhosis of the liver of class A, B, C according to Child-Pugh criteria, who were treated at the City Infectious Diseases Hospital in Chita. The median age of the patients was 42.1 [36;44] years, the duration of the disease was 3.5 [2.8;6.7] years. The diagnosis of CL was confirmed morphologically (laparoscopy with targeted biopsy) in 9 people, the rest of them were exposed on the basis of clinical, laboratory and instrumental data. The viral genesis of liver damage was confirmed by the presence of markers of viral hepatitis B in the blood serum [HBsAg, antibodies (AT) of classes M and G to HbcorAg, HBV DNA), C (AT of classes M and G to HCV, HCV RNA]. Depending on the presence of ascites, the patients were divided into 2 groups: 59 (61%) patients did not have ascites (group 1), 37 (38%) patients were diagnosed with ascites of varying severity (group 2), the control group consisted of 21 healthy volunteers of the corresponding age without signs of liver pathology. The study did not include: patients older than 52 years with essential and symptomatic arterial hypertension, heart and lung diseases, with chronic alcoholism and severe concomitant pathology. Thus, in patients with ICP without ascites, an increase in the mass of the left ventricular myocardium, the left atrium cavity, and the pulmonary artery was found, there is a violation of the heart rhythm and an elongation of the corrected QT interval. These changes were more pronounced in patients with ascites, in addition, they had increased pressure in the pulmonary artery and decreased systolic function of the heart's ventricles. Antiviral therapy has a positive effect on some cardiohemodynamic parameters.

Keywords: left ventricle, viral cirrhosis of the liver, antiviral therapy.

INTRODUCTION
Cirrhosis of the liver (CL) is one of the most pressing medical problems of the last decade. This is due to a large increase in viral liver diseases, in particular, caused by hepatitis B and C viruses. Disorders of portal blood circulation trigger a cascade of autonomic, neurohumoral and metabolic reactions that cause changes in central hemodynamics, which exacerbates not only disorders of intrahepatic blood flow, but also leads to multi-organ extrahepatic disorders, including cirrhotic cardiomyopathy. Currently, heart damage in patients with viral cirrhosis of the liver (VCL), the mechanisms of development of the main symptoms of cirrhotic cardiomyopathy, biochemical and electrophysiological changes in the heart, the conditions for the occurrence of diastolic and systolic dysfunction, and the features of structural and functional changes in the myocardium are actively studied. Meanwhile, the syndrome of cirrhotic cardiomyopathy has not yet been definitively classified, and many mechanisms for the development of myocardial dysfunction in patients with CL are unknown. The absence of these data indicates a lack of awareness of practitioners about changes in the cardiovascular system. Reports of deaths due to heart failure during liver transplantation, transjugular intrahepatic portosystem bypass surgery, and surgical portocaval shunts in patients with cirrhosis suggest that myocardial dysfunction may progress with increased circulating blood volume. It is known that antiviral therapy in patients with chronic viral hepatitis and cirrhosis of the liver serves as a prevention of the development of liver failure and hepatic cell carcinoma. Currently, more convenient endpoints are used to evaluate the effectiveness of the therapy, which include suppression of virus replication, disappearance of the virus antigen, normalization of alanine aminotransferase activity, improvement of the liver histological picture, prevention of reactivation of infection after liver transplantation, and improvement of the quality of life of patients. The only drug with proven effectiveness in the treatment of viral hepatitis and compensated viral cirrhosis of the liver is interferon, used in

combination with nucleoside analogues. The literature describes studies in which antiviral therapy leveled most of the structural and functional abnormalities of the cardiovascular system, improved the parameters of the functional state of the endothelium, and also contributed to the normalization of the number and frequency of increased levels of antimyocardial antibodies, with the exception of patients with mixed infection. The aim of our study was to study the structural and functional parameters of the heart, as well as the effect of antiviral therapy on some cardiohemodynamic parameters in patients with VCL.

MATERIALS AND METHODS

The study analyzed the results of a survey of 96 patients (51% men, 49% women) with viral cirrhosis of the liver of class A, B, C according to Child-Pugh criteria, who were treated at the City Infectious Diseases Hospital in Chita. The median age of the patients was 42.1 [36;44] years, the duration of the disease was 3.5 [2.8;6.7] years. The diagnosis of CL was confirmed morphologically (laparoscopy with targeted biopsy) in 9 people, the rest of them were exposed on the basis of clinical, laboratory and instrumental data. The viral genesis of liver damage was confirmed by the presence of markers of viral hepatitis B in the blood serum [HBsAg, antibodies (AT) of classes M and G to HbcorAg, HBV DNA), C (AT of classes M and G to HCV, HCV RNA]. Depending on the presence of ascites, the patients were divided into 2 groups: 59 (61%) patients did not have ascites (group 1), 37 (38%) patients were diagnosed with ascites of varying severity (group 2), the control group consisted of 21 healthy volunteers of the corresponding age without signs of liver pathology. The study did not include: patients older than 52 years with essential and symptomatic arterial hypertension, heart and lung diseases, with chronic alcoholism and severe concomitant pathology. There were no pronounced signs of heart failure in the groups of examined patients. Standard and tissue myocardial doppler echocardiography was performed according to the standard method on the device "AQQUVIX QX". Tissue Doppler echocardiography was performed from the apical approach at the level of two or four chambers, the Doppler spectrum was recorded from the fibrous rings of the mitral, tricuspid valves and ventricular segments, the indices were calculated: Sm-systolic myocardial contraction, the maximum rate of the first negative peak Em, the maximum rate of the second negative peak Am, the Em/Am ratio, the time before myocardial contraction Ivs, the relaxation time Ivr [8, 9]. Systolic pressure in the the pulmonary artery was measured by the rate of tricuspid regurgitation. Regional longitudinal deformity and the rate of left ventricular (LV) myocardial deformity were studied by the Neppler mode of two-dimensional seroscale deformity. The study was performed from the apical access in the long axis position, and the LV myocardium was recorded with optimal visualization of all segments, with a frame rate from 50 to 80 per second, with stable ECG recording. The endocardium was clearly traced, and the epicardial surface was traced automatically. The program calculated from frame to frame the displacement of the pattern of spots within the zone of interest throughout the entire cardiac cycle. After optimizing the area of interest, the software generated strain curves for each of the 6 segments. Regional and global (by averaging the values of all segments) amplitude and time indicators were obtained from these curves.

Xolter ECG monitoring (HM) was performed using the CardioSens complex. The variance of the QT interval was calculated as the difference between the mean maximum and minimum values of the QT interval in six precordial ECG leads. To correct the variance of the QT interval depending on the heart rate (variance of the corrected QTc interval), a modified H. Bazett formula was used: where dQTc is the variance of the corrected QT interval; dQT is the variance of the QT interval; RR is the duration of the cardiac cycle. The QT interval variability coefficient (QTvar) was calculated by the formula: QTvar=(QTc)/(QTcp)x100%, where QTsp is the average value of the QT interval. Statistical data processing was carried out using the statistical software package Statistica 6.0 (Statsoft Inc., USA). The distribution of almost all variation series did not comply with the criteria of normality, so the analysis used methods of nonparametric statistics. To assess the differences between the groups, the nonparametric Mann-Whitney test was used.The correlation analysis was performed using the Spearman rank correlation coefficient.

RESULTS

According to the XM ECG data, ventricular extrasystoles of various gradations – from I to IVB class according to the Laun-Wolf classification-were detected in 8 (13%) patients of group 1 and 12 (33%)

patients of group 2. When comparing the corrected QT interval in patients with viral cirrhosis of the liver, its lengthening was noted, this indicator in patients of group 1 was 457.9 [442;468], in group 2-478[433;502] in the control – 427.9 [406;438] ($p<0.001$). Supraventricular arrhythmias were represented by supraventricular extrasystoles in 15 (25%) patients of group 1 and in 18 (50%) patients of group 2; paroxysmal atrial fibrillation in 2 (3%) and 7 (19%) patients, respectively. When comparing the average values of the tissue Doppler spectrum in patients with viral CL, it was found that the peak systolic velocity (Sm) of the side wall (segments 3, 9) in patients with ascites was lower by 23% and 25%, respectively, compared with group 1. It can be assumed that the global longitudinal systolic function of the LV in patients with ascites, in contrast to patients without ascites, was reduced. The Shadow myocardial performance index in group 2 increased at the level of the tricuspid ring, which characterizes a decrease in the global function of the right ventricle in patients with ascites in comparison with the control and 1st groups. The conducted echocardiographic analysis showed that in patients with CL without ascites, there is an increase in indicators that characterize the mass left ventricular myocardium (interventricular septum, posterior LV wall, LV myocardial mass and LV myocardial mass index), dilated left atrium, pulmonary artery. These disorders increased in patients with ascites, where systolic pressure in the pulmonary artery also increased.

When assessing myocardial deformity in patients with CP, the index of the maximum systolic strain for the anterior-septal segment in patients with ascites was statistically significantly different from that in the control group. The parameters of the lower-lateral, lower, and lower-septum segments of the LV were lower in patients with ascites compared to patients in the control group and patients without ascites. The global systolic strain (in the position on chambers 2 and 4, and along the long axis from the apical access) in patients with CP in the presence of ascites was statistically significantly different from those in patients without ascites and in the control group. Thus, patients with ascites showed a decrease in segmental and global LV systolic function.

It is known that antiviral therapy in patients with viral cirrhosis of the liver serves as a prevention of the development of liver failure and hepatic cell carcinoma. 16 patients with viral CP received antiviral therapy with interferon drugs in combination with ribavirin with the formation of a persistent virological response time within 11.8 months. Specific treatment had a positive effect on some morpho-functional parameters of the heart: there was a decrease in left ventricular mass by 7%, left atrial volume index by 10%, and systolic pressure in the pulmonary artery by 12%.

DISCUSSION

The study confirms the data on the presence of myocardial dysfunction in patients with viral CL [1-5]. In compensated patients, the left ventricle is remodeled with an increase in its mass, the volume of the left atrium, the diameter of the pulmonary artery, and there is a decrease in the maximum systolic velocity of the mitral valve fibrous ring. In addition, there was a violation of the heart rhythm by the type of extrasystole, paroxysmal form of atrial fibrillation, as well as an elongation of the corrected QT interval. In patients with ascites, there is a more pronounced remodeling of the left ventricle with an increase in its mass, the left atrium and the pulmonary artery expand even more, the systolic function of the ventricles decreases, heart rhythm disorders are more common, and the QT interval is even longer. The leading role in the development of changes in the architectonics of the heart in patients with viral CL belongs not only to mechanical factors (an increase in the volume of circulating blood and its viscosity, total peripheral resistance, systolic tension of the walls of the left ventricle, etc.) and neurohumoral factors (the influence of the renin-angiotensin and sympathetic systems), but also to the influence of the damaging effect on the cardiomyocytes of the inflammatory factors and procoagulants circulating in the blood. There is evidence of a direct effect on the myocardium of the core protein of the virus, and there is a possibility of settling of circulating immune complexes both in the myocardium and in the vascular wall with the formation of vasculitis. It is also known about the cardiotoxic effect of endotoxins, in particular, bile acids, due to their ability to inhibit the automatism of the sinus node, which is one of the factors of vagal dysfunction of the reduced reactivity of the sympathetic nervous system. Hypocalcemia, developed as a result of increased activity of aldosterone, inhibits the processes of depolarization in the myocardium. A clear marker of these dielectrolyte disorders is the extended QT interval, which can form electrical instability of the myocardium with the development of

intraventricular conduction disorders and life-threatening arrhythmias. In response to overload, the structure and function of the heart changes, the left atrium expands, the mass of the myocardium increases, and due to compression of the intramural coronary arteries, the coronary reserve decreases, which contributes to the development of cardiac arrhythmias. In turn, a decrease in coronary blood flow impairs the pumping function of the ventricles. As a result of morphological changes in the myocardium, the shortening of the interval between contractions leads to a decrease in LV filling. The deterioration of its filling is compensated by an increase in pressure in the small circle. A decrease in extensibility also contributes to a decrease in contractile function. The insufficiency of one half of the heart causes the other half to be overstressed, and the increased preload leads to an increase in the residual volume of blood, increases the pressure in the right parts and veins of the large circulatory circle, splanchnic fullness is formed, which contributes to an increase in pressure in the LA. Antiviral therapy in patients with viral CP had a positive effect on cardiohemodynamic parameters and was accompanied by a decrease in left ventricular myocardial mass, left atrial volume index, and systolic pressure in the pulmonary artery. It is possible that the phase of virus integration due to antiviral therapy is accompanied by a decrease in portal hypertension, resulting in a decrease in LV mass and LP volume, which play an important role in the formation of cardiac arrhythmias. In all patients with CP, the relationship between the global maximum strain (Avg) and the parameters of hepatoportal hemodynamics, structural and functional parameters of the heart was studied. A strong correlation was found between Avg and increased viral load, portal vein diameter. From this, it can be concluded that a possible cause of myocardial damage may be direct exposure to hepatitis viruses.

In all patients with CP, the relationship between the global maximum strain (Avg) and the parameters of hepatoportal hemodynamics, structural and functional parameters of the heart was studied. A strong correlation was found between Avg and increased viral load, portal vein diameter. From this, it can be concluded that a possible cause of myocardial damage may be direct exposure to hepatitis viruses.

CONCLUSION

Thus, in patients with CP of viral etiology without ascites, an increase in the mass of the left ventricular myocardium, the left atrial cavity, and the pulmonary artery was found, there is a violation of the heart rhythm and an elongation of the corrected QT interval. These changes are more pronounced in patients with ascites, in addition, they increased the pressure in the pulmonary artery and decreased the systolic function of the ventricles of the heart. Antiviral therapy has a positive effect on some cardiohemodynamic parameters.

REFERENCES:

1) Peshkova S. V., Chistyakova M. V., Govorin A.V., etc. Clinical and pathogenetic features of cirrhotic cardiomyopathy. Zabaikalsky medical Bulletin. 2017;2:63-71. (In Russian). [Peshkova S. V., Chistyakova M. V., Govorin A.V., et al. Clinical and pathogenetic features of cirrhotic cardiomyopathy. Zabaikalsky Medical Bulletin. 2017;2:63-41].
2) Malinovskaya Yu. O., Moiseev S. V., Moisyuk Yu. G. Cardiomyopathy in cirrhosis and liver transplantation. Almanac of Clinical Medicine. 2016;44:775-84. (In Russian). [Malinovskaya Yu. O., Moiseev S. V., Moisyuk Ya. G. Cirrhotic cardiamiopathy and liver transplantation. Almanac of Clinical Medicine Medicine. 2016; 44: 775-84]. doi: 10.18786 / 2072-0505-2016-44-6-775-784.
3) Levitan B. N., Kasyanova T. P. Prevalence of the main diagnostic criteria of cardiomyopathy in patients with cirrhosis of the liver. Doktor.Ru. 2014;7(95):9-13. (In Russian). [Levitan B. N. Kasyanova T. R. Frequency of occurrence of the leading diagnostic criteria of cardiamiopathy in cirrhosis of the liver. <url>. 2014;7(95):9-13].
4) Kasyanova T. R., Astatsin A.V., Levitan B. N., etc. Evaluation of structural and functional parameters right heart in patients with cirrhosis of the liver. Modern problems of science and education. 2011;6:67. (In Russian). [Kasyanova T. R., Astakhin A.V., Levitan B. N., et al. Evaluation of structural and functional parameters of the right heart in patients with cirrhosis of the liver. Modern Problems Science and Education. 2011;6:67].

5) Kalacheva T. P., Chernyavskaya G. M., Beloborodova E. I., etc. Endothelial vascular regulation disorders and echocardiographic evaluation of myocardial dysfunction and pulmonary circulation hemodynamics in liver cirrhosis. Cardiology. 2016;56(1):41-7. (In Russian). [Kalacheva T. P., Chernyavskaya G. M., Beloborodova E. I., etc. Disorders of the vasoregulatory function of the endothelium and echocardiographic assessment of myocardial dysfunction and hemodynamics of the small circle of blood circulation in cirrhosis of the liver. Cardiology. 2016;56(1):41-7]. doi: 10.18565/cardio. 2016. 1. 41-47.
6) Lopatkina T. N., Strizhakov L. A., Konysheva A. A., et al. Variants of heart damage in chronic hepatitis. Clinical pharmacology and therapy. 2014;23(4):90-3. (In Russian). [Lopatkina T. N., Strizhakov L. A., Konysheva A. A. (In Russian). Variants of heart damage in chronic hepatitis C. Clinical Pharmacology and Therapy. 2014;23(4):90-3].
7) Ratti L., Redaelli E., Guidi S. et.al. Diastolic dysfunction in cirrhosis of the liver. Gastroenterol. Hepatol. 2005;28(10):649-55.
8) Govorin A.V. Non-coronary myocardial injury. Novosibirsk: Nauka, 2014. (In Russian). [Govorin A.V. Non-coronarogenic myocardial lesions. Novosibirsk: Nauka; 2014].
9) Sokolova N. A., Danshova M. S., Govorin A.V., Zaitsev D. N. Association of Polymorphism matrix metalloproteinase genes (9, 12, and 20) with early left ventricular remodeling in patients with acute myocardial infarction. Heart. 2017;16(4):268-73. (In Russian). [Sokolova N. A., Danshova M. S., Govorin A.V., Zaitsev D. N. Association of matrix metalloproteinase gene polymorphism (9, 12, and 20) with early left ventricular remodeling in patients with acute myocardial infarction. Heart. 2017;16(4):268-73]. doi ID: 10.18087 / rhj. 2017. 4. 2362.
10) Palmieri V., Russo S., Palmieri E. A., et al. Changes in the components of left ventricular mechanics in patients with selective beta-1 blockade: a look from traditional and new technologies in echocardiography. Eur J Echocardiogr. 2009; 10: 745-52. doi:10.1093 / ejechocard/ jep055.
11) Teske A. J., De Boeck B. W., Olimulder M. Et al. Echocardiographic evaluation of regional function of the right vein: comparison of two-dimensional and tissue Doppler strain analysis. J Am Soc Echocardiogr. 2008;21(3):275-83. doi: 10.1016/j.echo.2007.08.027.

CONTENT OF THE CORPORATE GOVERNANCE SYSTEM, FOREIGN EXPERIENCE AND EFFICIENCY OF ITS IMPLEMENTATION

Abdurasulov Abdullajon Abdukarimovich
Independent researcher of the Kokand State Pedagogical Institute.
kamronbek.abdurasulov@mail.ru, +998916771122

ANNOTATIONS
The article reveals important factors of effective management in the development of higher education and methods of its application in the country's universities using the corporate governance system and foreign experience, rejection of the authoritarian and administrative-bureaucratic management model in the education system.

Keywords: governance, corporate governance, authoritarian governance, administrative bureaucracy, accountability in governance, voting in governance.

INTRODUCTION

Based on the general principles of the corporate governance method in the world, each higher education institution is becoming increasingly relevant, depending on its own characteristics. At this approach, based on the corporate governance method, American, British, Swedish, Finnish and Japanese models have created and demonstrated high efficiency. In this case, we see that each state pays special attention to the generation of the national corporate governance model in its education system. "The implementation of the management tasks is carried out using various methods. Thus, the basis of the criterion that will determine the need to organize management, that is, management activities - is the goal of the manner or institution itself, to achieve it, it is necessary to establish tasks in advance to schedule conceived activities, choose a guide to For implementation, the choice of performers, in accordance with the content and essence of tasks, also distributing the tasks performed, coordinate the activity of the process organized to achieve the specified goal"[1].

The main values of the term "corporate governance" means "interactive communication between members of the Group". The administration of the enterprise means that the socialization of property between all participants, raising the minority share among participants to improve management efficiency, increase the share of minority shareholders, that is, the involvement of each person interested in its activities to one degree or another. The introduction of organizational forms and modern methods of corporate governance, the training of employees of the industry in accordance with international requirements and their professional development is the priority of the above center[2]. If this tariff applies to the highest institution, to the management of the highest educational institution, this means attracting each person who is interested in its activities to one degree or another. Also, by importing the principles of corporate governance into universities, the introduction of laws based on market services, the management is reflected through the creation of the "Management of the Board" directors. Western explorer Bob Trickker describes the concept of corporate governance through exploitation, interaction, shareholders, financial and social views. In particular, from the operating point of view of the company is considered a manageable and controlled corporate governance system, and the Board of Directors is responsible for managing the company. The role of shareholders in the administration is to appoint the composition of directors and auditors and form the composition of the leadership, which satisfies their own interests.

In 2006, at the international conference held in Washington called "Ethics and Value in Higher Education" and in 2007, organized at a seminar called "Principles of Management in Higher Education", the main problem was aimed at creating effective control models of the management system and ensuring his future influence [3]. Because the time itself began to demand approaches how well manage free and independent persons and the need to create democratic relations. As stated in the study of the Professor of Pakistan University of Saradhi Khalid Zaman under the name "Effective Management and Quality of Education in the Higher Education of the World", that all over the world it is impossible to create an effective management model in the Higher Education system, but is responsible for the management itself in the leadership itself and leads to quality and

efficiency[4]. The presence of voting and the launch of the accountability management administration in the highest educational institution forms liberal traditions. As a result, the educational institution forms a medium of freedom.

Exploring the advantages of the global trend in the management of worldwide potential institutions of higher education and regular research are also conducted to create more perfect management. By the XXI century in developed foreign universities, the corporate administration model was tested in practice and as a result over the past years was described as the most efficient system. However, for the social change of the principles of the corporate governance system, its internal structures and social change in laws, it becomes necessary to adapt to the requirements of the time and coordinate the democratic principles of each state. Consequently, the creation of innovative models of educational institutions in the developed higher educational institutions and research centers of the world and are held several studies within the framework of the need to reform existing models. "Administrative staff in an educational institution is necessary for the development of functional aspects of management, achieving labor productivity, responsible approach to work, the ability to lead the goal, adaptation of the management of an educational institution to the internal and external changes, the introduction of innovative news and improving innovative technologies to manage Required knowledge, skills and qualifications[5]. Therefore, primarily the need for worldview, knowledge, relations with time and readiness to innovates and increase creativity from managers and professors and teachers working in a higher education system.

In recent years, special attention is paid to upgrading management methods. The head of our state said that we have invested many contributions and radically changed the principles and approaches to corporate governance, ensuring its real market relations, and also refused to work conservative views, but at a time when the creation of joint-stock companies around the world and corporate Management is considered the main method, he stressed that in this regard, the work performed is not satisfactory and there are still many tasks that must be performed. The corporate method is an important condition for the transition to a market economy, which requires the vital need for the experience of developed countries, and also especially the issues of the introduction of young specialists who have modern knowledge of management and marketing methods and their use in practice are relevant tasks[6]. Therefore, the need for importing and preparing for the laws of a market economy and capitalist relations to the highest institution. To do this, it is necessary to abandon conservative views, authoritarian and administrative bureaucratic departments by implementing the principles of corporate governance in higher education.

"If you want to change the world, the strongest weapon is knowledge", this thought was expressed, when the famous statesman, Nilson Mendel politician [7]. Proof of these views we see from the experience of developing developed countries today. Indeed, if you draw attention to the development of countries such as Japan, Germany, Finland, Sweden, Singapore, the education system and powerful higher education institutions can be understood by the local economy.

Analysis of research shows that Harvard University was recognized as the best university in the world. In second place if the Stanford University is celebrated, the University of Cambridge ranks third [8]. Also from the list of the best ten universities, the University of Massachusetts, California University in Burkli, Princeton University, Oxford University, University of Columbia, California Institute of Technology and University of Chicago, are occupied. The potential of these universities depends on the existence of strong and efficient management. In these higher educational institutions, the principles of corporate governance are also presented, it will take part in the private sector management to parents and forms public control.

There is no doubt that it is expected that the experience of the United States of America will study the experience of developed countries in the study of effective methods of management of higher education. The USA system is unique in many ways in the spectrum of higher education systems around the world. Unlike most countries, there is no other Central Agency responsible for the highest education in the USA Department of Education or in the country. The role of the federal government is limited. Thanks to the reorganization of other USA state structures, the country's higher education system is not concentrated in one way. State universities and colleges are not the federal government, in accordance with state control. Educational institutions have much more independent management rights. These features are manifestations of corporate governance and the state in the decentralization of the higher education system, depend on the highest organizations on the management and absence of standards. Therefore, higher educational institutions of the

United States are considered effective and high quality education. Since the quality of high education, science develops in conditions of real academic freedom.

Today, one of the concepts widely used in the world, no doubt is the concept of corporate governance. The main joint-stock companies organized by corporate governance authorities, the regional and global economy of transnational corporations are high. Based on this, serious attention is paid to the effective organization of corporate governance systems by almost all over the world, especially in our country. Because of the factors, it is advisable to correctly understand the economic nature of corporate governance, its goals and objectives. The economic nature of corporate governance has been studied over the years, and in this regard can be evidence of the diversity of the opinions of researchers. In the end, "today Uzbekistan is the task of ensuring the development of the economy based on innovation. Therefore, reforms in the education system in Uzbekistan remain closely related to the emergence of new changes in the economy. The system of education of Uzbekistan amounted to a number of changes in the next 20 years. At the same time, there are problems with a close solution in the education system of Uzbekistan"[9]. As a solution for these problems, the need to reform, change, modernizing higher education is also mentioned in high tribune. Therefore, the Ministry of Higher and Middle Special Educational Institutions introduces innovative approaches to the management of higher education, creating a competitive environment in training and thanks to this, the work of creating vocational education is carried out voluntarily. As part of such changes, there is a practice as an experiment to ensure academic independence in higher educational institutions, testing corporate governance for some higher educational institutions.

According to the theories of education management, the structure of corporate governance determines the distribution of rights and obligations between the various participants in the leadership of higher educational institutions. This determines the adoption of processes and procedures between the private sector, members of the Council, managers and other shareholders. From the point of view of shareholders, the Corporate Governance Council participates in the activities of the corporate division and its shareholders, managers, external auditors and others. Corporate governance is characterized as a process that is the responsibility and rights of the highest educational institution. From a financial and economic point of view, corporate governance represents relations between the financial conduct of the highest educational institution and their return. In this case, special attention is paid to protecting property rights and investors. From a social point of view, corporate governance is explained by providing a balance between socio-economic and public and individual objectives.

In general, the principles of corporate governance are:

- legality;
- justice;
- accountability;
- duty;
- frankness;
- transparency.

The principle of legitimacy of corporate governance is corporate governance on the basis of legislation established by the state, which should be legal.

The principle of justice is equally in the corporate structure, regardless of the joint-stock share, should ensure the rights and interests of minority shareholders.

Reporting to contributions and shareholders in corporate governance are organized on the basis of the principle of accountability. The corporate structure is responsible for the current financial and economic activities, the Supervisory Board for monitoring the activities of the Executive Body, and the practice is organized on the basis of the principle of responsibility. The corporate structure should also publish preliminary information (reports) to attract investment. In this case, the information is declared to adhere to the principle of information about the transparency of information.

In conclusion, the introduction of the principles of corporate governance into higher education institutions issues radical changes in the education system. The administration of openness, transparency, legitimacy and public control will be created and developed in this higher education. The experience of developed countries also leads to the introduction of corporate governance, market and for the requirements of time.

LIST OF USED LITERATURE

1) Shamuratov R. Organization of activities of higher education system and improvement of the management process technologies., Scientific Bulletin of Namangan State University: Vol. 1 : Iss. 8 , Article 70. 2019. Available at: https:/ /uzjournals.edu.uz/namdu/vol1/iss8/70
2) https://old.xs.uz/index.php/homepage/iqtisodijot/item/6838-korporativ-boshqaruv-zamonaviy-usul-va-jondashuvlar (Corporate Governance: Modern Methods and Approaches)
3) Henard, F., Mitterle, A., 2009. Governance and Quality Guidelines in Higher Education: a Review of Governance Arrangements and Quality Assurance Guidelines. OECD/Directorate for Education, France, Paris.
4) Khalid Zaman. Quality guidelines for good governance in higher education across the Globe. Pacific Science Review B: Humanities and Social Sciences 1 (2015) 1e7. journal homepage: www.journals.elsevier.com/pacific-sciencereview-b-humanities-and-social-sciences.
5) Shamuratov R. Organization of activities of higher education system and improvement of the management process technologies., Scientific Bulletin of Namangan State University: Vol. 1 : Iss. 8 , Article 70. 2019. Available at: https:/ /uzjournals.edu.uz/namdu/vol1/iss8/70
6) https://old.xs.uz/index.php/homepage/i-tisodijot/item/6838-korporativ-bosh-aruv-zamonavij-usul-va-jondashuvlar (Corporate Governance: Modern Methods and Approaches)
7) Marwan M. Abdeldayem, Saeed H. Aldulaimi. Corporate Governance Practices in Higher Education Institutions: The UK vs Bahrain. International Journal of Learning and Development ISSN 2164-4063 2018, Vol. 8, No. 4
8) Jons, H., Hoyler, M., 2013. Global geographies of higher education: the perspective of world university rankings. Geoforum 46, 45e59.
9) https://kun.uz/67316320 (Higher education questions: comparison and statistics)
10) Bakhromovich, S. I. Development trends and transformation processes in academic mobility in higher education in uzbekistan and the world.
11) Bakhromovich, S. I. (2020). Analysis Of Modern Approaches To Ensuring The Effectiveness Of Management In Higher Education Institutions. The American Journal of Social Science and Education Innovations, 2(12), 364-369.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

IMPACT OF SOIL TILLAGE USING RESOURCE-SAVING TEXTOLOGY ON SEED GERMINATION AND COTTON YIELD OF ANDIJAN-36 COTTON VARIETY

Ilyosbek Usmonov Inomovich
Independent Researcher, Department of Plant Science,
Andijan institute of agriculture and agrotechnologies usmonov1@mail.ru tel:(+998-97)338-48-55

Odiljon Qodirov Salomjonovich
Independent Researcher, Department of Plant Science, Andijan institute of agriculture and agrotechnologies
atabaeva.mamura@mail.ru тел: (+998-91)-4793433

Jalaliddin Holisbekov,
Andijan institute of agriculture and agrotechnologies

Sharofiddinova Xursanoy
Andijan institute of agriculture and agrotechnologies

ABSTRACT
With the use of resource-saving agro-technology and processing with a new combination aggregate in autumn, cotton yield of 37.9-40.4 c/ha was obtained from the variants where the 50% annual rate of 200 kg/ha norm of nitrogen was applied in the form of liquid ammonia under the ridges and the remaining 50% of liquid ammonia was used during the growing period of cotton plant in the form of ammonium salt petre by stratification. In these variants cotton seeds were sown in single-row and double-row methods. They produced additional yield of 4.1-5.9 c/ha compared to the control variants and the highest economic efficacy was achieved. Net profit from these variants constituted 2079,1-2793.7 thousand sums, profitability rate was 52.3-68.4%, in comparison with control variants, the net profit was 1127,7-1569,3 thousand sums more while the profitability rate was 29,1%. - 38.8% higher.

KEYWORDS: Soil, cotton plant, single-row and double-row, cotton productivity, new combination technology, Andijan-36 variety, liquid ammonia, net profit.

INTRODUCTION
In the world practice, the minimum soil tillage and crop cultivation are currently implemented in more than 100 million hectare areas. The combination system of soil tillage encompass many measures. This method is effective in the soils with different fertility, especially, in manure areas (when NPK balance is high). Minimum soil processing compared to traditional technologies is not only energy-resource-saving technology but also soilprotecting technology too. In soil tillage technology the techniques are widely used that can be perform several operations simultaneously. Minimal tillage is widely used in Canada, USA, Germany, Russia, India, Australia and other countries.

Combined techniques in minimal soil tillage allow to maintain soil fertility, prevent soil compaction, reduce erosion processes, and ensure food security through obtaining precocious, high-quality yields using scientifically assured technology of the effective use of mineral fertilizers. Therefore, one of the main tasks of today is to develop the use of energy-saving technologies and techniques for soil protection in the cultivation of cotton plant and the crops of its complex by the minimal tillage of soil.

It is well-known that the productivity and fiber quality of each cotton variety depends, first of all, on how we follow to the scientifically proven, high-quality modern agrotechnics and perform timely agrotechnical activities, taking into account their biological characteristics. In the researchers conducted by A. Ochirov, G. Muchkaeva, and N. Bavaev [9] at Kalmykia State University, the resource-saving agrotechnology was used for soil processing and achieved 2-2.5 times less cost of fuel and 30-40% of decreased costs compared to the variant where the simple tillage was used in the cultivation of winter wheat crop, while in the researches carried out by A.K Kashkarov, T.Z. Fayziev [3] it was determined that there was possibility to obtain 3,7

c/ha additional yield of cotton due to proper weight of soil in the ridges for cotton, fast germination of seeds under high temperature, rapid growth and development of cotton plant and 4-5 days earlier maturation of cotton yield in comparison with conventional flat fields. On the base of the results of many years of scientific research by S.N Ryjov, V.P Kondratyuk and Yu.A. Pogosov [10], the application of the method of sowing seeds in early spring in the ridges prepared in autumn, complete germination of seeds and consequently, producing high yields of cotton, as well as, economic efficiency of this method were scientifically and practically proven.

As S.Yusupov, A.Khaydarov, T.Komilov [14] have emphasized, the density of seedlings of Andijan-33 cotton variety in the schemes 90x10-1 and 90x10-1-2 was 111 - 165 thousand pieces in light virgin soils of Andijan region, mineral fertilizers were applied in the norm of NPK-250-175-125 kgs per ha, cultivated cotton yield made 37,8 c per ha and compared to control variant 3,2 c/ha additional yield was obtained.

S.Bakhromov, U.Mukaramov [1], K.M.Tojiyev [12], A.Khaydarov, K.Kirgizboyev [5], Sh.T.Salomov [11], S.T.Negmatova [8], S.Ubaydullayeva [13] conducted scientific researches on the rational utilization of labor, land-water resources and energy, developing different technologies of producing economically efficient, cheap and qualitative products.

In their research Khasanova F.M, Khasanov M.M, Atabayeva M.S [4] observed that in comparison with the pre-processing condition, the soil porosity increased up to 1,7-2,2% by the layers relatively to the density of seedlings, while compared to the 1^{st}-2^{nd} variants it raised to 0,4-0,5 % in the variants where the soil was processed with combination aggregate in 30-35 cm depth in autumn applying nitrogen in the form of liquid ammonia and in the norm of 100 kg/ha simultaneously making ridges for seeds and also using 100 kg/ha nitrogen in the form of ammonium saltpetre during the active period of cotton plant.

MATERIALS AND METHODS

The investigations of the research were conducted under the given order in 2015-2017 on the farm "Davr hamkorligi" in Kurgantepa district of Andijan region. Experimental field was old irrigated land with light virgin soil and its content was moderate sandy loam, groundwater was in 4,0-5,0 m depth. Soil solution alkalineness was pH 7-7,4; Humus and gross nitrogen amount were 0.8-0.9 and 0.05-0.09%, respectively.

The experimental variants were in three repetitions, in one plot where each variant contained 8 rows with a total area of 720 m^2 and a calculated area of 360 m^2.

The accuracy of the yields obtained from the experimental variants and repetitions was analyzed by dispersion method [2]. For the study of agrochemical [6] and agrophysical properties [7] of experimental field soils the conventional methods were used.

Table 1 Experiment system

№	The method of soil processing	Sowing method	Density of theoretical seedlings
1	Tilling with plough in 30-35 cm depth (control)	90x10-1	90-100
		90x(30x12)-1	140-150
2	Processing with new combination aggregate in 30-35 cm depth, and then making ridges (in autumn)	90x10-1	90-100
		90x(30x12)-1	140-150
3	Processing with new combination aggregate in 30-35 cm depth and then making ridges	90x10-1	90-100
		90x(30x12)-1	140-150

COMMENTS

In the 1^{st} -2^{nd} variants the land was tilled by conventional method in 30-35 cm depth and made ridges in 30-35 cm height, annual norm of mineral fertilizers was NPK-200-140-100 kg/ha. N-nitrogen; P-phosphorus; K-potassium.

The experiments were carried out during the years 2015-2017 on the base of agreed experiment system.

In the variants 3–4 the soil was processed with a new combined aggregate, ridges at a height of 30–35 cm were prepared, and the mineral fertilizer nitrogen was applied under 30-35 cm depth of ridges in the norm of 200 kg/ha of liquid ammonia and also P-140-100 kg/ha.

In the 5^{th}-6^{th} variants the soil was processed with the help of new combination aggregate, ridges were made in 30-35 cm height, under these ridges mineral fertilizer nitrogen was applied in 30-35 cm depth in the form of liquid ammonia from 100 kg/ha annual rate, the remaining 100 kg/ha fertilizer was used in the form of ammonium saltpetre, PK-140-100 kg/ha during the active period of cotton plant.

On these problems, field experiments were conducted to study the effect of the application time of nitrogen fertilizer in the form of ammonia on the cotton yield of Andijan-36 cotton plant variety in new combined technology of tillage in 2015-2017.

RESULTS AND DISCUSSION

In our research, we studied the productivity of cotton plant under the effect of the use of traditional soil processing and resource-saving agrotechnologies in the fields where the cotton seeds were sown in single and double-rows, used nitrogen fertilizers in the form of liquid ammonium and ammonium saltpetre by comparing these two methods.

In our experience, the favorable soil conditions in the variants where the new soil tilling technology was used, have allowed more acceleration of germination of Andijan-36 cotton variety seeds by 25-30% compared to the simple variant in which the soil was processed in 30-35 cm depth and then made ridges, as well as, seeds have germinated 3-5 days earlier. As a result, the growth and development of cotton in these variants accelerated, allowing the production of early and high quality cotton.

In our research it was determined that the use of resource-saving agrotechnologies had a positive impact on the growth and development of cotton, that is, with the use of combined aggregate in the fall simultaneously applying 100 kgs of nitrogen in the form of liquid ammonia under the ridges and 100 kg of ammonium saltpetre during active period of cotton plant in the variants where seed sowing was done under the scheme 90x10-1 the number of unripe bolls was 7.1; 10.9 pieces, similarly, in the variants which had the same method and mineral fertilizers rate, only with different planting system of 90x(30x12)-1, cotton bolls were 5,0; 8.9 pieces. With respect to control variant, it was identified that according to time and planting systems, these indications increased by 0.8-2.8; 0.4-1.7 pieces. In the cultivation of Andijan-36 cotton plant variety after the application of resource-saving agro-technologies to the soil, i.e, processing the soil with new combination aggregates and simultaneously adding the nitrogen of 100 and 50 percent from 200 kg/ha annual norm in the form of liquid ammonia under the ridges, sowing the seeds in the ridges by single-row and double-row method average 36,2 and 39,2; 37,9 and 40,4 c/ha cotton yield was produced in the variants 3-4 and 5-6 within 3 years, compared to the variants grown traditionally 4,1-5,6 c/ha additional cotton yield was produced.

Additional cotton yield of 3,2 and 3,4 c/ha was obtained in the 4^{th}-6^{th} variants in which the soil was processed with the help of combination aggregate in autumn, applying 100 and 50 percent amount of nitrogen of annual rate 200 kg/ha under the ridges in the form of liquid ammonium, and seeds were sown in the ridges by double-row sowing method. A reasonable difference wasn't observed in both ammonium rates.

Thus, it was identified that the use of a new soil treatment aggregate in autumn applying at the same time the nitrogen of 50 % under the ridges in the form of liquid ammonium from its 200 kg/ha annual norm and other 50 % in the form of ammonium saltpeter during the growth period and stratification nutrition resulted positively.

In the variants 5-6 where the soil was processed with resource-saving agro-technologies, using a new soil treatment combination aggregate in autumn applying at the same time the nitrogen of 50 % under the ridges in the form of liquid ammonium from its 200 kg/ha annual norm and other 50 % in the form of ammonium saltpetre during the growth period and performed stratification nutrition cotton productivity of Andijan-36 variety constituted 37,9-40,4 c/ha, compared to the variants in which the nitrogen was used in the form of liquid ammonia from 200 kgs annual norm, it was 1,7-2,2 c/ha more.

It is important to evaluate economically the effectiveness of each agro-measure tested in the experiments in order to determine a particular level of useful or highly effective results and to introduce them into production.

Gross income and net profit were calculated based on the average costs of 3 years related to experimental variants. Accordingly, the profitability of variants was calculated.

Moreover, the purchase price of raw cotton in 2015-2017 was calculated and the average 3-year figures are taken as a basis.

Table 2 The influence of agro-measures on the productivity of Andijan-36 cotton plant, **center/**hectare, (in 2015-2017) average 3 years

№	The method of soil processing	Sowing scheme	in 2015	in 2016	in 2017	Average 3 years	Additional yield compared to control, c/ha
1	**Tilling with plough in 30-35 cm depth (control) NPK 200; 140:100**	**90x10-1**	34,1	33,2	34,1	33,8	
2		**90x(30x12)-1**	34,9	33,9	34,6	34,8	
3	**Processing with new combination aggregate in 30-35 cm depth, making ridges (in autumn), liquid ammonia 200+ PK 140:100**	**90x10-1**	37,0	35,9	35,7	36,2	2,4
4		**90x(30x12)-1**	38,8	37,3	38,5	39,2	4,4
5	**Processing with new combination aggregate in 30-35 cm depth, making ridges (in autumn), liquid ammonia 100+ NPK 100; 140:100**	**90x10-1**	39,4	37,0	37,3	37,9	4,1
6		**90x(30x12)-1**	40,7	39,2	41,3	40,4	5,6
In 2015 - Sd=0,19 c/ha; HCP_{05}=0,4 c/ha; HCP_{05}=1,07%; Sd=0,14 c/ha; HCP_{05}(A)=0,29 c/ha; HCP_{05}=0,77%; Sd=0,11 c/ha; HCP_{05}(B)=0,23 c/ha; HCP_{05}=0,61%							
In 2016 - Sd=0,38 c/ha; HCP_{05}=0,8 c/ha; HCP_{05}=2,22%; Sd=0,27 c/ha; HCP_{05}(A)=0,57 c/ha; HCP_{05}=1,58%; Sd=0,22 c/ha; HCP_{05}(B)=0,46 c/ha; HCP_{05}=1,29%							
In 2017- Sd=0,39 c/ha; HCP_{05}=0,82 c/ha; HCP_{05}=2,23%; Sd=0,28 c/ha; HCP_{05}(A)=0,59 c/ha; HCP_{05}=1,6%; Sd=0,23 c/ha; HCP_{05}(B)=0,48 c/ha; HCP_{05}=1,32%							

According to the three-year research, each of the variants under the influence of different agrotechnologies used in the experiments had specific economical indications considering particular costs and cotton productivity.

When the land was processed traditionally, that is, performing tillage in autumn, harrowing and other agrotechnical measures, following ridge preparation, and seeds were sown by single-row and double-row method in early spring, the productivity made 33,8-34,5 c/ha, the profit from the sale of total cotton raw material constituted 5094,9-5373,2 thous.sums, total costs were 4143,4-4148,8 thous.sums, net profit 951,4-1224,5 thous.sums, profitability rate was 23,2-29,6 percent.

In the areas where the soil was tilled with a new combination aggregate following the application of 100 % of nitrogen from 200 kg/ha annual rate in the form of liquid ammonia and when the seeds of Andijan-36 cotton plant variety were sown by single-row and double-row method the productivity made 36,2-38,2 c/ha, profit from sale of total cotton raw material was 5746,1-6210,8 thous.sums, total costs were 3947,64065,1 thous.sums, net profit constituted 1798,5-2145,7 thous.sums, profitability rate was 46,2-52,2 percent. Compared to the 1^{st}-2^{nd} variants where the traditional tillage was used, aforementioned variants productivity was 23,0-22,6 percent higher.

Furthermore, in the variants (5-6) that the soil was processed with resource-saving agro-technologies, using a new soil treatment combination aggregate in autumn applying at the same time the nitrogen of 50 % under the ridges in the form of liquid ammonium from its 200 kg/ha annual norm and other 50 % in the form of ammonium saltpetre during the growth period of Andijan-36 variety with stratification nutrition cotton productivity of Andijan-36 variety with seed sowing by single-row and double-row method, cotton yield made 37,9-40,4 c/ha, and additional 4,1-5,9 c/ha yield and the highest economical profit were obtained compared to control variants (1-2) where soil processing was done traditionally in 30-35 depth following ridge preparation. Net profit obtained from this variant has constituted

2079,1-2793,7 thous.sums, profitability rate was 52,368,4 percent and when compared to the variant in which the soil was processed with traditional method in 30-35 cm depth and then made ridges, the net profit made 1127,7-1569,3 thous.sums more, while profitability made 29,1-38.8 percent higher.

To sum up, it was determined that in the variants with soil tillage by new combined aggregates, and application of 100 % of nitrogen from 200 kgs of annual rate in the form of liquid ammonia under the ridges in autumn, and while comparing to cared variant, application of 50 % of nitrogen under the ridges in the form of liquid ammonia, that is, using 100 kgs of nitrogen and the remaining 100 kgs during the growing period of cotton plant by stratification, there is a possibility of cultivating early and high quality cotton yield because of favorable condition.

CONCLUSION

According to the results of research, the use of resource-saving agrotechnology in the cultivation of Andijan-36 cotton plant variety, i.e, processing with combinaned aggregate and simultaneously applying 50% of nitrogen of annual rate under the ridges in the form of liquid ammonia, the other 50 percent during growth period of cotton plant by stratification, sowing seeds by single-row and double-row method and consequently, resource-saving agrotechnology in cotton plant growing were found to be economically effective.

REFERENCES

1) Bakhromov S., Mukaramov U. (1992). The influence of tillage depth on the plants of double cropping. Soil processing and crop rotation. International scientificpractical conference materials collection. Tashkent. pp. 814.
2) Dospekhov B.A. (1985). Methodics of field experiments.- M: Agropromizdat, 351 p.
3) Kashkarov A.K., Fayziyev T.Z. (1972). Ridge culture of cotton plant. Agriculture of Uzbekistan, №2. pp. 40-41.
4) Khasanov F.M, Khasanov M.M, Atabayeva M.S.
5) (2019). The influence of combined soil processing and nitrogen fertilizer application on the productivity of cotton plant of Andijan-36 variety///Journal “Actual problems of today’s science”. Moscow. №2. pp. 162-171.
6) Khaydarov A., Kirgizbayev K. (2008). The growth and development of cotton plant cultivated under the method of combined soil processing. Problems of farming:
7) investigations and solutions. Fergana. pp. 52-53.
8) Methods of agrochemical studies of soil in Central Asia. Tashkent, edit. 4th. Amendment. UzSRChI, 1973, 132 p.
9) Methods of agrophysical studies of soil in Central Asia. Tashkent. UzSRChI, 1973, 135 p.
10) Negmatova S. (2015). The influence of deep inter-row treatment to cotton plant on water retention capability of soil. Agro ilm. №6. pp. 8-9.
11) Ochirov A.Yu., Muchkayeva G.M., Bavayev N.G. (2016). The ways for increasing capacity of aggregates in the application of resource-saving technologies. Materials of I International scientific-practical internet – conference “Actual ecological condition of eresources”. Electronic collection of articles, February 29, s. Solenoye Zaymishe, pp. 1102-1106
12) Ryjov S.N., Kondratyuk V.P., Pogosev Yu.A. (1980). Cultivation of cotton plant in the ridges and beds. Tashkent, FAN. 76 p.
13) Salomov Sh.T. (2017). Improving the technology of main and inter-row soil processing// Abstract of dissertation for candidacy of the degree of doctor on agricultural sciences (DSc). Tashkent, PSUEAITI. 27 p.
14) Tojiyev K.M. (2007). The influence of cotton seed treating with different substances on the germination of shoots and cotton productivity// scientific and practical basis of increasing soil fertility: The collection of articles from international scientific-practical conference. Tashkent. pp. 334-337
15) Ubaydullayev S. (2017). The influence of double-row seed owing on germination dynamics of cotton seeds. Agro ilm. № 2. pp. 9-10.
16) Yusupov S., Khaydarov A. (2006). Agrotechnics for new varieties of cotton plant “Andijan-36” and “Andijan37”. Agriculture of Uzbekistan journal. Tashkent. №6. pp. 9.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

PEDAGOGICAL TECHNOLOGIES IN THE PROCESS OF EDUCATION

Omadjon Burxonovich Azamov,
kamronmirzo79@mail.ru, +998999077941

Odiljon Rasulovich Yusupov,
Teachers of Andijan State University

Ravshanbek Rustamovich Mamatov,
Teachers of Andijan State University

Nasibaxon Kozimbekovna Mamatova
Teachers of Andijan State University

ANNOTATION:
In this article, teaching methods can be considered in the minds of teachers, the general design of activities in a certain area of a certain direction, features of manifestations. This project is introduced into practice as a set of specific actions, practices or methods, mutual agreement of the practice, teachers and students aimed at training and learning. Methods cannot manifest themselves in other forms, which means that the teaching method is a didactic activity model as a whole.

Keywords: Method, teaching, pedagogical technologies, didactic processes.

INTRODUCTION

Greek translation of the word "method" means "study, methods, ways to achieve the goal". In the philosophy, this concept was described as a whole as "ways to achieve the goal". Currently, it is possible to testify that the definitions, the concept of the concept of "teaching method" during pedagogical sources is different. We will quote some of them:

There are also considerations that teaching methods are interaction of ordered activities of teachers and students.

However, despite the existence of various views on the disclosure of the essence of the concept of "teaching method", there is a community that brings them with each other. Most authors share the views that the "methods of education" are considered as the methods of organizing educational and educational activities of students. This means that teaching methods are used in the educational process and are a set of methods that ensure its effectiveness.

Training methods are always introduced using certain training tools, so it is permissible to note that they are mutually due.

Naturally, the result achieved in general does not always correspond to the purpose of the teacher set at the beginning of the lesson. The purpose of education will be evaluated on the basis of the activities of the teacher and students, as well as using educational tools, the mechanism will be activated in this process aimed to a specific purpose. Educational systems serve to express how the main ring and based on exactly what mechanism is in the process of achieving the goal, as well as how to use the available structural elements.

These functions are not entered separately from each other or alternately in the process of using the educational method, in contrast, they include each other. For example, the diagnostic function is performed by the teacher, due to the visual use of several methods.

Along with the term "education method", the concept of "Methodical Method" is also used (synonyms - pedagogical method, didactic method). It is described as an integral part of the educational method, its important element, a separate step in the introduction of the method. Each formation method is introduced through certain training methods. The variety of methodological methods does not allow them to classify, but may be distinguished by frequently used methods in the activities of the teacher:

Each method can successfully solve a certain educational task, and the rest may be more ineffective. Universal education methods do not exist, so you can use various training methods in the lesson or their complex.

The choice of education methods is determined based on the following criteria:

- Based on didactic purposes;
- Based on the content of education;
- Based on the level of acquisition and development of students in learning skills;
- Based on the experience of the teacher and the degree of vocational training.

The complex of the educational method, which is applied by the teacher, varies from older primary classes to higher grades and will be profile a complex feature as increasing. If the frequency of certain methods in this process increases, the use of some methods is reduced. The use of educational methods varies depending on the level of training and teacher skills.

Another important object that causes the debate in the didactics is a classification of educational methods. "The classification of educational methods is a system that is the order of their characteristics. Dozens of teaching methods are currently known", emphasizes I.P. Podlasiy and his opinion will continue as follows, “But today the leading didactic idea helps to understand that the desire to create a set of uniform and unchanged methods is ineffective. The teaching is an emergency movement of the dialectical process. The system of methods is also a degree that reflects this movement, it must take into account the constant changes in the practice of methods".

The problem of selection of educational methods is studied since a long time. However, the number of studies is large, although in this respect it has not reached a single conclusion. We will focus on the methodological system (classification) method in educational practice.

The classification of educational methods is systematized according to the basic didactic purposes.

The authors believe that the recommended methods should be applied according to the following drawings:

1. Announcement of material oral (history, explanation, school lecture). The development of knowledge from students is carried out in exchange for active adoption of teacher's explanation and careful thinking. Teachers are important as a means of transferring knowledge. In this case, the teacher's management on the activities of students is to put the topic, declare the plan, manage students.
2. Conversation. The process of mastering students from students consists of: understanding the essence of the issue aimed at their attention, mobilizing current knowledge and experience, mutual comparison of objects related to the issue, careful thinking and preparing the correct answer to questions.

The leadership of the teacher is manifested in cases where the topic is investing, issues are presented, these answers to questions, filling and generalization, are corrected.

In mastering knowledge using the "conversation" method, students are based on their knowledge and experience.

3. Working with the textbook (as a whole) (understanding of the generalization and conclusions, is used to save their memory).

The source of knowledge is used printed text. The leadership of the teacher is reflected in such forms as a description of the problem, determining the development goal, learning students with new methods of working with textbooks, as well as the level of understanding and strengthening acquired knowledge.

4. Teacher monitoring (in class and outside class), including in (travel and excursion processes).

Observing the state of academic performance and events of students on educational subjects, distributing them into parts on the instructions of teachers of various subjects, is sent to identify specific, similar and important aspects of each student.

5. Laboratory works. The exact task in this process is to monitor certain events under certain circumstances. Students track and analyze the recurrence process.

Sources of knowledge are the observed events and recurrence process. The teacher represents the essence of the task, equips students with theoretical knowledge, teaches ways to monitor the general process and stages to bring final results.

6. Exercises (mental and active exercises). When the feature of the educational process on the part of students, the theoretical foundations are mastered, there is a multiple repetition of similar actions in some materials.

Source of knowledge: are mastered knowledge and private experience.
The teacher marks the place and time to perform exercises, represents the assignment of the task, controls the process of execution steps, manages, and also checks the final results.
7. Creative exercise. This method is characterized by unique characteristics, a deep understanding of the essence of the issue, sorting it and applying evidence of its appointment, as well as the use of knowledge in the creative indicators of the teacher asked.
As a source and material of knowledge, such as creative work experience, existing knowledge, observation, personal experience, read the story, management of socio-useful work.
The teacher's leadership is manifested in such cases as ensuring the development of theoretical materials representing this topic, the definition of the nature of creative work, control and analysis of their implementation, screening, instructions for errors and correct them.
The above classification is a "source of knowledge" on systematized methods - embodied orally, visual and practical methods at a particular level. However, MA Danilov and B.P. Esipov focus on "the right choice of educational method". The fact is that an unlimited multiple technician in the educational process of former sections does not even cover them, so the main factor and the most important factor in the success of educational and educational work was calculated to choose a basic method, Despite the fact that this "idea" is incorrect in essence, it occupies a significant place in the development of didactics for decades.
These methods for approving the authors also vary from each other by the nature of knowledge in the development of educational content of students and varies depending on the state of teachers who form various types of students' activity.
Essence of explanatory and visualization methods of education (other name information reception): Typically, theoretical knowledge is transmitted ready, and students accept them (reception). There are various educational materials on this path (including visual materials). The activities of the teacher will consist not only from the transfer of information, but also from the organization of their adoption by students.
When using an explanatory and visual method, the following cases occur in the educational process:
As noted, the essence and content of educational methods, the description of the oral method in the system of educational methods plays an important role.
Oral exercises are widely used in the educational process. They are associated with the development of a common culture, logical thinking and the ability of students to know. Also, the increase in speech development is important in oral exercises and in the knowledge of foreign languages is invaluable.
The story is a compact, short and consistent description of the evidence, incidents and events on this topic through shaped devices and figurative descriptions using images. The efficiency of the method largely depends on the speech skills of the teacher, expressive words to the place, and its expressiveness, and also depends on the age of students and the approach to the level of development. Therefore, the content of the story should serve in order to rely on the existing knowledge of students and expand them. It is advisable to enrich the story with information.

REFERENCES

1) Myers D. G. Psychology. Hope College. Holland, Michigan, 2010.- P. 910.
2) Robert J. Sternberg,. Karin Sternberg Cognitive Psychology. 2010. P-643
3) Jurayev. S. X, Yunusxadjaev Z. Sh, "Professional Psychology". Toolkit. Tashkent-2014.
4) Mamajonov I, Alijonova M, Qambarov A, Mamatov R «Opportunities of eastern thinkers on improving the preparation of the future economist for innovative activity» Journal of critical reviews. 2020.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

DISTRIBUTION OF POWDERY MILDEW DISEASES IN CUCURBITACEOUS CROPS AND MEASURES TO FIGHT AGAINST THEM

Rasulova Marxabo Burxonovna
Assistant. Andijan Institute of Agriculture and Agrotechnology.

Bostonova Surayyo Soliyevna
Assistant. Andijan Institute of Agriculture and Agrotechnology.

Fayzullayeva Odina Ibroximjon qizi
Student. Andijan Institute of Agriculture and Agrotechnology.

ABSTRACT
This article contains information on powdery mildew disease of cucurbitaceous crops in the conditions of Andijan region. In this case, it was studied the powdery mildew diseases in melons, squash and watermelons from the main cucurbitaceous crops, the propagation laws. The data obtained are of theoretical and practical importance in the protection of cucurbitaceous crops from powdery mildew diseases.

INTRODUCTION
Melons Cucumis melo L., squash Cucurbita pepo L. and watermelons Citrullus lanatus (Thub.) belonging to the cucurbitaceous crops group - Matsum. et Nakai have been grown in all countries due to their richness in vitamins, which are very important for the human body.

Powdery mildew fungi (Erysiphaceae) are of systematic, floristic and mi-cogeographic importance and of high practical importance due to pathogenicity in plants due to obligate parasites. Powdery mildew is one of the most common diseases in natural and cultivated plants. They are very dangerous and can damage plants in large areas in a short time.

In recent years, the range of powdery mildew diseases has expanded and is widespread in cereals, fodder crops, fruit, berries, vegetable-cucurbitaceous crops, as well as in fruit and ornamental plants. Powdery mildew is the most common and dangerous disease of melons, watermelons and other crops belonging to the family of melons in Uzbekistan (and in Central Asia in general). With them the plants are damaged in all growing season phases.

Powdery mildew mainly affects the leaves, leaf axils and stems of plants, on both sides of leaves are white, yellowish-brown or reddish-gray, a thin mold layer, then (at the end of the season) develop dark spots on them - cleistothecia; the leaves turn yellow, then turn brown and dry out. Mold is sometimes found on plant stems and leaf bands, and rarely on fruits. Powdery mildew-causing fungus overwinters with plant debris and cleistothecia in weeds (plantain, comfrey). In the spring, ascospores mature in the ascus inside them, the primary damage to the plants.

Powdery mildew in melons, squash and watermelons is caused by Erysiphe cichoracearum DC. f. cucurbitacearum Pot., Sphaerotheca fuliginea Poll. f. cucurbitae Jacz. ascospore fungi belonging to the order Erysiphales.

When plants are infested with E. cichoracearum, the dust is white, abundant, and often formed on the leaf surface, the fruit bodies - cleistothecia are poorly formed. Tumors of cleistothecia are short, unbranched. Up to 12 ovoid, leg ascus is formed in each cleistothecia. Each bag contains 2 elliptical, colorless ascospore. When the plants are infested with Sph. fuliginea f. cucurbitae, the dust becomes pinkish-gray and appears mainly on the leaf underside. They produce many cleistothecia with brown tumors. In each cleistothecia an almost round, yellow ascus is formed. The bag contains 5-8 elliptical, colorless ascospore.

During plant vegetation, the pathogen is spread by conidia. Primary damage to plants occurs through the ascospore, which are formed in the cleistothecia on the shed leaves.

Herbarium specimens collected from cucurbitaceous crops fields served as a source in the scientific work. Collection of samples was carried out during the entire vegetation period of the plants based on the route. Herbarium samples were prepared from diseased plant samples based on accepted methods.

Herbarium samples analysis was performed under laboratory conditions by microscopic and biological methods. Existing determinants (Pidoplichko, 1977-1978, etc.) and data of "Fungal flora of Uzbekistan" (1983-1997) were used to determine the micromycetes species composition.

RESULTS

Our observations were made in 2020 on watermelons and melons in the fields of the "Mamajon buva" farming in Ulugnor district of Andijan region, on melons, squash and watermelons in the fields of "Dolanali Bogbon" farming of Bulakbashi district, and in the fields of "Andijan scientific experimental station of the scientific research institute of vegetables, cucurbitaceous crops and potatoes".

Powdery mildew was registered in all melon plants parts planted as a secondary crop on 11.8 hectares of "Mamajon buva" farm in Ulugnor district. In observed fields all, the crops were treated twice with sulfur and the prevalence (8–12%) and powdery mildew disease development (0–30%, average 1–10%)in them did not reach dangerous levels.

During research when phytopathological analysis of collected herbarium samples, based on microscopic signs of pathogenic fungi, in the field of "Dolanali Bogbon" farming in Bulakbashi district of Andijan region Erysiphe cichoracearum DC. f. cucurbitacearum Pot. (the conidia size is 15-29x9-19 μm, with 19.4x12.7 μm average), a causative agent of powdery mildew, was reported to infect up to 10% of the plant, powdery mildew in watermelon (conidia 17-52x9-32 μm, average 31.6x21.0 μm) to 22%, and in melon (conidia 32-35x14-21 μm, average 33.0x18.3 μm) to 12% on "Mamajon Buva" farming in Ulugnor district. Sphaerotheca fuliginea Poll. f. cucumidis Jacz. species and forms were found to be the causative powdery mildew disease agent in melons in the field of Andijan scientific experimental station of the scientific research institute of vegetables, cucurbitaceous crops and potatoes.

Table – 1 Prevalence of powdery mildew in squash crops in Andijan region (2019)

District, farming	Crop type and area (ha)	Identified type and prevalence of the disease (%)
"Dolanali Bogbon" farming in Bulakbashi district	Squash 0,5 ha	Powdery mildew (10%) (Erysiphe cichoracearum)
	Melon 0,5 ha	The disease was not observed
	Watermelon 1,0 ha	Powdery mildew (22%) (Erysiphe cichoracearum)
"Mamajon buva" farming in Ulugnor district	Қовоқ 0,5 ha	Powdery mildew (14%) (Erysiphe cichoracearum)
	Melon 11,8 ha	Powdery mildew (12%) (Erysiphe cichoracearum)
	Watermelon 1,0 ha	Powdery mildew (18%) (Erysiphe cichoracearum)
"Andijan Scientific experimental station of the scientific research institute of vegetables, cucurbitaceous crops and potatoes"	Melon 0,5 ha	Powdery mildew (10%) (Sphaerotheca fuliginea)
	Watermelon 1,5 ha	Powdery mildew (18%) (Erysiphe cichoracearum)

Powdery mildew disease of cucurbitaceous crops is directly related to plant species and environmental conditions, at the same time, it is important to follow high agro-techniques and agricultural culture. In order to use in the direct fight against powdery mildew in Uzbekistan there were recorded two drugs- apparent sulfur (in the 15-30 kg/ha range) and Bayleton 25% w.d. With the first powdery mildew disease signs appearance in the crop, plants treatment with sulfur preparations slows down or completely stops the disease development. In high disease progression cases, Bayleton should be treated. If the disease continues to develop later, the treatment should be repeated; it is recommended to treat 5-7 times a year with sulfur, up to 3 times with Bayleton.

REFERENCES

1) Gerasimov B.A., Osnitskaya E.A. Pests and diseases of vegetable crops. M .: "Selkhozgiz", 1961, 536 p.
2) Kirgizbaeva Kh.M., Sagdullaeva M.Sh., Ramazanova S.S. and others. "The flora of mushrooms of Uzbekistan", -Tashkent :, -Izd. "Science"1985; - p. 198.
3) Pidoplichko N.M. Fungi are parasites of cultivated plants. Determinant in ZT.-Kiev :,1977-1978. – p. 79.
4) Khakimov R., Shchukina A. Breeding melon for disease resistance. Agriculture of Uzbekistan, 1996, №4, p.27-29.
5) Омонова, Н. М., Абдуллаева, Х. З., & Гофурова, Ю. К. (2019). ЭФФЕКТИВНОСТЬ ПРИМЕНЕНИЯ ФУНГИЦИДОВ ПРОТИВ ГРИБКОВЫХ БОЛЕЗНЕЙ ТОМАТА. In ПРОРЫВНЫЕ НАУЧНЫЕ ИССЛЕДОВАНИЯ КАК ДВИГАТЕЛЬ НАУКИ (pp. 91-94).
6) Омонова, Н. М. (2013). ПРИМЕНЕНИЕ ФУНГИЦИДОВ ПРОТИВ ГРИБКОВЫХ БОЛЕЗНЕЙ ТОМАТА. SCIENCE AND WORLD, 54.
7) Omonova, N. M. (2020). THE EFFECT OF DIFFERENT AIR TEMPERATURES ON THE GROWTH OF PATHOGENIC FUNGI IN TOMATOES. In Фундаментальные и прикладные научные исследования: актуальные вопросы, достижения и инновации (pp. 90-93).
8) Omonova, N. M., & Mukhtazar, K. (2019). Methods of fight against temperature diseases in natural damages. Indonesian Journal of Innovation Studies, 8.
9) MAHMUDJONOVNA, O. N., & MUHAMMADIYEVICH, B. F. Protection of Tomatoes From Phytophthora. JournalNX, 6(12), 384-389.
10) Saliyeva, R., Musaev, A., & Jumaeva, A. (2019). CLEARANCE OF THE EAST FRUIT BIOLOGY. Academia Open, 1(1).
11) Saliyeva, R. Z., Parpiyeva, M. Q., & Abdullayeva, G. D. (2019). BIOLOGY OF GRAPHOLITA MOLESTE AND METHODS FOR ITS DETERMINATION. In АКТУАЛЬНЫЕ ВОПРОСЫ СОВРЕМЕННОЙ НАУКИ (pp. 9-13).
12) Камбарова, М. Х., Расулова, М. Б., & Мўйдинова, М. (2019). РАСПРОСТРАНЕНИЕ МИКРООРГАНИЗМОВ В ПОЧВЕ. Академическая публицистика, (5), 115-117.
13) Камбарова, М. Х., & Расулова, М. Б. РАСПРОСТРАНЕННЫЕ БОЛЕЗНИ КАПУСТЫ В УСЛОВИЯХ УЗБЕКИСТАНА DISTRIBUTED DISEASES OF CABBAGE IN THE CONDITIONS OF UZBEKISTAN. ББК 65.2 С56, 111.
14) Мустафакулова, Ф. А., & Расулова, М. Б. (2019). ОСНОВНЫЕ ЗАДАЧИ ДЛЯ ПОЛУЧЕНИЯ БАКТЕРИАЛЬНЫХ БИОЛОГИЧЕСКИХ ПРЕПАРАТОВ. НАУЧНЫЙ ЭЛЕКТРОННЫЙ ЖУРНАЛ «АКАДЕМИЧЕСКАЯ ПУБЛИЦИСТИКА», 43.
15) Расулова, М. Б., Нуралиев, Х. Х., & Камилов, Ш. Г. (2013). ГРИБКОВЫЕ БОЛЕЗНИ БАХЧЕВЫХ КУЛЬТУР, РАСПРОСТРАНЯЕМЫЕ ЧЕРЕЗ СЕМЕНА. SCIENCE AND WORLD, 41.
16) Расулова, М. Б., Нуралиев, Х. Х., & Камилов, Ш. Г. (2013). ГРИБКОВЫЕ БОЛЕЗНИ БАХЧЕВЫХ КУЛЬТУР, РАСПРОСТРАНЯЕМЫЕ ЧЕРЕЗ СЕМЕНА. SCIENCE AND WORLD, 41.
17) Нуралиев, Х. Х., & Расулова, М. Б. (2020). Распространение болезни «мучнистая роса» на бахчевых культурах и меры борьбы с ней. Актуальные проблемы современной науки, (6), 81-83.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

THE PATHOGENIC PATHOGEN IN TOMATOES IS FUSARIUM OXYSPORUM F. SP. EFFECT OF VARIOUS FUNGICIDES AGAINST LYCOPERSICI FUNGI

Omonova Nargiza Maxmudjonovna
Andijan Institute of Agriculture and Agrotechnology.
nomonova31@gmail.com, +998994434602

Ergasheva Xusnida Ibroximovna
Andijan Institute of Agriculture and Agrotechnology.
husnida88.88@mail.ru

ABSTRACT
In this article, the pathogen Fusarium oxysporum f.sp. against lycopersici fungus Ridomil Gold Mts 68% WDG. (mancotseb + metalaxyl), Previkur SL, 722 WDK. (propamocarb hydrochloride), Quadris 25% EC (azoxistrobin), Gurzat WP. When fungicides such as (tsimoxanil + copper chloroxide) and Fundazol 50% WP. (benomyl) are tested under laboratory conditions in large and small doses, F. oxysporum f.sp. mancotseb + metalaxyl, 0.3% benomyl and 0.3% tsimoxanil + copper chloroxide fungicides in 0.4% suspension against lycopersici pathogen showed high results.

Keywords: tomato, vegetable, plant, pathogen, fungus, Fusarium oxysporum f.sp. lycopersici, fungicide

INTRODUCTION

The growth of the world's population and the growing demand for food from year to year require the further expansion of the area under agricultural crops and the uninterrupted supply of high quality products. There are 5.6 million people in the world today. Tomatoes are grown on an area of 281.5 million hectares. tons. Today, 117 varieties and hybrids of tomatoes are included in the State Register of agricultural crops recommended for planting in the territory of Uzbekistan in open areas suitable for soil and climatic conditions of the regions. Of these, 142 varieties TMK-22, Barlos, Uzbekistan, Istiqlol, Shafaq, Sharq Yulduz, Sevara, Setora, Yulduz, Matonat, Zakovat and Surkhan, as well as hybrids Nurafshan F1 and Burhon F1 were created locally [1].

The main diseases common in tomato crops are phytophthora, alternariosis and fusariosis, which cause the loss of many parts of the crop. 78 million people in the world are affected by plant diseases. tons of crop is damaged. The number of phytopathogenic objects was 630 viruses, 200 bacteria and 10,000 fungal species [4].

One of the main reasons that reduce the yield and economic efficiency of tomato plant is its susceptibility to many diseases, according to some data, there are more than 70 infectious diseases caused by viruses, bacteria and fungi, among which mycoses predominate. In the open field, 28 species of fungi have been identified in tomatoes and 15 species in greenhouses [25].

However, the symptoms of the disease in the field are very similar to each other, and it is important to identify them by pathogens. Their most important features are their proliferation, damage, and mass development in the agrocenosis. Varieties, cultivation technologies and other measures of plants growing in the open field affect the development of diseases. Identification of pathogens, study of some bioecological features and development of measures to combat them is one of the urgent tasks. Fusarium wilt is caused by Ascomycota filum, class Sordariomycetes, family Nectriaceae, Fusarium oxysporum Shlecht belonging to the family Fusarium. em. Snyder et Hansen is caused by a soil fungus.

Tomato F. oxysporum f. sp. fusarium wilt caused by the lycopersici fungus is the most common and serious disease of this crop [20], [22]. This fungus is a pathogen that causes tomato wilting, which is also economically important in Iran [6].

Fusarium fungi live mainly in soil and plant debris. They are mainly propagated by wind, water currents and mechanical weapons. F. oxysporum (Schlecht) f, which causes fusarium root rot of tomatoes. sp. Radicis lycopersici (Sacc.) Jarvis & Shoemaker fungus was first identified in 1974 in Japan. A few years later it was

observed in greenhouses in Ohio and Florida. The pathogen was identified in 1980 in the State of Israel.
F. oxsysporum f. sp. The fungus radicis lycopersici is a soil pathogen that causes disease in tomatoes grown mainly in greenhouses and is currently one of the main diseases in many countries (USA, Mexico, Canada, Japan, Israel), resulting in a 40% reduction in yield due to this disease [19].
Fungi isolated from tomato seeds can be sources of external or internal infection. Sources of internal infection are mainly representatives of the families Fusarium and sometimes Alternaria. Many of these fungi are also found during seed storage. In the field, it is mainly observed in species belonging to the families Botrytis, Fusarium and Alternaria. The main part of these fungi is the internal infection of the seeds and they occur during the entire storage period. These fungal species found in the field reduce seed germination and lead to the death of germinated seedlings. Seed germination caused by Fusarium fungi decreases to 70-80% and in some cases disappears completely [3].
Other forms of F. oxysporum in Uzbekistan, including F. oxysporum f. sp. melonis melon and F. oxysporum f. sp. lycopersici is one of the main pathogens that cause wilt disease in tomato crops, causing great economic damage to the crop of these crops [26].
There are several strategies to control the disease: agrotechnical methods, biological control, crop rotation and chemical control [13]. The use of resistant varieties in the fight against fusarium wilt is the most effective measure [6], but new strains of the pathogen appear regularly, resulting in a loss of the resistance genes of varieties grown at a given time [23].
In the management of fusarium wilt disease, it is recommended to establish crop rotation, biological control and disease-resistant varieties in the first place [24].
The chemical control of fusarium wilt has been tested many times in vitro and in the greenhouse. The efficacy of fungicides, including benomyl, captafol, imazalil, tyramine, and prochlorase, against tomato fusarium wilt and root rot is irregular; in addition, the presence of fungicide residues in the fruit tissue caused a problem [16], [12], [11]. Methyl bromide and chloropicrin fumigants have reduced tomato fusarium wilt and root rot [17].
Compounds such as copper chloride, iron chloride, and manganese sulfate have been reported to induce resistance in disease-resistant varieties, and F. oxysporum sp. effective against lycopersici [15].
Treatment of tomato seeds with Vitavax (carboxyn) -tyram and Vitavax-captan fungicides was effective against fusarium wilt, in which Vitavax-captan was more effective than Vitavax-tyramnik [9]. F. oxysporum sp of a mixture of metamidoxime and copper chloride. lycopersici has been tested in vitro; test results showed that these fungicides showed strong synergism, which concluded that they could be the basis for the production of new fungicides in the fight against tomato diseases [18]. Finally, a mixture of Tiram and Topsin-M was added to the soil at a rate of 800 mg / g, and 45 days later F. oxysporum sp. reduced lycopersici infection by 83.4% [8].
Among the fungicides tested against pathogens belonging to the Fusarium family, prochloraz and bromuconazole showed the highest efficacy in vitro and in the greenhouse [7]. Similar results were obtained in experimental trials of prochlorase against other species of the Fusarium family [21]. In another experiment, benomyl at a dose of 10 µg / ml was found to completely stop the growth of F. solan, F. oxysporum and F. proliferatum [5]. F. oxysporum sp. After 10 days at a concentration of iprodion + carbendazim, benomyl, and carbendazim10 and 100 ppm (promille). completely stopped lycopersici growth [10]. Prochlorase and carbendazim have been shown to be most effective in inhibiting the growth of mycelium of this pathogen in other experiments [21].

MATERIALS AND METHODS

F. oxysporum f.sp., which causes fusarium wilt in tomatoes. In order to study the effect of new fungicides against lycopersici fungus, studies were conducted in Petri dishes with potato-dextrose agar medium under laboratory conditions.
In the study, in 2018, Ridomil Gold MTS 68% WDG. (mancotseb + metalaxyl), Previkur SL, 722 WDK (propamocarb hydrochloride), Quadris 25% .. (azoxistrobin), Gurzat WP (tsimoxanil + copper chloroxide) and Fundazol 50% WP. (benomyl) fungicides have been tested at various concentrations. The effect of fungicides on the growth of pathogens was observed for 3, 5, 7 and 14 days.

The effect of fungicides against pathogenic fungi in tomatoes was studied by the method of D.M. Kokhabidze [2]. The consumption rate of the fungicides tested was measured, then 3 cm^3 of the drug was pipetted into a 40 °C fused potato-dextrose agar medium in the flask. The tube was then shaken, Petrie was placed on a plate and left for 24 h. After that, the pathogenic fungi were planted in 3 places with a planting needle in the treated artificial nutrient medium in a Petri dish and placed in a thermostat at 20-25 ° C for development. After 3 days, the development of pathogenic fungi was observed.

RESULTS AND DISCUSSION

According to the results of the study, F. oxysporum f.sp. the lycopersici pathogen increased to 1.3 mm on day 3 of the control variant and to 4.3 mm on day 14.

Of the fungicides tested, 0.4% suspension contained mancotseb + metalaxyl, 0.3% benomyl and 0.3% tsimoxanil + copper chloroxide F. oxysporum f.sp. lycopersici also showed the highest efficacy against the pathogen. Even in these variants, the pathogen was found not to grow at all.

F. oxysporum f.sp. lycopersici pathogen growth in 0.25% suspension of mancotseb + metalaxyl, 0.2% benomyl and 0.2% tsimoxanil + copper chloroxide in small doses with fungal growth from 0.17 mm to 0.24 mm on day 3, Day 14 ranged from 0.6 mm to 1.51 mm.

Also, in the tested variants of azoxystrobin (0.06–0.1% suspension) and propamocarb hydrochloride (0.15–0.2%), F. oxysporum f.sp. the lycopersici pathogen increased from 0.85 mm to 1.2 mm on day 3 and from 1.39 mm to 3.86 mm on day 14 (Table 1).

CONCLUSION

In summary, mancotseb + metalaxyl, 0.3% benomyl and 0.3% tsimoxanil + copper chloroxide fungicides showed high results in 0.4% suspension against F. oxysporum f.sp.lycopersici pathogen. Pathogens did not develop at all in these variants.Table 1

F. oxysporum f.sp. the effect of various fungicides on the growth of the lycopersici pathogen.

Laboratory experiment (potato-dextrose agar in Petri dishes with nutrient medium)

2018 year

Sequence number	Variant	The density of the working solution, %	Growth of the pathogen over days, mm (X±Sx)			
			3-day	5- day	7- day	14- day
1.	Control (pathogen)	-	1,21±0,05	2,80±0,26	3,57±0,05	4,3±0,05
2.	Ridomil Gold MTs68% WDG (mancotseb + metalaxyl)	0,25	0,17±0,01	0,33±0,04	0,56±0,02	0,60±0,02
		0,4	0	0	0	0
3.	Previkur SL, 722 WDK (propamocarb hydrochloride)	0,15	1,10±0,02	1,22±0,02	1,32±0,02	2,26±0,04
		0,2	0,85±0,03	1,08±0,09	1,18±0,06	1,39±0,03
4.	Kvadris 25% EC. (azoxistrobin)	0,06	1,19±0,07	2,17±0,08	3,24±0,13	3,86±0,04
		0,1	1,20±0,04	2,13±0,07	3,07±0,04	3,78±0,03
5.	Gurzat WP (tsimoxanil + copper chloroxide)	0,2	0,24±0,03	1,11±0,05	1,15±0,06	1,03±0,03
		0,3	0	0	0	0
6.	Fundazol 50% WP (benomil)	0,2	0,19±0,02	0,21±0,03	0,24±0,02	1,51±0,06
		0,3	0	0	0	0

Notes: No fungicide was used in the control option.
The table shows the average values of the three returns.

REFERENCES

1) The State Register of agricultural crops recommended for sowing in the territory of the Republic of Uzbekistan. Tashkent, 2019. - P.47-50.
2) Koxabidze D.M. Itogi ispytaniya fungitsidov // J. Zashchita rasteniy.
3) Moscow, 1973. - №9. - S.31.
4) Zuparova D.M., Ablazova M.M. Transmission of diseases of vegetable crops through seeds. / Collection of articles of the Republican scientific-practical conference on the problems and prospects of food and environmental safety in plant protection. - Tashkent. - 2019. - B.22-23.
5) Kunichenko N.A. Possible directions and prospects for the development of research in the field of plant immunity in Transnistria./ Achievements and prospects for the development of vegetable growing, melon growing and potato growing at the turn of the century. - Tiraspol, 2005. - pp. 39-46.
6) Allen T.W., Enebak S.A., Carey W.A. Evaluation of fungicides for control of species of Fusarium on longleaf pine seed. // Journal of Crop Protection.- 2004.- №23. -pp.979-982.
7) Amini J. Physiological race of Fusarium oxysporum f. sp. lycopersici in Kurdistan province of Iran and reaction of some tomato cultivars to race 1 of pathogen. // JournalofPlant Pathology. - 2009. - №8. - pp.68-73.
8) Amini J., Dzhalilov F.S. The effects of fungicides on Fusarium oxysporum f.sp. lycopersici associated with Fusarium wilt of tomato. // Journal of Plant Protection Research.- 2010. vol. 50.- №2.-pp.172-178**.**
9) Dwivedai S.K., Dwivedi R.S., Ambasht R.S. Effect of fungicides on population dynamics of Fusarium wilt pathogens of two economic. // Crop Journal of Mycopathological Research. - 1995. - №33. - pp.49-52.
10) El-Shami M.A., Awad N.G.H., AbdelNour N.A.R. Effect of fungicides and herbicides interactions on tomato dampingoff and plant growth. // Egyptian Journal of Agricultural Research.- 1993. - №71. - pp.641-658.
11) Etebarian H.R. Studies of Fusarium wilt of tomato and its chemical control in Varamin area. // Iranian Journal of Agricultural sciences .– 1992. – №23.– pp.1–14.
12) Hartman J.R. and J.T. Fletcher Fusarium crown and root rot of tomatoes in the UK. // Journal ofPlant Pathology.- 1991. - №40. -pp.85-92
13) Jarvis W.R., Fusarium crown and root rot of tomatoes. // Journal of Phytoprotection. -1988. - №69. pp.49-64.
14) 13[77;203-б] Kamal A.M. Abo-Elyousr., Hashem M. Mohamed. Biological control of Fusarium wilt in tomato by plant growthpromoting yeasts and rhizobacteria. // JournalofPlantPathology. - №25. - 2009. - pp.199-204.
15) Krikun J.NachmiasA.Rut KonL.The occurrence of Fusarium crown and root rot of tomato in Israel./PhytoparasiticaSpringer International Publishing AG. - 1982. - №10. - p.113.
16) Mandal N.C., Sinha A.K. An alternative approach for the chemical control of Fusarium wilt of tomato. //Journal of Phytopathology. -Indian, 1992. - №45.- pp.194-198.
17) Marois J.J. and Mitchell D.J. Effects of fumigations and fungal antagonists on the relationships of inoculumden sity to infection incidence and disease severityin Fusarium crown rot of tomato. // Journal of Phytopathology.- 1981.- pp.167-170.
18) McGovern R.J., Vavrina C.S. Evaluation of application methods of metam sodium for management of Fusarium crown and root ort in tomato in southwest Florida. // Journal of Plant Disease.- 1998. - №82. - pp.919-923.
19) Nedelcu L., Alexandri A.A. Synergistic effect between metamidoxime and copper oxychloride. / Probleme de Protectia Plantelor. - 1995.- №23. -pp.13-21.
20) Nusret O., Steven E. Fusarium Crown and Root Rot of Tomato and Control Methods. //Journal of Plant Pathology. – 2004. - №3 (1). - pp.9-18.
21) Reis A., Costa H., Boiteux L.S., Lopes C.A. First report of Fusarium oxysporum f. sp. lycopersici race 3 on tomato in Brazil. // Journal of Fitopatologia.- Brasileira,2005. - №30. - pp.426-428.
22) Song W., Zhou L., Yang C., Cao X., Zhang L., Liu X. Tomato Fusarium wilt and its chemical control strategies in a hydroponic system. // Journalof Crop Protection. - 2004. - №23. -pp.243-247.

23) Sudhamoy M., Nitupama M., Adinpunya M. Salicylic acidinduced resistance to Fusarium oxysporum f. sp. lycopersici in tomato. // Journalof Plant Physiology Biochemistry. - 2009. - №47. - pp.642–649.
24) Tello-Marquina J.C., Lacasa A. Evolution of races among Fusarium oxysporum f.sp. lycopersici. De Sanidad Vegetal Plagas. - 1988. - №14. - pp.335-341.
25) Zhonghua M.A., Themis J.M. Advances in understanding molecular mechanisms of fungicide resistance and molecular detection of resistant genotypes in Phytopathogenic fungi. // Journal of Crop Protection.- 2005. - №24. - pp.853-863.
26) Akhatov A.K. Plant protection against diseases in greenhouses (reference book).- Moscow, 2002 .-- p. 164.
27) Ҳасанов Б.А. Микология. -Тошкент, 2019. - Б.102-107.
28) Омонова, Н. М. (2020). ВЛИЯНИЕ РАЗНОЙ ТЕМПЕРАТУРЫ ВОЗДУХА НА РОСТ ПАТОГЕННЫХ ГРИБОВ В ТОМАТАХ. Life Sciences and Agriculture, (2-3).
29) Раззаков, М. М., & Омонова, Н. М. (2019). ВИДОВОЙ СОСТАВ И АРЕАЛ РАСПРОСТРАНЕНИЯ ГРЫЗУНОВ СКЛАДСКИХ ПОМЕЩЕНИЙ В УЗБЕКИСТАНЕ. Актуальные проблемы современной науки, (6), 79-82.
30) Омонова, Н. М., Абдуллаева, Х. З., & Гофурова, Ю. К. (2019). ЭФФЕКТИВНОСТЬ ПРИМЕНЕНИЯ ФУНГИЦИДОВ ПРОТИВ ГРИБКОВЫХ БОЛЕЗНЕЙ ТОМАТА. In ПРОРЫВНЫЕ НАУЧНЫЕ ИССЛЕДОВАНИЯ КАК ДВИГАТЕЛЬ НАУКИ (pp. 91-94).
31) Жураев, А. А., Камбарова, М. А., & Омонова, Н. М. (2016). ПРИМЕНЕНИЕ РЕГУЛЯТОРА РОСТА И РАЗВИТИЯ ЗЕРЕБРО АГРО В ВЫРАЩИВАНИИ ОЗИМОЙ ПШЕНИЦЫ. Современные тенденции развития науки и технологий, (5-1), 53-56.
32) Омонова, Н. М. (2013). ПРИМЕНЕНИЕ ФУНГИЦИДОВ ПРОТИВ ГРИБКОВЫХ БОЛЕЗНЕЙ ТОМАТА. SCIENCE AND WORLD, 54.
33) Omonova, N. M. (2020). THE EFFECT OF DIFFERENT AIR TEMPERATURES ON THE GROWTH OF PATHOGENIC FUNGI IN TOMATOES. In Фундаментальные и прикладные научные исследования: актуальные вопросы, достижения и инновации (pp. 90-93).
34) Omonova, N. M., & Mukhtazar, K. (2019). Methods of fight against temperature diseases in natural damages. Indonesian Journal of Innovation Studies, 8.
35) MAHMUDJONOVNA, O. N., & MUHAMMADIYEVICH, B. F. Protection of Tomatoes From Phytophthora. JournalNX, 6(12), 384-389.
36) Saliyeva, R., Musaev, A., & Jumaeva, A. (2019). CLEARANCE OF THE EAST FRUIT BIOLOGY. Academia Open, 1(1).
37) Saliyeva, R. Z., Parpiyeva, M. Q., & Abdullayeva, G. D. (2019). BIOLOGY OF GRAPHOLITA MOLESTE AND METHODS FOR ITS DETERMINATION. In АКТУАЛЬНЫЕ ВОПРОСЫ СОВРЕМЕННОЙ НАУКИ (pp. 9-13).

THE ROLE OF EDUCATIONAL TECHNOLOGIES IN THE MODERNIZATION OF EDUCATION

Shahlokhon Ibragimova
Teacher at Fergana State University

Zilolakhon Ismailova
Student of Fergana State University
e-mail: zilolaxon.ismoilova@bk.ru

ANNOTATION
Proper design of the educational process helps to make education more effective. This article discusses the concept of pedagogical technology as an important component of the methodological competence of the teacher, its importance in the organization of education.

Keywords: technology, education, methodical competence, pedagogical technology, method, pedagogical activity.

INTRODUCTION

At present, the problems of improving the effectiveness of education using various teaching technologies are being studied theoretically and scientifically. From a theoretical point of view, the search for the status of pedagogical technology as a pedagogical category is carried out, a holistic idea of its essence, its constituent components is formed. In the practical sense, the conditions for the use of technology in various areas of pedagogical activity (didactic, educational, vocational) and others are being studied.

Today, the introduction of new pedagogical and information technologies in the educational process, the expansion of the scope, the application of best practices in this area, the development and implementation of specific plans in this area for each subject, textbooks and teaching aids. Copying of manuals and programs and texts of lectures on electronic diskettes, providing them with each student, the widespread introduction of modern pedagogical and information technologies in scientific and methodological work, as well as in the educational process Achieving, adequate provision of the education system with the necessary information is the task of every teacher in terms of methodological competence.

Today, the formation of new social relations in our society, the integration of education into the world education system, the development of democratization and humanization processes require a new approach to modern pedagogical technologies (PT) in education.

So, first of all, let's clarify the concept of "Technology". The word came into science in 1872, and is composed of two Greek words, "technos" and "logos," meaning "science." Of course, this is a lexically incomplete word, while the concept of technology is used as a broad concept. It should be noted that the concept of technology is widely used in education. In the field of education, the term "pedagogical technology" is widely used synonymously with such terms as "educational technology", "teaching technology".

A Russian scientist, was one of the first in such countries to scientifically substantiate the need for the introduction of pedagogical technology in the educational process. According to V.P. Bespalko, “Pedagogical technology is a project of the process of forming a student's personality that can guarantee pedagogical success regardless of the teacher's skills.” [2, pp. 133–134]

One of the Russian scientists is V.M. Monakhov briefly describes pedagogical technology as a system of orderly actions that lead to pre-planned results and must be performed, focusing on its main features: “Pedagogical technology is the process of technologicalization and its resilience. and increases the stability of the pedagogical process, which frees him from the subjective characteristics of the executor of the process, ”he said. [1, 20 b]

According to I.Y. Lerner, “Pedagogical technology represents a goal that can be reliably understood and identified through the learning outcomes reflected in student behavior”.

The classification of pedagogical technology by V.N.Maksimova is as follows: the logical sequence of formation and solution of didactic tasks on the basis of adequate choice of structural and systematic technologies, content, forms, methods, ensuring the gradual organization of the educational system; training manuals for each stage, taking into account the stage diagnostics; Integration technologies as a didactic system means the provision of different subject knowledge and skills, different types of activities at the level of integrated courses, learning topics, learning problems, lessons and other forms of teaching organization. Game technologies that include didactic systems designed to use a variety of educational games that shape the ability to solve problems based on a competent selection of alternatives: entertainment, theatrical, business, role-playing games, and so on. [3, 272 b].

Extensive work has been done in Uzbekistan on the concept of pedagogical technology, in particular, the Uzbek Methodist B.L. Farberman describes pedagogical technology as follows: "Pedagogical technology is a new approach to the educational process and an expression of socio-engineering consciousness in pedagogy. It is a social phenomenon associated with the creation of an optimal project of the pedagogical process, which standardizes the pedagogical process on the basis of technical capabilities and human technical thinking. [1, p. 19]

The term pedagogical technology has been defined by each pedagogical scholar from his or her point of view. To date, there are more than 300 definitions of the term, the most appropriate of which is the one given by UNESCO.

Pedagogical technology is a set of systematic methods that allow the use of human potential and technical resources in the process of teaching and learning in order to optimize forms of education, to determine their interaction. [1,24 b]

Therefore, pedagogical technology can be understood as a quality organization of the educational process with little effort and time, the correct choice of teaching methods and tools for the teaching process, the design of the lesson on the basis of a certain algorithm.

Thus, the understanding of the need to link pedagogical technology with teaching practice as part of the teacher's methodological competence allows us to identify a number of factors that determine the structure of modern pedagogical technologies:

1. Modern didactic innovations, scientifically based and tested in practice, require the introduction of mandatory procedures.
2. Optimizing the learning process is a matter of urgency.
3. Scientific education requires the use of new tools, active methods, didactic materials, new solutions to organizational problems.
4. The programmatic activity of the student and the teacher ensures the elimination of all extra effort from the learning process, the pursuit of high coherence and the achievement of the desired result.
5. Extensive use of didactic materials, which determine the effectiveness of the use of information technology and technical means that activate education, is one of the main features of modern pedagogical technology.
6. The expediency of the material and technical base for the educational process is another sign of pedagogical technology.
7. Qualitative assessment of the results of the educational process is the ultimate goal of pedagogical technology.

Modern pedagogical technology has its own theory related to pedagogy and other scientific achievements; it lays the foundation for the joint work of teachers and students, based primarily on the extensive use of information tools and didactic materials, active methods, aimed at building the educational process on a scientific basis.

As a result of studying the literature and research results, experiments, we have developed several elements of pedagogical technology in the educational process as part of the methodological competence of the teacher:

- Communication technology
- Diagnostic technology for student knowledge
- Technology for organizing and solving problem situations
- Technology of appropriate choice of teaching methods and tools

- information delivery technology
- Technology of psychological impact

A teacher is a talented person who constantly develops and improves his / her ability to develop new ideas in the pedagogical process. Pedagogical creativity is, in essence, a professional, special expression of a person's creative work to create and improve new knowledge. Pedagogical research in teaching is always defined in relation to the subject in a particular direction.

In conclusion, it should be noted that if the teacher has the necessary methodological competencies in the organization of the teaching process, that is, if the organization chooses the right form, method, means of organizing this process, it can be effectively designed, if quality educational results are achieved, then educational technologies will be used correctly.

REFERENCES

1) H.T. Omonov, "Pedagogical technologies and pedagogical skills" - / Textbook / Tashkent "Economy and Finance" 2009
2) Axulkova A. I., Obraztsov P.I. Professionalno-oriented technology training of teachers of pedagogical colleges // Modern technology training: Matly Mejdunar.konf. - T.2. - SPb .: LETI, 2002. - S.133-134.
3) Levina M. M. Texnologii professionalalnogo pedagogicheskogo obrazovaniya. - M .: Izdat. Center "Academy", 2001. - 272 p.
4) Nazarova T. S. Pedagogical technologies. New stage of evolution // Pedagogy. - 1997. - №3. - S. 21-27.

E-LEARNING ENVIRONMENT TO PREPARE FUTURE TEACHERS OF COMPUTER SCIENCE IN PEDAGOGICAL ISSUES

Najmiddinov Fahriddin Obidovich
Teacher of Kokand DPI,
Tel:+998905880761, E-mail: admin_kspi@mail.ru

Abdullaev Nozimjon Qodiraliyevich
Teacher of Kokand DPI
Tel:+998903062211, E-mail: xan2211@mail.ru

Mamadaliev Tohirjon Valijon o'g'li
Teacher of Kokand DPI
Tel:+998911517227, E-mail: real636@mail.ru

ANNOTATION
The article provides information on the pedagogical problems of training future informatics teachers in the e-learning environment and the theoretical foundations for their solution.

Keywords: Education, e-learning, informatics, pedagogical problem, e-learning environment

INTRODUCTION

The introduction of e- learning education system in the country in the first place society's intellectual potential, in particular, education informatization, information and education resources , taking into account the dependence on the development education information, including e- education , special attention is paid. Development of e- learning , its Searching for ways to improve the efficiency of the introduction new information technologies in education and education reform to take place in the center of attention definitions. The application of information technology in all areas of society, an important factor in the training of highly qualified professional in the field of higher education .

President of the Republic of Uzbekistan dated February 7 , 2017 " strategy for further development of the Republic of Uzbekistan " On February 19 , 2018 , No. UP-4947 "Information technology and communications sector, " On measures for further improvement of N UP-5349 June 30 , 2017 [1] , " the development of the information technology industry for measures to improve the conditions of No. UP-5099 " On April 20 , decrees, 2 017 "higher education " On measures for further development of the system -2909-son [2] Resolution of these activities and other tasks determined by the laws and regulations to improve the present importance .

Decree No. PF-4947 "On the Action Strategy for the further development of the Republic of Uzbekistan " "4.4. Department of education and science to develop " 7-point " to assess the quality of education and training based on international standards of quality and efficiency of the activities of higher education institutions , higher education institutions of quotas to increase the " step-by-step , 8-point " research and innovation , to stimulate research and innovation achievements in the implementation of effective mechanisms for the creation, higher education institutions and research institutes in the presence of specialized research and experimental laboratories, high- tech centers and the industrial park " based , resulting in further improvement of the system of higher education issues were considered .

Future science teachers in methodology to improve the training of three main factors:

- Development of relevant science;
- Development of the structure and content of teaching computer science at school;
- Development of information technology for teaching.

S right, the school computer science course structure and content changed significantly. Fundamentals of computer science at the secondary school to review the role and position as a result of this new multi -level system of teaching science is beginning to take shape .

Changes taking place in the secondary school, secondary school teaching high- level specialized training of specialized training related to the introduction of new demands, science teacher, and University new tasks. University graduates modern educational institutions of different types of profiles and be ready to work in a of variety different levels of assimilation programs and textbooks must be able to organize the study of computer science.

The future teachers of computer science technical content of the training analysis shows that, in accordance with the current program, it is aimed:

Algorithms and software systems in the field of teacher training, according to a separate office and network software tools ;

Information exchange rate for the disclosure of the content of school textbooks; the development of methods for the use of ICT in the educational process ; to acquaint them with the equipment of the school computer room .

Clearly , the information content of teacher training does not meet modern requirements and does not correspond to his career development prospects in the coming years.

At the same time , school science teachers, in particular , the expansion of the scope of activities connected with the high level of specialized training courses to its training requirements of this growing problem.

In this regard , the HEIs to review the contents of methodical preparation of teachers of computer science necessary. First of all, this is due to the fact that the content of specialized courses in computer science , designed for different areas of specialization of education in high school, often goes beyond the current training on the methodology of teaching computer science in pedagogical universities .

According to the study , we put forward the following research hypothesis : if the content of the methodical training of students at the school to prevent the teaching of differentiation associated with the implementation of the tasks of the new elements are filled with high school science teachers teaching in the field of computer science at the stage of preparation more efficient and future needs of the school .

The following basic rules for protection;

1. The introduction of high- level, specialized training school computer training school which significantly expands the boundaries of content and variety of content and the introduction of a number of specialized courses , and optional courses in computer science school education is completed . It is not only the future expansion of the subject teacher training , but, basically , it requires methodical training.

2. Information is part of the discipline of the school , the content of their profile and the conditions of education in the principles not only in degree , but the difference between a profile and specialized. This is in accordance with this methodology of science teacher training has its own characteristics.

3. The school's high level of specialized training courses in the use of innovative forms and methods of teaching in the learning process (credit - modular design , education and training, etc), Related to new approaches to computer science teacher methodical preparation of the future will require changes in the objectives and guidelines for the amendment . assessment of school students' educational achievements .

The contents of the educational institution to prepare science teachers teaching supply analysis shows that the science teacher for the content of methodical preparation of the future to the present time, his professional training is the weakest part of the problem.

REFERENCES

1) Marchuk N.Yu. Psixologo-pedagogicheskie osobennosti distantsionnogo obucheniya // Pedagogicheskoe obrazovanie v Rossii. - 2013. - №4.
2) Anarbaeva , F. Abdullaev , A. Qoraev , A. (2020). Pedagogical approach to the use of electronic education in the educational process, EPRA International Journal of Research and Development (IJRD), https://doi.org/10.36713/epra2016
3) Dougiamas , MA Journey into Constructivism [Electronic resource]. The regime dostupa : http://dougiamas.com/writing/constructivism.html (data obrashcheniya : 01.10.11).
4) Pedagogy of Moodle, Moodle: open-source community-based tools for learning [Electronic resource]. The regime dostupa : http://docs.moodle.org/21/en/Pedagogy (data dostupa : 01.10.11).

5) Decree of the President of the Republic of Uzbekistan No. PF-4947 of February 7, 2017 " On the strategy of further development of the Republic of Uzbekistan ." Collection of Legislation of the Republic of Uzbekistan, 2017, No. 6, Article 70, No. 20, Article 354, No. 23, Article 448.
6) The President of the Republic of Uzbekistan 2 017 April 20, "Higher Education" On measures for further development of the system of No. Resolution. "People's Speech," April 21, 2017 . "Collection of Legislation of the Republic of Uzbekistan", May 10, 2017, No. 18, Article 313.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

THE EFFECT OF STROKE AND ROOT RESIDUES ON SOIL FERTILITY AND THE QUALITY INDICATORS OF SOWING SEEDS

Rakhmatullayev Gayratbek Davronbekovich
Doctor of Philosophy of Agricultural Sciences Andijan Institute of Agriculture and Agrotechnology.
Head of the Department: Production of crops and seeds.
raxgayrat2689@mail.ru, +998994083903

ANNOTATION
The autumn wheat in short rotational (1:1) systems, the growth of repeated cultures (MASH), the development and scientific substantiation of the number of stroke and root residues in the soil, the influence of Andizhan-36 varieties and the Navruz on the quality of seed indicators are studied.

INTRODUCTION
The relevance of research. The progressive increase in the number of population in the world and for regularly providing them with environmentally friendly food products, it becomes necessary to improve agrotechnologies to increase and preserve the fertile soil when producing high-quality crops from crops. To date, a total of 1,195.2 tons of produce products of legumes were manufactured worldwide, including 117.208 in America; 96.297 in Brazil; 58,79999999 in Argentina; 11.963 in China; 14,008 in India; 9,163 in Paraguay; 5,827 in Canada; 4,277 in Ukraine; 3.205 in Bolivia; 3,135 in Russia; 2.208 in Uruguay; 1 081 in Italy; 968 tons in Indonesia. In agricultural activities of developed countries after autumn wheat, repetitive plant cultures were introduced to improve soil fertility, to protect plants from pests and to obtain high-quality crops, practice was carried out in the USA, Brazil, India, China, Mexico, Australia, Pakistani countries in 81 million / hectares.
The exchange fit is widespread in developed countries of the world, it is of great importance to plant plants from the legume family, such as soybeans, beans, mash twice a year. They serve to improve soil fertility, besides, provide the population with valuable, protein products, as well as nutritional animal feeders. Consequently, on farms, China, India, Brazil and in multiple other countries, in exchange and alternate crops, occupy the main place of the plant of the family of legumes.

PURPOSE OF THE STUDY
Under the hungry gray soils of the Andijan region, depending on the norms of repeated crops (mash) and ore fertilizers, determining the influence of cotton varieties of medium fiber and root residues, as well as the quality of seeds (sowing), is to determine the effectiveness of the stem and root residue.

REVIEW OF THE RESULTS OF SCIENTIFIC LITERATURE
After the independence of the republic, with the completion of the cotton monopoly, as a result, an increase in the fields of grain crops, intensifying on the autumn wheat, and then repeated cultures, the number of stem and root residues from the plants of the bean family in the soil, rotting after a certain period of time becomes organic matter, as well as and mobilized form NPK. (Kuchkarov A.S., Umarov Z, Atabaeva X, [7; 278–280–p], Rakhimov A., [5; 23–б], Iminov A.A, [3; 22–p]). (Holikov B, Iminov A, [6; 27–29–p], Massino I. and others [4; 378–381–p], Buriev S.S, [2; 413–416–p]).
According to H.M.Taylor, H.R.Gardner [9;153-p], if the mass of the soil volume is very high, which negatively affects the process of conducting, as a result of which the plant will not be able to freely develop and cease to grow.

According to V.Volger [10; 143-146-p], as a result of crushing of plant residues, 30-60 kg of nitrogen per hectare accumulate and the power of the next main plant is improved.

R.Binder [8; 29-p] also emphasizes that intermediate and repetitive cultures are considered an important factor for the intensification of agriculture.

Experiments S. Bahromov and Sh. Bakhromova in the field of hungry gray soils, as repetitive cultures, Masha's Victory variety was planted, and when cotton was planted, cotton performance was 34.9-3.0 centners / hectare, high yield was observed , up to 0.9-3.0 centner / hectare in the embodiment where there was no re-sowing of cultures. [1; 125–127–p].

Based on the above opinion, the use of intermediate, grain, legumes, an increase and preservation of soil fertility is the most important agrotechnical event.

SOIL-CLIMATIC CONDITIONS IN THE FIELD OF RESEARCH

Andijan Scientific Experimental Station of ПСУЕАИТИ is located in the north-east of the Fergana Valley of the Andijan Region, and the southeastern part consists of foothill heights. The main part of the region is located on the left bank and consists of hungry gray soils. Andijan scientific and experimental station is located in the central part of the hungry gray soils.

Agrotechnological events used in autumn wheat. In our experiment in our experience, the autumn variety of wheat "Baby" was used.

In repeated crops (Mash). As a re-harvest, Mash's grade "Victory-104" from legume crops was planted.
Experimental field soil is equipped with low food elements.

Experiment system

Serial numberи	Autumn wheat			Repeated crops			
	Annual standards of ore fertilizer kg / hectare						
	N	P_2O_5	K_2O	Types of crops	N	P_2O_5	K_2O
1	180	120	90	Not sown (control)			
2	180	120	90	Mash	25	80	60
3	180	120	90	Mash	50	80	60

In the Fenological observations of autumn wheat, the following were identified:

– Germination of seeds,%,
– Bush plants, m2 / pcs (at the end of the period of action)
– Plant Stem Height, cm (during development periods)
– Number of common stalks, m2 / pcs (at the end of the period)
– Number of productive stems, m2 / pcs (at the end of the period)
– The average weight of the grain of one spike, g (at the end of the period of action)
– Average grain of one spike, pcs (at the end of the period)
– Grain weight 1000 pcs, g (at the end of the period of action)
– Grains and hay of plants were found.

The following phenological observations were carried out in Mash;

– Seed germination level,%

– Number of leaves, pcs (during the period of development)
– Rising plants, cm (during the period of development)
– 1000 pcs grain mass, g (at the end of the period)
– The yield of grain crops were clarified.

Effect of plant autumn wheat on soil fertility. In the exchange system of landing, the purpose of planting autumn wheat was, to determine the impact of residues of stem and root waste of repeating crops on the yield of cotton and the quality of seeds, so we defined the total NPK in their composition. (Table 1).
So, the stem waste of this autumn wheat on return is equal to an average of 17.7 centner / hectare. The average nitrogen of the total composition of stem waste was 0.813%, phosphorus 0.708% and potassium 180%.
Root residues 19.2 The centner / hectare was made up, total nitrogen-0,600; Phosphorus-0.296 and potassium 0.818%, the number of total stem and root waste 36.0 centner / hectare is equal to, a total nitrogen 1.413%, phosphorus 1.005% and potassium 2.050%.
From these indicators it becomes clear that although autumn wheat has mastered the ore fertilizers and NPK in the soil used for the fruction of grain and the hay and for better soil fertility, leaves the stroke and root residues of 35-40 centners / hectares, and in their composition contains 20- 25 kg of total nitrogen, 5-10 kg of phosphorus and 25-30 kg of potassium, and then an acceptable effect on repeating cultures or cotton occurs.

The growth of the repeated plant of mash, its development and impact on the fertility of the soil. In the experiment on the background of moderate use of ore fertilizers N-25, P2O5-80, K2O-60 kg / hectare, stem and root remnants of the mash plant after 3 years on average 12.4 and 29.3 centner / hectare, a total of 42, 2 centner / hectare, with an increase in nitrogen fertilizer by 25 kg / hectare average, the indicators were equated with 41.4 centner / hectare.
The total amount of NPK from their content also amounted to 2.96-2.91; 2.23-2.14 and 3.04-2.96%, the decrease in 0.05 is analyzed; 0.04 and 0.08% with increasing dose of fertilizer.
Conclusion, after autumn wheat in the conditions of gray soil, to collect more stroke and root residues of the plant, you should use as ore fertilizers N-25, P2O5-80, K2O-60 kg / hectare.

Economic efficiency of planting cotton varieties after repeated crops. The economic efficiency of any applicable agricultural measures, in addition to total expenses, is measured by the amount and profitability of the net profit of the remaining conditional. If the rate of profitability is less than 10%, this event is the result of a low level.
In the context of hungry gray soils in the Andijan region, when the cotton Andijan-36 and Navruz are grown against the background, created after repeated crops (mash), it was found that the achievement of the economic efficiency of mash was obtained against the background used by P2O5-80, P2O5-80, K2O-60 kg / hectare to standards. (Table 2).

CONCLUSIONS

1. It was revealed that in the crop of the shortly alternate rotation (1:1), winter wheat leaves 35-40 centner / hectare stem and root waste (there are 20-25 kg of nitrogen in their composition, 5-15 kg of phosphorus and 25-30 kg of potassium), when using N-25, P2O5-80, K2O-60 kg / hectare in a repeated plant of mash, left 42.2 centner / hectare stem and root residues and accumulated biological nitrogen has an optimal effect on the fertility of the soil.

In the context of the hungry gray soils, cotton from the middle fiber varieties Andijan-36 and "Navruz", to obtain high-quality cotton crops in the early stages, and improve high-quality sowing seeds in the landing system short alternate rotation (1:1) (autumn wheat + repeated cultures: cotton) Masha harvest is recommended to use mineral fertilizers such as N-25, P2O5-80, P25-80, K2O-60 kg / ha in standards.

REFERENCES

1)Bakhromov S., Bakhromov Sh., - The effect of repeated crops on the yield of cotton. // Sources and energy-saving water technology to obtain abundant harvest in the agricultural system. Tashkent. 2010. 125-127 p.

2) Buriev S.S. The demand for the creation of agrotechnology for growing corn in the stalk residues in a lack of water. Materials of the Republican Scientific and Practical Conference, Tashkent, 2015. Part 2, 413-416 p.

3) Iminov A.A. The influence of landing standards and recurring crops on the growth and development of autumn wheat and the yield of grain crops. Author's abstract of the dissertation of the candidate of agricultural sciences. - Tashkent: ЎзПИТИ, 2007 22-p.

4) Massino I., Ednbaev D., Azizov K., Boboev F. Growth, development and yield of feed crops with varying degrees of soil salinity. Materials of the Republican Scientific and Practical Conference, Tashkent, 2015 II - part, pp. 378-381.

5) Rakhimov A. In the context of typical gray soils, the effect of planting repeated crops after the autumn wheat and the use of local fertilizers on soil fertility, as well as crop yields. Author's abstract of the dissertation of the candidate of agricultural sciences. - Tashkent: ЎзПИТИ, 2004. 23-p.

6) Khalikov B.M., Iminov A.A. - repetitive cultures, soil fertility and high efficiency. // Improving agrotechnologies in caring for cotton and complex cotton cultures. Tashkent, 2013 27-29 p.

7)Kuchkarov A.S. Umarov Z, Atabaeva X. Technology of growing soybeans and cotton complex areas in metabolic landings. Tashkent, 1996. 278-280 p.

8)Binder R. Zuishen Fruchtlou verteseert der Boden–Sand–Wirt sehoft, 1969. P. 29.

9) Taylor H.M., Cardner H.B. Penet ration of cotton toprooteas insenenced by dusk density, biostructure and strend the of soie Soil Seience, 1963, V. 96, P.153.

10) Volger B. Nitratveerfugtarneit des Bondens in Abhengig neit von zwieshenf ruch tsoni Sard. W. Z. Rheinland, 1974, S. 2617–2618. P. 143–146.

Table 1.Stem and root remnants of Masha (centner / hectare) and the amount of total NPK in their composition (%).

Serial number	Mineral fertilizer norms kg / hectare			Stem residues	In stems			Root residues	in roots			general, centner / hectare	In stems and roots		
	N	P_2O_5	K_2O		N	P	K		N	P	K		N	P	K
average															
2	25	80	60	12,4	1,25	0,96	1,72	29,3	1,71	1,27	1,30	42,2	2,96	2,23	3,04
3	50	80	60	12,1	1,22	0,92	1,63	29,2	1,69	1,22	1,28	41,4	2,91	2,14	2,96

Table 2.Economic efficiency of cotton landing after repeated crops

Serial number	Types of repeated crops	Norms of annual mineral fertilizers kg / hectare			Middle cotton yield in 3 years, centner / hectare	Addition, centner / hectare	Cash with cotton sales, thousand / soums	General expenses, thousand / soums	Including	Conditional net profit, thousand / soums	Profitability, %
		N	P_2O_5	K_2O					On the collection of additional harvest		
Cotton grade Andijan-36											
1	Control (not planted)				34,9	–	2617500	2207000	–	410000	18,5
2	Mash	25	80	60	40,2	5,3	3015000	2310000	103000	705000	30,5
Cotton grade Navruz											
6	Control (not planted)				34,6	–	2595000	2207000	–	388000	17,5
7	Mash	25	80	60	38,3	3,7	2872500	2281000	74000	591500	25,9

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

TRICHOGRAMMA APPLYING METHOD AGAINST CODLING MOTH

M.K.Rakhmonova
Doctor of Philosophy of Agricultural Sciences
rahmonova_madina_8710@mail.ru, 990118710

K.K.Khamdamov
Senior Teacher,

B.Khamdamova,
Assistants

A.Tursunov
Assistants

ABSTRACT
In recent years, the horticultural area expansion, especially due to the intensive gardens establishment, changes in the agricultural placement structure in the country requires a scientific approach to hanges in the species composition of organisms formed on the basis of the food chain over the years, the introduction of new entomophagous species, protection of fruit crops from pests in horticulture, increasing the control measures importance against them.

Keywords: orchard, pheromone, trichogramma chilonis, apple

INTRODUCTION

Worldwide, an average of 75.0 billion dollars is spent annually in agriculture to protect against pests and diseases. In relation to the yield grown it is observed that 13.8% of the average crop perish due to pests, 11.6% due to diseases, 9.5% due to weeds. However, as a result of modern plant protection methods application and other measures implementation, an average yield of an additional 15 c/ha is achieved from fruits, vegetables, melons and potatoes. This is far less than meeting the global population food needs for today.

Based on these decisions and resolutions, requires the important tasks solution such as the creation of varieties that are resistant to disease and need, easy to send and store in promising remote areas, organization of such gardens and vegetables and melons, especially to ensure that the product is of good quality, marketable, industrial, in general, the creation of high and quality harvesting technologies suitable for different soil climatic conditions and their introduction into production.

Proper organization of the fruits and vegetables and melons production recommended by farmers, radically improving the population demand for these products and the demand for raw materials in the processing industry will allow to reduce prices in our markets.

Codling moth (Carpocapsa pomonella) causes great damage to the orchards crops of our country. It is also a major pest of pears, walnuts, and plums fruit trees.

RESEARCH MATERIAL AND METHODS

The use of grain moths from entomophages plays a special role in the agricultural crops protection in the Republic of Uzbekistan and 60% area protected by the general biological method. Trichogramma is being mass-produced in more than 900 biofactory and biolaboratories in the country. According to observations on orchards, beneficial insect species and numbers were calculated. It studied predatory and parasitic entomophagous plants and their cells. It should be noted that codling moth develops in all regions of the republic by breeding 3 times (2 times in the foothills). One generation lives 4 years. In 2016-2018, we conducted research to determine the use effectiveness against codling moth ((Trihogramma chiloyis) in gardens planted with varieties "Renet" Nafis "Semerenko" from From Andijan branch named after U.Mansurov of the Research center for horticulture, viticulture and enology named after Academician M. Mirzaev.

RESEARCH RESULTS

Trihogramma chilonis is applied to 3 bushes of different sizes against 3 generations of codling moth at intervals of 3 days by 4 repetitions. Codling moth flight times are determined by pheromone traps. During the growing season, we found that there were 25-33 codling moth eggs in every 1 bush tree. We distributed the trichogrammas to 100 points per 1 hectare on trichocards (i.e. in the pupa state) in June at relative humidity 64-69% and $+33C^0$ air temperature.

In order to determine the trichogram effective consumption rate, we distributed (egg parasite) at the 1:10 1:15 1:20 ratio.

Application and effectiveness of Trichogramma chilonis type against codling moth (Andijan region, Andijan district, horticultural farming "Biokimyo Intensive LLC" (8.05 - 10.08. 2020).

№	Codling moth offspring	The amount of butterflies falling on the pheromone traps, average, pcs	Decrease in apple yield by generations, %	Yield per bush, average, pcs		Healthy results
				At the beginning of the season	Shedding throughout the season	
1	I	8,5	41,7		26,3	174,7
2	II	4,7	67,8	354,6	16,1	
3	III	5,4	63		18,4	
4	control	14,6	-		172,4	58,5

In 2018, the average number of first-generation butterflies falling on the traps was 9.1; 4.9 for the second generation and 6.6 for the third generation.The decrease in population by post-trichogramma parasite use was 45.5% for the first generation, 50.8% for the second generation, and 53.4% for the third generation.

At the beginning of the season, the number of fruits in one bush was 371.3, while during the season the fruits shed due to pests were 28.3 in the first generation, 14.7 in the second generation and 19.2 in the third generation. In our control variant, pest infestations averaged 211.6 units during the season.

If in our experimental variant it was 184.4 c/ha, in our control variant the yield was 54.7 c/ha. Compared to the control, the yield loss was found to be 130.2 c/ha.

Three days after the tirochogram was distributed, we conducted follow-up. In the experiment, we took into account the results observed on days 3-7-10. During our observations, the average temperature during the day is $37^{+}1\text{-}29^{+}1C^0$, and the average humidity is 60-70%. On the 7th day of our experiment, the damage to the eggs showed different results. The results obtained when the trichogramma was distributed in 1:15, 1:20 ratio to the pest egg were almost indistinguishable from each other. Therefore, it is advisable to place the trichogram in 1:15 ratio, thus applying (Trichogramma chilonis) against codling moth leads to a decrease in codling moth eggs. This allows you to grow a quality product without pesticide residues to preserve the crop in horticulture.

REFERENCES

1) Alimukhammedov S.N., Adylov Z.K., Total research on cotton crop rotation protection from pests, diseases and weeds//Development of cotton growing science in Uzbekistan for 50 years - Tashkent;Science,-1973,p 254-278
2) Kimsanboev Kh, Nurmukhamedov D, Olmasboeva R, Rashidov M, Sulaymonov B, Yusupov A. Fertilization, storage and application of trichogram. "Teacher" Tashkent 1999, p.5
3) Kimsanbaev Kh, Olmasbaeva R, Khalilov K. General and Rural economic entomology. "Teacher" Tashkent -2002. 2016 -219 p.
4) Isashova, U. A. (2020). Leaf Miner Flies an Measures of Fighting Against Them. Solid State Technology, 63(4), 244-249.
5) Sulaymonov, B. A., Isashova, U. A., Rakhmanova, M. K., Parpiyeva, M. Q., &Rasulov, U. S. (2019).Systematic analysis of the dominant types of entomophages in fruit orchards. Indonesian Journal of Innovation Studies, 8.
6) Anorbayev, A. R., Isashova, U. A.,Rakhmonova, M. K., &Jumayeva, A. N. (2019). Development and Harm of Liriomyza Sativa Blanchard leaf--mining
7) Flies. Indonesian Journal of Innovation Studies,
8) Rakhmonova, M.K., Khamdamov, K.K., Parpieva, M.K., & Abdullaeva, G.D.
9) METHOD OF APPLICATION OF Trichogram Against codling moth. Zbiórartykułównaukowychrecenzowanych.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

PSYCHOLOGICAL PECULIARITY AND FORMATION OF INTEREST AMONG STUDENTS WHEN CHOOSING A PROFESSION

Ravshanbek Rustamovich Mamatov,
Teachers of the Andijan Agricultural and Agrotechnological Institute

Gulbahor Odilovna Nabiyeva
Teachers of the Andijan Agricultural and Agrotechnological Institute

Annotation: In this article, interest is a special process, and not a psychological function, because emotion, the power of will, consciousness, also can be understood in it, all mental situations, events and the embodiment of internal experience in themselves, as well as complex systemic means of spiritual reality.

Keywords: Interest, ability, personality, psyche.

INTRODUCTION

When approaching the psychological essence of interest, interest, human aspiration, activity, internal impulse, play the role of the source of the needs of the need.

The largest representatives of world psychology tried to explain that the interest of the personality, his holistic spiritual world, and as a rule mental activity, knowledge processes, the power of will, character, temperament, its feelings, the ability and all the verge of human structure are associated with all aspects of the human structure.

The problem of interest in a psychological point of view was developed in the works of theoretical methodologies, as well as special experimental studies N.A. Ribnikov, N.F. Dobrynin, N.D. Levitov, M.F. Balyaev, L.A. Gordon, L.I. Bojovich, N.G. Morozova, M.G. Davletshin, M V.Vohidov, V.A.Tokareva, E.G.Goziev and others.

In modern psychology, interest in the objective of the object is recognized as one of the subjective reflections of human thinking. Interest is expressed in the overcoming of a particular reality by a person, with certain situations in different things and events, with selection relations, when making a specific decision, in self-control, when the goal is to overcome the objective and subjective obstacles.

The initial version of the psychological nature of interest is the ability to be understandable. Personality with the performance of interest, with the awareness of his consequences, only the submission of the selected relationships towards things and events in the objective universe. But this reality (awareness, understanding) in man does not occur immediately, perhaps for some time it occurs due to the development of personality processes, personal qualities, individually typical features.

It should be noted that in the manifestation of a psychological nature of interest, an incident in which mental processes play an important role, of course, do not necessarily consist of intellectuals. Similarly, the second form of interest psychological essence is that its feelings associated with the embodiment are expressed in combination with emotional conditions. It is known that emotions, as well as an emotional state (emotional tone, mood, courage, passion, and so on), strengthen and increase the effectiveness of accurate reality in human essence, to things and events, the desire for certain activities, directs mobilization to the object. After a person satisfies his own interests, pleasant feelings wake up in it, and his spiritual satisfaction, in turn, awakens the feeling of pleasure (Praxic), as a result of which his personality occupies frustration (fall in spirit).

The third type of psychological nature of interest is that this is a generalized factor with the attributes of willpower. The adequacy of the force of will, the desire for a specific solution, overcoming some difficulties, the manifestation of independence, the decision to look interested, will lead a person to the goal.
The fourth manifestation of the essence of the psychological nature of interest is the embodiment of the manifestation of the characteristics of higher nervous activity and temperament types.
When reflected on neuro-physiological mechanisms of interest, first of all, the teachings on the highest nervous activity of the Russian scientist I. P. Pavlov should be noted. His reflex "What is it?", That is, the reflex orientation (orientation) is important in explaining the material basis of interest. After I.P. Pavlov and his students P.K. Anohin, N.A. Bernshteyn, B.M.Teplov, V.S. Merlin, V.D. Nebylitsin and others interpret that the nervous physiological mechanisms of human interest interpret The formation of complex time-based reflexes on the hole of the largest hemisphere of the brain. The material basics of interest are mutual induction of the law, the optimally excited source in the core and dynamic stereotypes (I.P. Pavlov), Dominant (A.A. Ukhtomsky), the orientation of complex psycho-physiological phenomena (E.N. Sokolov) and others.
It should be noted that the satisfaction of the interest, reflecting the passion of a person aimed at satisfaction, never determines its disappearance, on the contrary, continues to determine the unknown aspects of the object. At the same time, interests will be formed and continue the reflection of a permanent pathogenic mechanism of the functional state of knowledge.
Interest in psychology can be divided into such types as: 1) according to the content: personal and social; 2) According to the goal: direct and indirect; 3) According to the scale: Wide and narrow; 4) According to interest: stable and unstable and others.
Differences in the content of the context contains the following: What are the objects of knowledge needs, the proportionality of knowledge for this purpose, the human attitude compared to the environment in which others lives.
Interests are divided into stable and unstable species depending on their level. A person who has sustainable interest can maintain its own desires without any changes, to objects and incidents that like for a long time.

STABILITY OF INTEREST

The fact that interests are unstable in some cases depends on age, gender, typology of the characteristic feature.
In order to develop and stabilize the interests in a person, you need to participate in the activities that make them the basis, to do this according to the goal, it is necessary to prepare the necessary soil to wake up the desire, until the interests are transformed to perform the functions of the motives, necessity, faith.
Thus, interests are not the only direction of personal foundations, but this is the most important aspect of this.
Based on the last period of psychology, you can share interest in several levels: a) brutal interest, b) curiosity, c) interest in knowledge, d) stable or professional interest. Brutal interest is a short type or level consisting of strongly seeking something. Curiosity is a degree of interest in reality and human events in reality, their active attitude to knowledge. Interest in knowledge is a type of interest aimed at acquiring new aspects of a clear level, degree of understanding and goals, physical and mental activity. Stable interests are a type of interest that is active in achieving the goal and is aimed at the possession of professional skills, qualifications and knowledge combined with the degree of vocational training.
The use of pictograms, anagramms, characteristic features of various tests at the discretion of people will lead to internal mechanisms of interest. This, in turn, forms a stereotype, which is interested in self-government, and a stereotype of responding to any movement.

This type of interest and its high stage will help to form unchanged individual functions, such as the internal relations of a person in reality, the direction to learn their relationship, and the defeat of mental barriers and difficulties, are not afraid of failures, perseverance, desire. Social, historical and social and psychological significance has self-government in people, personal interest management, command themselves, self-control, self-improvement.

GENERAL CONCEPT OF ABILITIES

In the store, the buyer when considering the goods, despite the fact that it is made of the same tissue, gives them a different estimate, one tailor praise, and the second places objections. In addition, they give them some suggestions, lead discussions for the elegance of the appearance and increase sustainability, that is, one of them satisfies, the other will be deprived of the opportunity to receive a positive assessment. Requirements will take part in various types of competitions, in the Olympics and Universiads, one of them will succeed, will even become the winner. This may be mediated only by determining that the psychological event or reality is to indicate the level of knowledge, ability, success of the mechanism, qualifications or skills.

To create a general understanding of the abilities, it is recommended to provide them with factors that are some information about compositions: a) what the abilities are psychological characteristics; b) these features depend on knowledge, skills and qualifications; c) these features themselves do not apply to knowledge, skills and qualifications. According to the analysis of the above actions, it would be possible to decide on the skills of individuals based on tariffs given by goods, successful or unsuccessful participation in competitions. Psychological studies show that the "moderate" requirement for the development of higher education can then change in further positive results, reaching high results in other areas (networks) and can even show themselves in other neighboring specialties.

Whether professional knowledge and skills were made or not, the possibility was taken or not fulfilled, whether it was left as a dream - all this depends on many factors and conditions. For example, all people in the district, community (family, school, members of labor collectives, the public) benefit and interest of a person to some kind of knowledge, as well as in knowledge of skills, training, attitudes towards learning, feel responsible for their organization and strengthening Everything is a guarantee of the realization of the chance and turning it into reality.

Since psychology - as long as it denies the fact that knowledge, skills and qualifications are important aspects of activities with abilities, their unity is recognized. Consequently, the abilities will only come true in activities, but even this is reflected only in the form of a dubious type of activity without any abilities. If a person has not yet learned to draw, if he does not cope with the qualifications of visual activity, it is inappropriate to even discuss its abilities about the visual arts. All this is manifested in how often the future artist works, in the methods, as quickly and easily masters the attitude towards the color and perception of the understanding of beauty in existence.

REFERENCES

1) Myers D. G. Psychology. Hope College. Holland, Michigan, 2010.- P. 910.
2) Robert J. Sternberg,. Karin Sternberg Cognitive Psychology. 2010. P-643
3) Djurayeva. S. X, Yunushajev Z. Sh, "Professional Psychology". Toolkit. Tashkent-2014.
4) Mamajonov I, Alijonova M, Qambarov A, Mamatov R «Opportunities of eastern thinkers on improving the preparation of the future economist for innovative activity» Journal of critical reviews. 2020.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

PESTS AND HARM ON THE FAMILY OF CRUCIFEROUS (TURNIP AND RADISH)

Maripova Rukiyahon daughter Zokirjon
Independent researcher of the Andijan Institute of Agriculture and Agrotechnology
ruqiya91@mail.ru, 97 838 70 05

Anorbaev Azimkhon Ramkulovich
Professor of Agricultural Sciences, Tashkent State Agrarian University
biomarkaz@mail.ru, 91 136 62 77

ANNOTATION
In agriculture, the cluster method of production has been established, the volume of agricultural land allocated to clusters constitutes 7,5 foizni in fruit and vegetable production. Today, more than 80 types of agricultural products grown in our republic are sold in 66 countries of the world. Turnip and radish - from the sentence.

Keywords: turnip, radish, pest, generation, category

INTRODUCTION

The turnip is a two-year plant belonging to the family of cruciferous. The turnip still has long seeds in Central Asia, Egypt, Greece and Italy. It is also common in the USA, Japan, India. It is also grown in large quantities in Uzbekistan. The first year of the turnip is formed by leafy stems and root; In the second, the flowers are allowed and give seeds. Four-piece flower collected in stem, yellow-red, pollinated from the outside. The fruits are oblong, rounded, white, red, purple. Seeds are small, round, dark. 1000 pieces of seed is 1-4 grams. In Uzbekistan, it is planted at the end of July and in early August. Seeds germinate at a soil temperature of 2-3 °, develops well at 18-20 ° (in this case, the seed is completely sprouting for 2-4 days). The turnip is moisture, demanding of good soil and its mechanical composition. Frost resistant, (not damaged at a temperature -4 -5 °). The growing season is 60-80 days. The turnip is used throughout the year, due to the fact that the rootpode has a large amount of essential oil, and is also easily absorbed. The turnip is rich in ascorbic acids, vitamins, potassium, calcium, phosphorus, magnesium, gland salts, enzymes, phytoncides needed for the human body. In the leaves of the turnip more vitamins and ascorbic acid than in root.

Radish in accordance with its composition is very useful when filling out the place of vitamins and mineral salts in the body. It has strong features when combating microbes. Radish is one of the useful vegetables for human health. Her rootpode is rich in minerals. Radish, in its composition, during the end of the winter and early spring, in those days when our people say "Brain Sunday" is very useful for replenishing the missing vitamins and mineral salts in the body. It has strong features from microbes.

Andijan-9 varieties, Margilan local, Daikon or Japanese radish, Faithful and Summer gifts are recommended. Sowing seeds do not be pure, highly growing, should not be infected, medium size, entirely damaged. Seeds are cleaned of mixtures and seeds of other plants. Before planting radiation, this area is cleaned of grazing crops and weeds. 1 weaving of the earth is filled with 200 kg of rotten manure. The soil softens in mixing with rotten dung and mineral fertilizers at a depth of 20-25 cm. Large lumps of the earth are grinding, smoothed well and irrigation boards are done.

Radish is mostly sowing in summer. In areas located in the Central region, the seeds of radish can be planted on August 1-15, in the northern regions from July 25 to August 10, in the southern regions from August 20 to September 20 in the shot and in a row. Each method, the distance between the beds is 70 cm. Seeds fall manually. 50-60 g of radish seeds are consumed for each 1 weave of the area and is sitting at a depth of 1.5 cm. Soil is praised with robbles.

PEST

White butterfly, (*Pierza Rapae L*), from the Lepidoptera series, enters the white butterfly family. The butterfly is similar to white cabbage butterflies, but a little less: 35-40 mm when painting wings. On the top of the front wings, there are small gray or brown spots; The females beyond this, 2 and the males have one stain of the dark color. The length of the caterpillars is 25 mm, a homogeneous green velvet color, the length of the back is yellow lines. It is common everywhere. The pest in the period of the larvae winter in weeds, in the trees, in the wooden walls, in the bark of trees. Butterflies are taken off in May, on the back of the leaves lay on average 150, sometimes more than 500 eggs are in total. Eggs develop 7-10 days, caterpillar about 20 days. Eggs develop 7-10 days, caterpillar about 20 days. Among weeds in Kara and in the leaves turn into a cocoon.

Cocoons winter in stems of different plants, in wooden forests and beams. In the spring, the butterfly crashes earlier than the white butterfly cabbage. As soon as it feeds with juice of various colors, butterflies take off begin to lay eggs. Separately lay eggs on the back of the leaves, plants of the family of cruciferous. One butterfly can postpone an average of 150-300 eggs. After 3-5 days, caterpillars appear from eggs, and originally nibble leaves, and then damage them by doing the holes in them. The turnips plants where many pests remain without leaves and lose their shape. Caterpillars flutter 10-20 days, then turn into cocoons and after 8-12 days new batch of butterflies fly out. In Central Asia, this pest produces 4-5 parties per year, and in the northern regions 2-3 parties of pests. The number of rapid butterflies also sharply decrease as the butterflies of the cathedral with natural killers. In the caterpillars of the frozen white butterflies, Apantales glomeratus L., and in cocoons Pteromalus puparum L. parasites.

Harm. Caterpillars eat the leaves and harm all the plants of the family of cruciferous, including the turnip and radish.

The amount of chemical struggle against the refill white butterfly has criteria, from the presence of 2-3 caterpillars on the plant, it is revealed that after wasting cabbage in 15% of plants there are 1-2 tracks.

White butterfly kapuetrian - Pieris brassicae L., belongs to the family of white butterflies - Pieridae. White butterfly kapuetrian large insect - when the butterflies open the wings, then it is 55-60 mm. Бабочки, как правило, белые - со светло-желтым видом, а поверхность крыльев широкая, на переднем конце передних крыльев имеется широкое пятно, а на переднем крае задних крыльев находится одно черное пятно в виде точки. The female of the butterfly has two drops of black spots on the front wings. Mustache with weaving. It has eggs in the form of a bottle, a yellow color, size of 1.25 mm, the ribs located in length. The size of the mature caterpillar reaches 40 mm, the color of yellow-green, has a lot of warts and black spots in the body, which are covered with hairpins. Type of closed cocoon, yellow, green-eyed, angular, and has many stains and short tumors in the body. The cocoon of pests remains wintering in different trees, in wooden walls, in construction devices. In March-April (May-June in the northern regions), butterflies wake up and fly out. This insect is daytime, butterflies fly to roast, daytime. At night, under the leaves and in different places of shelter, folding the wings up, is motionless.

Butterflies will join a pair for egg deposition. Eggs with pile from 15-200 pcs (total on average 200-300 pcs), in the back of the leaf of the plant of the family of cruciferous. After a week caterpillars appear. Young caterpillars will first live with bouches, feed in the same place, and in 4-6 years they begin to diverge. During the movement, silk can be allocated and usually clinging for it can eat.

According to climatic conditions, the caterpillars stop the food in 15-30 days, (during this time they can eat the leaves of cruciferous plants, leaving only thick roots). In order to become a cocoon, he clings for a firm standing thing (stems, leaf roots, sticks, branches and so on) and winds themselves with silk. In the northern regions, overlooking in this position, it produces one generation per year. In Uzbekistan, as well as in other places, close by climatic conditions, the white butterfly cabbage can give 4 generations per year. In practice, the white butterfly cabbage reduces many predators, parasites of entomophages and diseases. Probably the reason for this is the relatively open existence of the pest.

White butterfly cabbage, can harm all plants family of cruciferous and weeds. In the context of Uzbekistan, this pest hurts the early and evening cabbage. The damage is especially large, the cabbage plants are created, in this case, the production of the crop can be absolutely impossible. In the context of Uzbekistan, if the summer cabbage is not protected, the yield may decrease by 60-70%.

You can extend the killers of trichograms against pest eggs, but it requires additional research. Chemical treatment is carried out if there is up to 5% damage to the period before the cabbage rounding, with the formation of eggs of white butterflies and young caterpillars in them during the cabbage rounding period, where they are damaged by 5-10%, and 5-10 caterpillars are in them.

REFERENCES

1) Sh. T. Xodzhaev. Basics of plants unification from pests, as well as agrotoxicology. Tashkent 2014.
2) "Plant Protection" A. Sh. Khamraev, A. G. Kozhevnikova and others. Andijan 2017.
3) Murodov S. A. "Common course of entomology." - Tashkent: Labor., 1986.
4) Saliyeva, R., Musaev, A., & Jumaeva, A. (2019). CLEARANCE OF THE EAST FRUIT BIOLOGY. Academia Open, 1(1).
5) Saliyeva, R. Z., Parpiyeva, M. Q., & Abdullayeva, G. D. (2019). BIOLOGY OF GRAPHOLITA MOLESTE AND METHODS FOR ITS DETERMINATION. Actual issues of modern science (pp. 9-13).
6) Turgunov, Z. A., & Salieva, R. Z. (2019). Resources for Mechanical Mechanism for Fighting Plants. Indonesian Journal of Innovation Studies, 8.
7) Omonova, N. M. «The influence of different air temperature on the growth of pathogenic fungi in tomatoes». (2020). Life Sciences and Agriculture, (2-3).
8) Omonova, N. M. «The use of fungicides against fungal diseases of tomato». (2013). SCIENCE AND WORLD, 54.
9) Azamov, A. A., & Rasulov, U. Sh. "Peach powdery dew, illness and damage." (2020). Life Sciences and Agriculture, (2-2).

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

PESTS OF PLANTS OF THE FAMILY OF CRUCIFEROUS

Maripova Rukiyahon daughter Zokirjon
Independent researcher of the Andijan Institute of Agriculture and Agrotechnology
ruqiya91@mail.ru 978387005

ANNOTATION
Soil conditions of our country are a very favorable region for growing crops. The effective and appropriate use of existing irrigated areas makes it possible to obtain a harvest with each area several times a year, increase the production of products in the country.

Keywords: grade, beetle, larvae, family, moths

INTRODUCTION

In the conditions of the country, the seeds of radish are separated only in the summer - in august, and the early grade of the turnip, although they are grown under the early spring film, mostly our vegetable breeds sow it in august. Since these cultures are very demanding of water, they are required to water more often than other root vegetables.

In areas located in the Central region, the seeds of radish can be planted on August 1-15, in the northern regions from July 25 to August 10, in the southern regions from August 20 to September 20 in the shot and in a row.

Sowing local vegetable varieties of Namangan, Samarkand, and a suitable grade of Muyasar for salads.

And from the varieties of radish, we recommend sowing varieties, such as Margelan, Andijan-9 and loyalty and autumn Daikon.

The flea cruciferous series Coleoptera belong to the family of loving. Causes harm to plants from a family of cruciferous, such as, turnip, cabbage and radish. The beetles themselves are small, the shields of the wings of 3.5 mm are two colors - black with a yellow stripe along the entire length or homogeneous blue-black. Rear legs perform the task of the jump. It has oblong larvae, pale yellow, 3 pairs of chest legs. In addition to the most remote edges of the North, the fleas apply to all regions of the CIS. Of these, wavy, belonged, with recesses, black cause the greatest amount of damage.

Beetles winter under the remains of plants, under the fallen leaves and on the surface of the soil. Early spring from wintering places come on with weeds from the family of cruciferous, and then migrate to the growing grass seedlings of local crops from the Cruciferous family, such as, turnip, cabbage and radish. They lay eggs into the soil, their larvae live in the soil and feed on small roots or roots of roots, and that they do not cause great harm. Only light fleas lay eggs into the leaves of plants, and their larvae make their way inside the leaves. The egg will develop 3-12 days, and the larvae is 15-30 days, and then the larvae in the soil turn into cocoons and their development will continue 7-17 days. The hatched beetles of the new series up to a certain period are powered by various types of plants of the family of cruciferous and go to wintering. The fleas give one generation of offspring.

Beetles harm the fabrics in a specific section of the sheet, they nibble and thereby form small holes in them similar to small sores. Harm to spikes of plants is considered particularly dangerous during dry climate, because at this time the beetles are very active, and plants are more prone to damage.

Fight measures. Chemical treatment stops against the struggle against pests for a family of cruciferous, planting crops in early landing and 10 days before harvest.

Capping mole - *Plutella Maculipennis* Surt. Lepidoptera belongs to the family of spacecraft moles. It harms plants, such as turnip, radish, radishes, cabbage. When flashing the butterfly wing, the width reaches 14-17 mm, the front wings are narrow, dark brown, and in the rear edge of the wing there is a wave-like white line. Rear wings gray. Worm length is 7-12 mm, elongated, light green, cabbage mole is widespread and is a constant pest in the southern and southeastern countries.

Butterflies in the middle continents fly out in may, and in the south at the end of april. They are active in the cool air and at night. The pest paves a total of 100-300 eggs in the rear and stems of plant leaves of the family of cruciferous, especially turnips and radish. The period of embryonic development is usually 3-17 days. Worms feed on plants and develop 6-17 days. They become cocoons on the back of the sheet in the web. Cocoon develops 3-17 days. In Central Asia, throughout the summer, it produces up to 8-10 offspring.
95% of cabbage moths, worms and cocoons can reduce natural exterminers. From entomophages, especially Diadegma Fenestralis Holmgr is of particular importance.
Measures of struggle. Distribution of shredders of trichograms against pest eggs, but this requires additional research. Chemical struggle is carried out in the period before rounding cabbage, if the infection is 5%, and 5-10% of plants are damaged, and they are 5-10 worms.
Cabbage night moths - Mamestra Brasicae L. Lepiduptera belong to the Motyl family. The front wings of a dark brown butterfly, from the outside, covered with white spots or partially white itself. On the edges it has a yellowish-white color, 2 teeth are fixed outside. Rear wings gray. The width of the wings with disgrace is 40-50 mm.
The color of the caterpillar changes from gray-green to yellow-brown, sometimes almost black, and a light-colored belly area. On the back there are dark spots. Butterfly worm length is 35-40 mm.
The pest is widespread. Cocoon winters in the soil. Night moths begin to take off since May-June. Butterflies feed on the nectar of flowering plants. Each time postpones 20-150 eggs. The night moth's female is on average defects about 600, and maximally up to 2600 eggs. Eggs are developing 4-12 days. The development of the worm will last 30-50 days in the northern regions, 24-34 days in the south. The worm passes six different ages. They become a cocoon in a depth of 5-10 cm in the soil. The cocoon phase lasts 14-30 days. This pest produces 3 offspring.
Unime worms of night moths infect different plants of a family of cruciferous, including a turnip, radish, cabbage, sugar beet, green peas, tobacco, sunflower, sesame, soybeans, potatoes, tomatoes, legumes, corn and others. The worm pierces the leaves of the turnips and radish in a circle and do holes in them.
Fight measures. Plowing fields in the fall, injured by pests, weeding and treatment of sowing beds will help destroy many cocoons and worsen the possibility of hatching of butterflies of them, utilize many weeds. For 20-30 days before harvesting, the treatment of chemicals ceases.

REFERENCES

1) "Plant Protection" A. Sh. Khamraev, A. G. Kozhevnikova and others. Andijan 2017.
2) Sh. T. Xodzhaev. Basics of plants unification from pests, as well as agrotoxicology. Tashkent 2014.
3) Saliyeva, R., Musaev, A., & Jumaeva, A. (2019). CLEARANCE OF THE EAST FRUIT BIOLOGY. Academia Open, 1(1).
4) Saliyeva, R. Z., Parpiyeva, M. Q., & Abdullayeva, G. D. (2019). BIOLOGY OF GRAPHOLITA MOLESTE AND METHODS FOR ITS DETERMINATION. Actual issues of modern science (pp. 9-13).
5) Turgunov, Z. A., & Salieva, R. Z. (2019). Resources for Mechanical Mechanism for Fighting Plants. Indonesian Journal of Innovation Studies, 8.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

GERMAN EDUCATION SYSTEM AND ITS PEDAGOGICAL SIGNIFICANCE IN THE WORLD EDUCATION SYSTEM

Nasibakhon Kozimbekovna Mamatova,
nasiba-8785@mail.ru +998990890585

Nigorakhon Khudaberdievna Israilova,
Teachers of Andijan state university

Ravshanbek Rustamovich Mamatov,
Teachers of Andijan state university

Dilshodbek Kobulovich Sodikov
Teachers of Andijan state university

ABSTRACT
This article provides an overview of German education system and its unique features in the world educational system. German education differs from other countries in the pedagogy with its own features.

Keywords: Basic school, real school, gymnasium, united school.

INTRODUCTION

Germany is a country of education and career guidance, science and research. Germany is a state with many Nobel laureates, a country which has achievements in high-level scientific research and providing financial support to many projects, a country which is teaching students from different countries.

According to the German Constitution, school education is under state control. There are 16 federal lands in the country and each of them has its own education law. Therefore there are some differences in school education in federal lands.

• German education system

• Kindergarten, Primary school, Basic school, Real school, Gymnasium, United school, Higher education, Professional development and retraining.

In Germany, school education is compulsory and free. Citizens between 6 and 18 years are required to receive compulsory education. The school education system is divided into the following stages:

- primary (primarstufe),
- medium (sekundarstufe I)
- high (sekundarstufeII)

In Germany, preschools are not part of the state system. The kindergarten operates under the charitable foundations, local authorities and the church guardianship. At the same time, enterprises and organizations may have its own kindergartens. The pre-school education system (elementarbereich) covers children from 3 to 6 years. Kindergartens play an important role in developing the ability to express themselves, communicate with peers and adults, and prepare them for primary education in children who have not yet mastered their minds.

That is why Germans call kindergartens as " thinking workshop"

Children are admitted to primary school from 6 years. The study lasts mainly 4 years, and in Berlin and Brandenburg 6 years. Students will not be assessed for the first 2 years. Instead of assessment, teachers prepare a report on the child's individual developmental status and give a mastery description. Students will be assessed from 3rd grade.

5-6 grades are an important stage in children’s development. At this stage, children will be monitored to be directed to the next education type. Which school type the child will continue to attend after primary school depends on the primary school recommendation, his or her mastery form wishes of the parents.

In Germany, a 6-point grading system has been adopted. Students must master subjects at least "4". At the primary stage, children are taught mathematics, German, natural sciences, music and aesthetics. Almost 20%

children continue their education in primary schools (hauptschule). This school provides basic general education. Successful completion of primary school often serves as the basis for the transition to a dual vocational education system and paves the way for many trades study. Here children are taught up to 9th grade. In primary schools, students who do not intend to study in higher education institutions, who intend to pursue a career, are educated. In this school type, basic knowledge is provided and the main focus is on practical training. Adolescents who graduate from high school receive an incomplete secondary education certificate. With this document you can enter vocational schools (berufs schule or proffesional schule). In these schools, which are similar to our vocational colleges, the student increases the knowledge and experience in a particular profession.

Students study for five years in grades 5-13 at the gymnasium, which is the most important part of secondary education. Youth who have completed the 10th grade of a real school will study in a gymnasium for 3 years. Humanities, natural sciences and foreign languages are taught in depth at this educational institution. Depending on the direction they choose from 11th grade, students spend most of their time studying in depth in several subjects. Gymnasium is a crucial stage of preparation for higher education.

After all, the maturity certificate (abitur) on graduation from the gymnasium gives the right to enter the university without an exam. But getting a maturity certificate is not easy. When issuing this document to the student, his results for thirteen years, as well as final exam grades in 4 subjects are taken into account. To enter a university in Germany, one must study for thirteen years with good results. Only then the roads will open to the university.

There are also general schools (gesamtschule) in the education system. The the above-mentioned schools curriculum will be taught in accordance with it for ten years, i.e., students receive knowledge in both the humanities and technical sciences. General school graduates will also continue their compulsory education for the last 3 years at the gymnasium.

United school is another school type that is held after elementary school. Completion certificates of basic and real schools are issued at this school. If it contains the upper grades of the gymnasium, then a maturity certificate is issued.

In Germany, along with public schools, there are also private educational institutions. Private schools make up 2 percent of secondary schools. Private schools which curricula different from traditional schools are overseen by the Federal ministry of education and culture. Private schools provide education in specialized areas such as industry, language, cosmetics, gymnastics, and household. Non-governmental educational institutions have merged into the Private schools association (Bundesverband Deutscher Privatschulen) to support each other.

Special schools have also been opened for children with disabilities and intellectual disabilities.

Foreign citizens can also study in German schools. Preparatory courses are organized for foreigners to adapt to local conditions and master the German language.

German educators believe that there is no an untalented student. Accordingly, they seek to discover the undiscovered aspects of the student, to educate them in the spirit of novelty and invention. "I'm thinking, so I'm living!" says the famous philosopher Rene Descartes. In German schools, this quote is accepted as a golden rule. Educators primarily aim to get the student to have an independent opinion, even if it is a mistake. The educational process is based on close cooperation between parents and teachers.

Germany has more opportunities for free higher education than other European countries. Foreigners can also study at German universities on the basis of non-governmental funds and government grants.

As mentioned above, youth who have graduated from local gymnasiums and received a maturity certificate enter universities without an exam. (But some majors, such as entrance exams in medicine, may also be held). Foreigners take a German language test (DSH - Pruefung) to enter the university.

In universities, the bachelor's degree lasts four and a half years, the master's degree from one to four years, and the doctoral degree from two to five years. Typically, undergraduate and graduate students take a state exam (statsprufung) at the end of their studies and defend their thesis. The student has the right to choose the winter or summer school season to study. The summer season is April-September and the winter is October-March.

Germany is home to such ancient universities as Heidelberg, Cologne, Freiburg, Tübingen. The University of Heidelberg which was founded in 1386 includes in the list of the most prestigious higher education

institutions of the ancient continent. From the Middle Ages, access to this university was the dream of European nobles. The university is located in the small German town of Heidelberg and still has a high reputation. From here grew world-renowned scientists such as Gegel, Jaspers, about a dozen Nobel Prize winners. The university prepares strong personnel in the fields of jurisprudence, biology, chemistry, medicine. Out of the 25,000 students studying here, 12 percent are foreigners.

The Ludwig-Maximillian University in Munich provides Europe with advanced medical professionals. The five-century-old educational institution currently has 44,000 students.

Vocational schools or institutes provide engineers, economists, designers, specialists in mechanical engineering, manufacturing, information technology and healthcare as specific links in German education system.

Universities such as Aachen, Bremen, Bonn, Frankfurt, Hamburg, Cologne, Marburg are also in high demand. According to the data, about 2 million students, including 246,000 foreigners, study at more than 370 higher education institutions in Germany. Germany ranks second in the world in the number of foreign students after the United States and the United Kingdom.

From various interactive methods in the formation of competence in German schools, for example: they use many techniques such as feedback, team teaching, collaborative learning, group work, interview, independent reading, I-you-this method, traffic light.

- In Germany, teachers have the opportunity to improve their skills and teach in many areas.
  In Germany, the education system is decentralized.
- There are no general education standards.

Peculiarities of the advanced training and retraining system in Germany

- It has the status of the Institute of “Vocational education and retraining”;
- 3 stages: course start period, intermediate period, finishing part, but the term was extended from 6 months to 9 months;
- There are 3 types of teacher training system:
- Correspondence;
- Distance learning;
- Direct training.
- Achievements:
- There is information on correspondence and distance learning and their comparative analysis;
- Providing new knowledge about the roles and responsibilities of a tutor, author, consultant;
- Working in groups, listening to and supporting each group presentation.
- External evolutionary process in quality improvement;
- Internal evolutionary process;
- Emphasis is placed on education management.
- A friendly relationship is established between teacher and student;
- A creative environment is created;
- The exams are chosen by the students themselves.
- Extracurricular activities are interestingly organized;
- The enterprises provide opportunities for students to work on a contract basis;
- Distribute handouts to each student for the next lesson;
- Students who cannot answer can also be politely directed correctly by the teacher;
- Individualization of educational goals;

The focus is on upbringing as a person who can think independently.

In Berlin, each school will have its own developmental program and curriculum independently.

These programs are produced by a special commission based on standards. The commission will consist of the school principal, 2 science teachers and 2 parents working at the school. This commission determines whether a school is strong, moderate, or weak through questionnaire questions. Based on the main goal, a school development program will be developed. This program validity is 5 years. Every three years, the school's internal control commission inspects the current program activities (by teachers and parents) and changes can be made. External control is carried out every 5 years.

The purpose of the school program:

- language development from the subjects taught (English, Spanish, French)- developing the teachers and students' knowledge level - development of teaching system methods for teaching (will be presented by each teacher at the beginning of the academic year)

- ensuring the subjects diversity based on the school students' wishes (is done at the beginning of the academic year)

If the school inspection reveals deficiencies, it is given 6 months and will be eliminated within this period.

RREFERENCES

1) 1.Myers D. G. Psychology. Hope College. Holland, Michigan, 2010.- P. 910.
2) 2.Robert J. Sternberg,. Karin Sternberg Cognitive Psychology. 2010. P-643
3) 3. Jorayeva. S. Kh, Yunushodzaev Z. Sh, "Professional psychology". Methodological manual. Tashkent -2014.
4) Mamajonov I., Alijonova M., Kambarov A., Mamatov R. «Opportunities of eastern thinkers on improving the preparation of the future economist for innovative activity» Journal of critical reviews. 2020.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

COMBINED DEVICE LABORATORY TEST RESULTS

I.Ergashev,
Samarkand Institute of Veterinary Medicine

A. Ismatov,
Samarkand Institute of Veterinary Medicine

B. Abdullaev
Samarkand Institute of Veterinary Medicine

ABSTARCT

At present, in order to ensure food security in the Republic, one of the most important and complex agro-technical measures is the timely and even harvesting of seedlings in the areas vacated by grain.

According to the results of the analysis, there are technologies and technical means developed by foreign scientists, but they are not suitable for the climatic conditions of the Republic.

Addressing this pressing issue requires the development of energy, resource and water-saving technologies and technical means for the cultivation of secondary crops in areas devoid of winter grain.

Based on the above, scientists of the Samarkand Institute of Veterinary Medicine (Sam IVM) and designers of JSC "BMKB-Agromash" have developed a model of a combined device for road tillage and sowing of intermediate crops in one pass.

A mock-up of the device working section is shown in Figure 1 and the location of the section in the ground channel is shown in Figure 2.

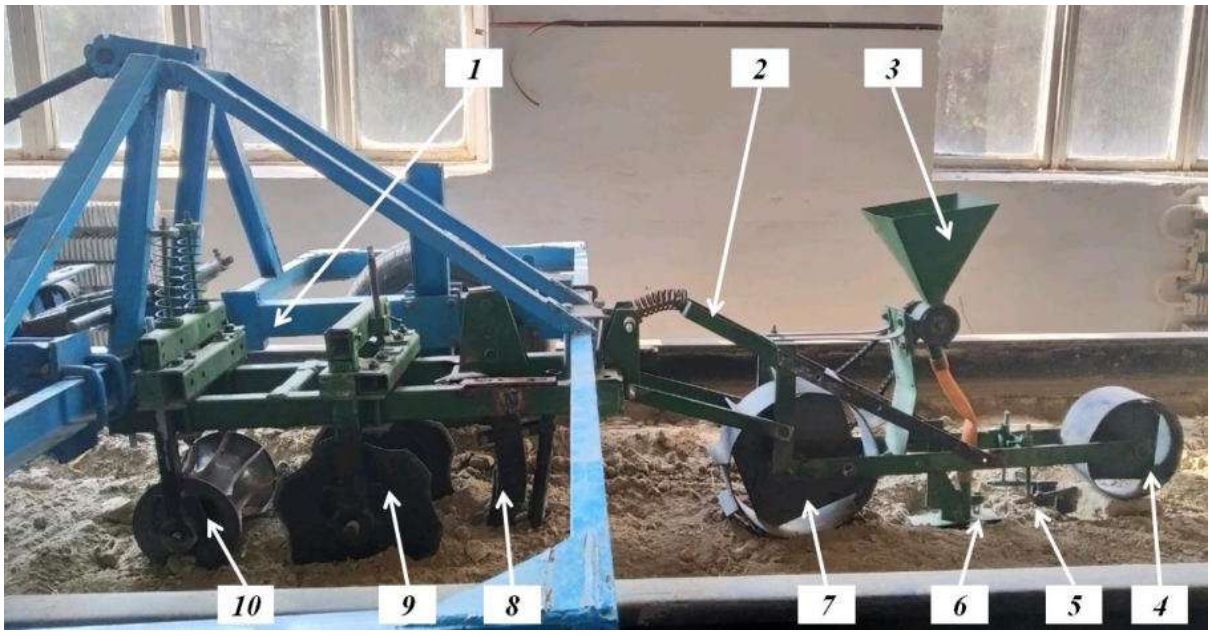


Figure 1. The combined device of road tillage and sowing of seeds is a laboratory device of the working section

The working section of the device consists of frame 1, parallelogram mechanism 2, seed box 3, compaction roller 4, coverer 5, opener 6, leveling and transmission roller 7, rotary claw softener 8, flat cut discs 9 and grinder 10 (Fig. 1).

As the combined device section moves, the plant residue on the surface of the pile is partially cut or crushed by laying it on the field surface along the coverage width of the crusher 10 attached to the frame 1. The flat-

cut discs moving behind it cut the 9 ridges vertically, defining the boundaries of the strip at the set width. In addition, the discs act as a barrier to prevent the pieces of soil from protruding from the ridges to the sides when the rotary claw deep softener 8 deforms the soil. The rotary claw softener 8 works the soil to a depth of 10-20 cm. The smoothing and motion-transmitting roller 7 attached to the parallelogram mechanism 2 crushes, flattens and partially compacts the existing lumps on the surface of the softened strip. To sow the seeds in the treated soil, the anchor socket forms a ditch 6 and places the falling seeds from the seed bunker 3 into the ditch.

a) *b)*

2-picture. Location of the working section in the soil channel
a-side, b-top

Since the width of the soil channel is narrow, a single section of the breech sample is installed.

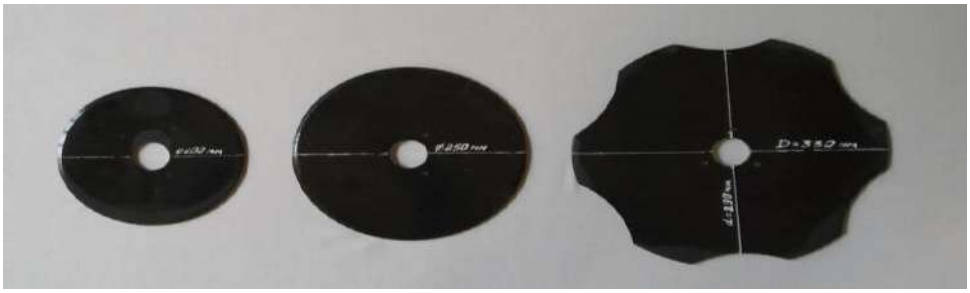
All working bodies on the device are made so that it is adjustable and securable. The motion of the transmission mechanism is obtained by means of a chain transmission from the smoothing cathode.

The speed of the transmission mechanism can be changed by switching the stars.

The disc blades of the combined planting aggregate perform the following functions:

- Fixed width over push and pole cutting at set depth;
- To ensure that the incisors formed by the softener in the stripe, which are separated from the plumage by cutting two wool, do not fall into the furrow.

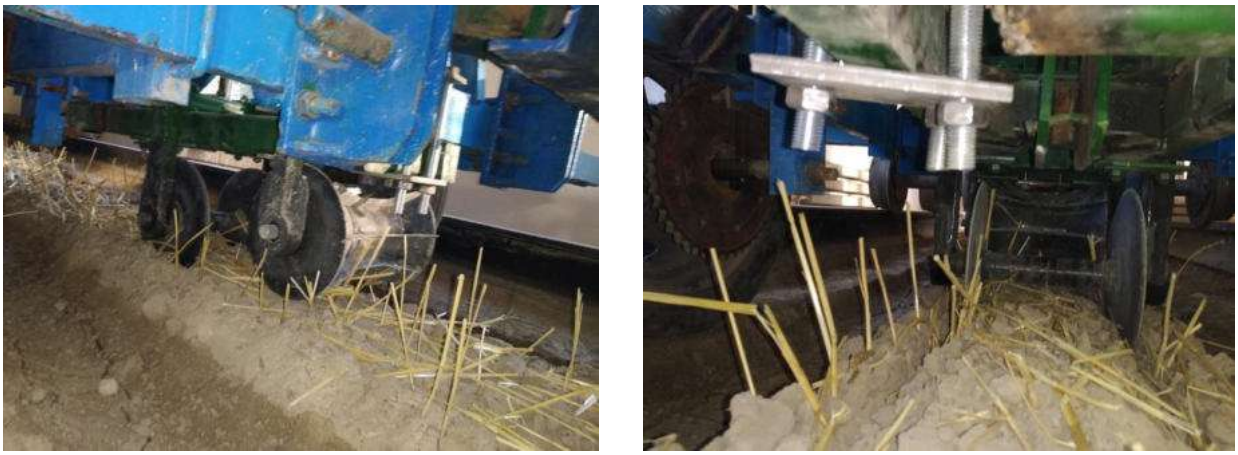
In fulfilling the above requirements, the combined planting aggregate was tested for discs of different diameters and different shapes for the laboratory device (Figure 3).



a) *b)* *c)*

Figure 3. Disc blades of different diameters and shapes

In the laboratory testing of disc blades of the combined sowing unit in the laboratory, the distance between the disc blades was set at a width of 10, 15, 20 cm and a depth of 5-15 cm. The length of the soil channel is 20 m.



a) *b)*

Figure 4. Installation of the disc blade in the soil channel (a) and the process of cutting the disc blade from the ridge marked strip (b).

The combined sowing device was carried out by conducting disc blades experiments under laboratory conditions in three repetitions for each disc and by measuring five locations of the disc in the soil channel. The results of the study are presented in Table 1.

Table 1. Results of laboratory tests of disc blades

№	Diameter of disc blades, mm	Distance between the disc blades, cm	Built-in processing depth of disc blades, cm	Average processing depth of disc blades, cm
1	Ø200	10	5	5,9
		15	7	5,3
		20	9	8,2
2	Ø250	10	8	7,2
		15	10	8,5
		20	12	10,2
3	Ø330/290	10	10	8,8
		15	12	12,5
		20	15	16,4

From Table 1 Above, It is possible to see that the machining of disc blades is less in most cases than the depth of their installation. The processing depth of a flat disc knife with a diameter of Ø200 mm is more than 0,9 cm in the first case after installation, in the remaining two cases respectively 1,7 and 0,8 cm less. Diameter Ø250 mm li fixed flat disc Blade 8 cm, 10 cm, 12 cm depth respectively 0,8;1,5 and 1,8 cm less. Diameter Ø330/290 mm cut disc knife, while the largest immersion was determined, respectively 8,8 cm, 12,5 cm and 16,4 cm. It was found that the depth of immersion in these two cases exceeds the depth of installation.

The deviation of the disc blades from the specified processing depth depends on their diameter and The Shape of the flange. When the diameter of the flat discs is small and the width of the stripe is changed, it becomes difficult for the flat-rim disc to cut the untreated pusher, as the disc Blade arrows touch the pusher.

When the diameter of the cut (groove) disc was large, the disc Arrows did not touch the puncture and the cut flange provided that the pole of the specified width and depth of the puncture was cut at the required level.

On the basis of the selected disc blades, as well as on the basis of analyzes, laboratory tests of working organs with Rotary shutters (chisel-shaped) for road-treatment of soil were carried out.

Together with the fact that the softeners have the least resistance to drag, it is necessary to soften the soil qualitatively and to process it evenly. The study was aimed at studying the effect of softener parameters on drag resistance, changes in the shape and size of the plumage.

The following basic requirements are imposed on the softener:

- Lane loosening of push-up soil to the specified width and depth;
- In the process of softening, do not spoil the shape of the Bush and do not let the processed stripe soil into the holder;
- Between the softener column and the working organs close to it, it is necessary to ensure that the plant remains are not clogged.

To perform the above tasks, ripper of different sizes were selected (fig.4)

Figure 3. Ripper

Figure 5. Installation of the ripper on the section

The coverage width of the selected claw softeners is 35 mm, 40 mm and 45 mm, and its remaining dimensions are: height 250 mm, 225 and 265 mm, respectively, and the processing depth is set to 10 cm, 15 cm and 20 cm depth. Laboratory studies were conducted in the soil channel at velocities of 1.1 and 1.4 m/s.

Figure 6. Post-processing of the ripper profile and its detection process

The results of the experimental study are presented in Table 2. The table shows the results of the first transition and the second transition in the denominator.

Processing depth was determined from the middle of the pile using a measuring ruler. Measurement results were obtained at 25 repetitions every 10 cm from the beginning, middle and end of the soil channel.

The deviation of the softener from the specified depth was determined by processing the results obtained.

The profile of the machined ridge was taken from the beginning, middle and end of the ridge using a special profilometer.

Table 2 The resistance of the ripper to gravity and the dependence of the work quality indicators on the coverage band

Indicators	Ripper width, mm		
	35	40	45
Processing depth, cm			
$M_{ўр}$	19,8/19,5	21,2/20,3	21,4/20,9
$\pm\sigma$	0,96/1,56	1,6/0,84	0,86/1,37
Indicators number of soil fractions, %			
< 1 mm	3,1/2,8	2,8/3,7	2,2/1,8
1...5 mm	61,6/68,5	68,3/70,6	65,4/68,3
> 5 mm	35,3/28,7	28,9/25,7	32,4/29,9
Sectional traction resistance, кN			
$M_{ўр}$	1,75/1,78	1,65/1,68	1,74/1,62
$\pm\sigma$	0,24/0,39	0,42/0,28	0,15/0,25

Note: in the photo, when the aggregate movement speed is 1,1 m/s; in the denominator, the aggregate movement speed is 1,4 m/s.

Resistance to drag was determined in combination with grinders and discs.

From Table 2, when the width of the softener coverage ranged from 35 to 45 mm, it was found that its tensile resistance decreased from 1,75 kn to 1,65 kN, followed by an increase of 1,74 kN, while the quality indicators were almost identical. The surface of the treated area with softener also made up 310-343,5 N/cm2 when compared resistance softener coverage width was 35mm when compared to increase from 5,56-5,74 N/cm^2, 40 mm when compared to 4,88-5,17 N/cm2 and 50 mm when treated area was 4,82-5,06 N/cm^2. When the softener with a width of 35 mm worked at a depth of 20 cm, the traction resistance was significantly increased as a result of an increase in critical depth. When the coverage width was 40 and 45

mm, the relative traction resistance was significantly reduced due to the fact that the softener came out of the critical depth on account of the vertical scraping depth of the discs. Therefore, it is desirable to take the softener coverage width 45 mm.

REFERENCES

1) Узбекистон Республикаси Президентининг Ўзбекистон Республикаси қишлоқ хўжалигини ривожлантиришнинг 2020 — 2030 йилларга мўлжалланган СТРАТЕГИЯСИ. ТОШКЕНТ. 2019 й. 23 октябрдаги ПФ-5853-сон. www.Lex.uz.
2) http://xs.uz/uzkr/post/galla-2019-mavsumi-amalij-ishlar-natizhalar-va-rezhalar.
3) Артикбаев Б.П. Қатқалоқни юмшатиш учун пахтачилик культиваторига дискли иш органларини ишлаб чиқиш ва параметрларини асослаш. Дисс. PhD., -Т., -2019., -128б.
4) 4.No-Till [Электронный ресурс]. - Режим доступа: http://articles.agronationale.ru/no-till. - Загл. с экрана. - (Дата обращения: 18.02.2014)
5) 5.Абакумов, Н. Эффективность различных систем обработки почвы при возделывании озимой пшеницы в условиях северной части Центрально-черноземного региона России : [при возделывании озимой пшеницы в условиях Орловской области возможна нулевая обработка почвы, которая позволяет снизить себестоимость зерна] / Н. Абакумов, Ю. Бобкова // Главный агроном. - 2012. - № 12. - С. 20-25.
6) 6.ҚХ-Атех-2018-182. “Такрорий экинларни етиштиришнинг сув ва энергия тежамкор технологияси ва техник воситаларини ишлаб чиқиш”. (2019- йилги тадқиқотлар бўйича оралиқ ҳисобот).

UZBEK CREATIVE INTELLIGENCE - HISTORY AND TODAY

Bakiev Bahrom Uktamovich
Karshi Engineering and Economics Institute
E-mail: boqiyevbszx2022@gmail.com

ANNOTATION
In this article, the second half of the twentieth century and the place of Uzbek creative intellectuals and their activities in the cultural processes, as well as the activities of national intellectuals in the history of their activities and the fate of their intellectuals, the fate of the intellectuals, the history of Uzbekistan It's about the fact that one of the most pressing functions faced in front of.

Keywords: civilization, peace, friendship, culture, cooperation, culture, scientist, national awakens, independence, independence, scientific-analyt, science, industry, technology.

INTRODUCTION

In the history of mankind, cultural cooperation is one of the most important components of the system of international relations and serves to strengthen mutual respect and solidarity between different countries. In today's rapidly changing world, such cultural ties serve as a bridge between nations and peoples, primarily to protect human security, exchange ideas, create new ideas and discoveries, create an atmosphere of religious tolerance, unite the cultures of the peoples of the world and ensure sustainable development of world civilization. serves.

In the history of international cultural relations, the land of Uzbekistan has served as a place of connection of world civilizations, a capital of peace, friendship and culture. The culture of our country has a special place in the world cultural heritage and has played an important role in strengthening effective cooperation with countries in Asia at various stages of historical development. In the second half of the twentieth century, Uzbekistan, involved in international political processes, fulfilled the task of propagating Soviet ideology abroad on the basis of the principle of "Soviet culture". The organization of days of theater, cinema, dance, singing, music, sports, tourism, international exhibitions and culture in this area has played an important role not only in the political, but also in the further development of friendly cooperation and cultural and educational ties.

From the first days of its independence, our country has established equal relations in international relations, taking into account the national interests of our people. In this regard, it is worth noting the activities of the Government of Uzbekistan to further develop cooperation with all countries in the cultural and humanitarian spheres. Of particular importance is the study of the historical experience and contribution of Uzbekistan in these areas. Because such cooperation demonstrates the development and effectiveness of economic, political and cultural relations between the states.

After gaining independence, our country has the opportunity to objectively and truthfully cover the history of national statehood, cultural, socio-economic, political and historical processes that have taken place in Uzbekistan for many centuries. “We have approached this issue on such a scientific basis, trying not to ignore any of its periods or aspects in the study and evaluation of our ancient history. In particular, it should be noted that we have established the honor and memory of our ancestors, victims of oppression and violence during the colonial and Soviet times, who sacrificed their lives for independence, their work for the liberation of the people, the search and study of their legacy”.

At the same time, the Presidential Decree "On the establishment of the Center for New History of Uzbekistan" under the Academy of State and Social Construction under the President of the Republic of Uzbekistan and the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan "On preparation and publication of the New History of Uzbekistan" has played an important role in the objective study of history. Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated July 27, 1998 "On improving the activities of the Institute of History of the Academy of Sciences of the Republic of Uzbekistan" creation of scientific, popular science works, textbooks and preparation of the historical atlas of Uzbekistan on the basis of research results ”and many other tasks began to be fulfilled during this period.

When studying history, we must pay special attention to the life of the Uzbek people during the Soviet era, one of such periods. During this period, the Soviet government demonstrated the appearance of the most horrible ways of repression against dependent peoples. During the rule of Tsarist Russia, some "dangerous people" were often oppressed and exiled, while during the Soviet era, entire nations were expelled from their lands. Violations of social injustice also peaked during this period. As a result of the horrific massacre in Uzbekistan, many statesmen, scientists, intellectuals and cultural figures who have served our people have become victims of injustice. The fate of such beloved and respected children of the Uzbek people as Fayzulla Khodjaev and Akmal Ikramov is known to our people.

After the imprisonment of such figures of our country, the arrest and dismissal of those who worked with them accelerated. Our intellectuals, who looked like a terrible storm of repression, swept away the best of them one by one. Abdullah Qodiri, Fitrat, Cholpon, Usman Nasir, Elbek, Shakir Suleiman, Gulam Zafari, Sanjar Siddiq and other famous poets and writers, journalists, scientists and artists were repressed because of this tragedy and horror. The loss of the best national cadres of our spirituality has done great damage to the development of our spiritual life, the growth of our national consciousness and our national pride.

"It simply came to our notice then. On the eve of World War II and in the post-war years, the policy of discrediting the wonderful children of the Uzbek people continued. The names of famous figures of our culture Oybek, Abdulla Qahhor, Mirtemir, Turob Tola have been blackened. Writers such as Mahsud Shaykhzoda, Mirzakalon Ismaili, Shukhrat, Shukrullo, Said Ahmad, Hamid Sulaymon, Muhiddinkori Yakubov, Tokhtasin Jalilov and other scientists and artists spent some years of their lives in prison.

It is known that in 1937-1953 there were terrible mass political repressions in the territory of the former USSR. In order to imagine its negative consequences, about 100,000 people in Uzbekistan alone were persecuted and 13,000 were shot. Among these people, whose lives were violated, there were not only dignitaries and intellectuals, but also hundreds of ordinary people, representatives of almost all nationalities and ethnic groups living in our country. The years of Stalin's cult of personality caused great tragedy for the people of Uzbekistan. In 1937-1939 alone, more than 41,000 people were imprisoned by the "troika" of the People's Commissariat of Internal Affairs of the Uzbek SSR. More than 37,000 of them were convicted. 6,920 people were shot. In total, 61,799 people were imprisoned in 1939-1953. 56,100 of them were shot. Among those illegally prosecuted were scientists, the military, intellectuals, ordinary working peasants, and even artisans.

Our historians and historians have a clear and vivid description of the realities of this period of our history, thus creating a true picture of our people in this period of history, the study of the negative features of colonial policy, repressions, especially the massacre and slander against the intelligentsia is one of the current tasks ahead.

It is known that intellectuals are a social class that has a certain place in the social system, mainly engaged in mental labor. Sociologists in the study of social strata in society describe intellectuals as a social class with a complex structure and divide them into several groups. In particular, 1) intellectuals in the field of public services (teachers, doctors, etc.); 2) engineers and technicians; 3) priests; 4) cultural workers; 5) state that it is possible to divide the society into governing officials. The formation, development, internal structure, and special role of intellectuals in society have been thoroughly studied by historians, philosophers, and sociologists as objects of scientific research.

It is expedient to conditionally divide the works devoted to the question of intellectuals into three groups.

LITERATURE OF THE SOVIET PERIOD
INDEPENDENCE PERIOD RESEARCH
FOREIGN LITERATURE.

In turn, the literature and research belonging to these groups differ to some extent from the theoretical-ideological and methodological point of view.

Also, the study of the activities of Uzbek creative intellectuals in the second half of the twentieth century can be based on a number of factors:

- First, in studying the situation of intellectuals in the second half of the twentieth century, it is impossible to objectively assess their activities without studying their views on the socio-economic situation in the country at that time, because one of the main reasons for this injustice is colonialism. was the mood to look. As a

result of such a policy, the persecution of materially and spiritually mature people, especially national intellectuals, began among the people;

- Secondly, the study of the ideas and ideas of the national awakening, the uplifting of the nation, the desire to get rid of the imperial complications of the USSR, the restoration of the national language, national identity, national history and the large-scale practical work done by them in this direction. it is important to give an objective account of this period from a new perspective;
- Thirdly, it is known that during the Soviet era, historians used many archival documents, reports of military authorities, memoirs of scientists and intellectuals, many other sources of the second half of the twentieth century, which allows us to reflect on the cultural and spiritual life of that time. . However, the personal observations of the repressed intellectuals, which were not allowed to be published during this period, and the neglect of many memoirs and memoirs on the subject, prevented the study of the true picture of the history of this problem.

The value, value and significance of this information is that it reflects the views of intellectuals who were direct participants and witnesses of the events of that period;

- Fourth, by covering the socio-political, cultural and enlightenment ideas of national intellectuals, their actions on the path of reforming society, we can conclude that this process is a unique historical phenomenon. Because behind this aspiration are the most mature and talented scientists of the nation, scientists and public figures, the ideas put forward between their scientific and artistic, the praises that are compulsorily added by the demands of the policy of the time, must be objectively understood, are still very important today.

The events of the second half of the twentieth century, socio-political, cultural and spiritual life are among the unexplored periods in the history of Uzbekistan. In particular, large historical monographs devoted to a clear and truthful description of the cultural life of this period are still in short supply. Also, despite the fact that the issue of children of mature potential of our people, especially national intellectuals, their views on independence, freedom, the fate of the nation, which were repressed during this period, has its own characteristics, this topic has not been studied as a separate object. Research on this topic includes Soviet-era literature, works from the independence period, and foreign research.

At the same time, it should be noted that at the beginning of our independence, the Uzbek creative intelligentsia was literally justified, the state's attention to this area, the views of intellectuals on socio-political, artistic and scientific development have not been the subject of special research. Although some data in this area have been included in scientific consumption, their historical analysis has not been performed. Based on the above, it should be noted once again that the fate of the national intellectuals of this period, the study of their ideas is one of the most pressing tasks facing the history of Uzbekistan.

In the process of studying the fate of national intellectuals, their artistic, scientific, historical ideas, the fate of the nation, the pursuit of independence as an object of special research, the following scientific innovations and conclusions can be considered on the basis of historical analysis, comparison and generalization.

- The second half of the twentieth century can be described as a cultural and enlightenment life, the beginning of the second wave of repressions, the social consequences of cult of personality, changing attitudes to the intelligentsia, the invention of various excuses and arguments, the real purpose of political "games";
- The difficult living conditions of the national intelligentsia of the time, the colonial mood, the attitude to social injustice, a critical view of the current situation, the desire to express them in their works through artistic, scientific observations can be described on the basis of various sources;
- To study and promote the activities of creative intellectuals aimed at preserving national wealth, development of science, industry, technology, production, development of the republic's own path of development, its promotion and implementation of measures necessary to address the challenges;
- In general, it is possible to try to evaluate the fate, repression and justification of national intellectuals, their desire for independence, artistic and scientific ideas aimed at understanding the national identity from the point of view of historiography.

They have played an invaluable role in the study of the cultural history of Uzbekistan in the second half of the XX century and the beginning of the XXI century, as well as the history of our national intellectuals,

national literature and science. Uzbek intellectuals also play a special role in the study and promotion of the historical heritage of our people, the formation of national ideas and ideology.

In his speech at the meeting with representatives of the creative intelligentsia of Uzbekistan, President of the Republic of Uzbekistan Sh.M.Mirziyoev said: "We know and are always proud of our creative intelligentsia, what a great and glorious past, what great ancestors we have." we can see how much attention is paid to intellectuals.

In short, the hard work, responsibility and honor of the people of creation, who consider the human heart, its worries, the dreams and aspirations of the people, the love and devotion to the Motherland in unique words, melodies and colors as the meaning of their lives, is true today.

REFERENCES

1) Annex 1 to the Decree of the President of the Republic of Uzbekistan No. 4947 of February 7, 2017 , a well-thought-out, mutually beneficial and practical foreign policy ”.
2) From the speech of the President of the Republic of Uzbekistan Shavkat Mirziyoyev at a meeting with representatives of the creative intelligentsia of Uzbekistan. Tashkent, August 2017.
3) Karimov I.A. High spirituality is an invincible force. –T., Manaviyat, 2008. –B. 97
4) Karimov I.A. High spirituality is an invincible force. –T., Manaviyat, 2008. –B. 97-98
5) National Encyclopedia of Uzbekistan. Volume 4 (Zebuniso-Konigil) - T .: "National Encyclopedia of Uzbekistan" State Scientific Publishing House, 2002. 12 pages.
6) The word of the people. December 17, 1996 №254
7) The word of the people. July 28, 1998 №149
8) Philosophy: an encyclopedic dictionary. / Compiler and editor-in-chief K. Nazarov / - T .: Sharq, 2004. 198 pages.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

LEGAL ISSUES OF GUARANTEEING THE RIGHTS OF THE CHILD

Muqimova Muslima Ziyodullaevna
Associate Professor of "Jurisprudence and Legal Education" SamSU

Sadikova Yorkinoy Salijonovna,
The candidate of legal sciences SamSMI
Department of Social and Human Sciences

ANNOTATION
The article examines the issue of children's rights in the legislation of the Republic of Uzbekistan, the improvement of children's rights in the period of judicial reform, the criminal aspects of its protection.

Keywords: children's rights, building a strong civil society, The Convention on the Rights of the Child.

INTRODUCTION

It is known that a large-scale work is being carried out in our country to support motherhood and childhood, to create conditions for the spiritual and physical development of children, as well as to ensure compliance with the UN Convention on the Rights of the Child.

At the same time, there is a growing need to radically improve the institutional and legal framework for the protection of the rights and legitimate interests of children and their development into a harmoniously developed generation.

It should be noted that d emokratik legal d a children Vltava, have chosen the path of building a strong civil society in our country the issue of protection of the rights and freedoms enshrined in national legislation. The large-scale work carried out in the field of ensuring the rule of law, raising the legal culture of the population, protection of the rights and interests of the younger generation serves this noble goal. The training sib physical, mental and spiritual upbringing of the younger generation for the development of q he lay conditions for the creation of a strong social policy in the country is one of the unique features and the period from the birth of the child, under the age of 30, its comprehensive support Supports to help find a worthy place in life, integrated and continuous system designed to ' work against it.

The legal basis for the protection of the rights of the child in the Republic of Uzbekistan is first of all reflected in Article 64 of the Constitution , which states that “Parents are obliged to feed and bring up their children until they reach adulthood. The state and society provide for the care, upbringing and education of orphans and children deprived of parental care, and encourage charitable activities dedicated to children. ” Article 65 of the Constitution states that “children are equal before the law, regardless of their parents’ ancestry and marital status. Motherhood and childhood are protected by the state.

B and education go together to protect the rights of minors and the Convention on the Rights of the Child ' , ' Rights of the Child guarantees exist on additional measures to reinforce the 'On ' T fuse to guarantee the rights of the child ',' Parameters' laws and other documents included dalililidir.

As you know, on November 20, 1989 by the UN General Assembly, the Convention on the Rights of the Child adopted, Re s publikasi ratified the Convention on 9 December 1992.

K onventsiya consists of 54 articles, the main directions of the rights of the child, the family, in this regard, the responsibility of the parents, the child 's knowledge, thought, conscience and freedom of expression , freedom of religion enshrined in important aspects, such as the protection of children.

In particular, Article 2 of the Convention states that states must respect and ensure all the rights provided for every child, without discrimination, regardless of his or her ethnic or social origin, property status, or the child's health.

The Convention on the Rights of the Child on issues related to the lives of children, the right to participate actively in the decision-making process and their views on the need to take into account the comments.

Since the agreement has been ratified by the state at the Bo Commons education and upbringing of opening to the policy of a derogatory important international legal document fully complied with all the major articles of imports.

January 7, 2008, the draft law on guarantees of the rights of the child in the country to work, walk shores comprehensive care for children, maternal and child health, healthy generation , directed once again one of the most important legislative acts, P, Chapter 31 consists of matter . Article 4 of the law defines the directions of state policy on protection of the rights of the child, ensuring the rights, freedoms and legitimate interests of the child, protection of life and health of the child, prevention of discrimination, protection of the honor and dignity of the child, patriotism, citizenship, tolerance, fostering a sense of peace, supporting children's initiatives, and so on.

Article 8 of the law sets out the guarantees of the child's right to life, stating, "The right to life is an inalienable right of every child. Assassination of a child is the most serious crime. " In fact, R espublikasi Part 2 of Article 97 of the Criminal Code, known to be 'weak point' c 'ill person for premeditated murder under aggravating circumstances , in Article 99, the birth of a baby during childbirth or the mother is still murder of criminal responsibility marked. It should be noted that the current Criminal Code of the Republic of Uzbekistan provides for the commission of a crime against a child as an aggravating circumstance. However, the jurisprudence is still debated in the legal literature as to who is meant by "young child". While some jurists refer to 10 years of age as a young child, some authors refer to those under 12 years of age, while others refer to those under 14 years of age as young children. Similarly, MH Rustambaev emphasizes that children and adolescents under the age of fourteen should be considered as young children. The commission of a crime against a minor is an aggravating circumstance under Article 56 (b) of the General Part of the Criminal Code.

It is well known that juveniles are persons under the age of 18 under this law, and the commission of a crime against them has always been an aggravating circumstance. Qualification of a crime in many articles of the Special Part of the Criminal Code of the Republic of Uzbekistan, including Article 113, Part 3, Subparagraph "b", Article 131, Part 2, Subparagraph "a", Article 135, Part 2, Subparagraph "c", etc. is a sign. However, the commission of a crime against a minor is only an aggravating circumstance and needs to be taken into account in sentencing. In our view, it would be expedient if the articles of the Special Part of the Criminal Code also provide for the commission of a crime "in relation to a minor" as a necessary sign of the qualification of the crime. Because if we mean a minor as a person under the age of 14, it is more accurate to mean a person between the ages of 14 and 18 as a minor. From this point of view, it would be expedient to commit a crime against a young child, with special legal consequences. After all, in the case of crimes against persons of this age, they cannot always be considered vulnerable in terms of age, because according to Article 56 of the Criminal Code of the Republic of Uzbekistan, "unless there are grounds to believe that a person under 14 is physically and mentally disabled." b) may not be considered an aggravating circumstance. In this case, it is more accurate to classify the crime as "committing a crime against a young child". In this regard, it is noteworthy that Article 118, Part 4 of the Criminal Code of the Republic of Uzbekistan "separates the responsibility for rape of a person under fourteen years of age, and Article 118, Part 2 - for rape of a person under eighteen years of age."

Article 13 of the law on guarantees of the rights of the child in each family and upbringing of children, their parents, they know the b right to go and live in their care. ' In this regard, the fifth chapter of the Special Part of the current Criminal Code of the Republic of Uzbekistan is entitled "Crimes against the family, youth and morals", which deals with the protection of minors in all respects, including moral, mental and physical, sexual development. refusal to provide for incapacitated persons, exchange of a child for greed or other low intentions, disclosure of the secret of adoption, involvement of a minor in antisocial behavior, sexual intercourse with a person under the age of sixteen or obscene acts against that person and criminal liability for other acts.

Also, at a time when a lot of work is being done to protect and guarantee the rights of the child, in our view, the Criminal Code of the Republic of Uzbekistan provides for direct criminal liability for "child trafficking (trafficking)" in combating human trafficking, which has become one of the current problems . The case of a separate norm is also noteworthy.

According to the above, the Children's Ombudsman Law, which emphasizes the need to take great, this document citizens more attention to children, parents raising children, once again I feel a deep responsibility to the community, child rights restriction to eliminate problems we think that it serves as a basis.

In conclusion beloved Prophet Muhammad Rasulullah sallallahu s Salaam hadith found it necessary to bring blessings, father and child to leave a gift of extraordinary discipline.

REFERENCES

1) Resolution of the President of the Republic of Uzbekistan No. 4296 of April 22, 2019 "On additional measures to further strengthen the guarantees of the rights of the child." // lex . uz .
2) Criminal Code of the Republic of Uzbekistan.-Tashkent: Justice, 2019.
3) Sadikova Y., Mu qi mova M. THE ROLE OF OUR NATIONAL LEGISLATION IN THE PROTECTION OF WOMEN'S RIGHTS IN THE FAMILY // THE ROLE OF OUR NATIONAL LEGISLATION IN THE PROTECTION OF WOMEN'S RIGHTS IN THE FAMILY./International Journal for innovative Engineering Research . A Peer Revived Open Access International Journal. Vol 09 Issue12, Dec 2020 ISSN 2456 - 5083 Page 40-44.
4) Mu qi mova M., Sadikova Y. THE IMPORTANCE OF MEDIA INSTITUTE IN FAMILY // CONFLICT RESOLUTION Academicia: A n international Multidisciplinary Research Journal. ISSN: 2249-7137 Vol. 10 Issue 12, December 2020 .

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

OPTIMIZATION OF REHABILITATION MEASURES IN THE POSTOPERATIVE PERIOD IN PATIENTS ON THE BACKGROUND OF COVID-19

Polyanskiy I. Yu.,
Bukovinian State Medical University, Ukraine

Mizamov F.O.,
Samarkand state medical institute, Samarkand, Republic of Uzbekistan

Polyanskaya O.S.,
Bukovinian State Medical University, Ukraine

Mavlyanova Z.F.
Samarkand state medical institute, Samarkand, Republic of Uzbekistan

Annotation
A complex of rehabilitation measures, including early restoration of the tone of the trunk muscles and respiratory excursion of the chest wall, restoration of airway patency and measures for the prevention of pulmonary atelectasis, contributes to the rapid restoration of the function of the respiratory system, the prevention of the occurrence of postoperative pneumonia. Along with this, the use of a complex of medical and non-drug measures aimed at reducing the intraluminal pressure in the hollow organs of the digestive system creates the prerequisites for the restoration of intestinal motility and prevents the occurrence of paretic postoperative intestinal obstruction.

Keywords: rehabilitation; prevention of postoperative complications; multidisciplinary approach.

INTRODUCTION

One of the ways to increase the effectiveness of surgical treatment of diseases of the abdominal cavity is to reduce the frequency of complications in the immediate postoperative period, which reduce the effectiveness of treatment, lengthen the duration of inpatient treatment. Having transferred COVID-19, wherein in Khodnev E gate E pathogen serves epithelium of the upper airway and ep iteliotsity stomach and intestines, affects Postoperative period for surgical patients. In this context, rehabilitation measures aimed at recovery of disturbed vital functions, is th are not only a medical problem, but also a social one [2,6]. At the same time, the complex of rehabilitation measures in the first hours of the postoperative period is almost undefined, the strategic objectives of rehabilitation, priority areas, methods of implementation and assessment of their effectiveness are not clearly defined [3,7]. The speed and usefulness of the restoration of the health of patients depends on the compensatory restructuring of all organs and systems, especially the respiratory and circulatory organs. Naturally, this restructuring cannot be achieved with drug therapy alone. The positive effect of ozone therapy in generalized peritonitis has been proven [1]. The use of various methods and means of physical rehabilitation to the maximum extent contributes to the restoration of the functions of the vital systems of the body, prevents the occurrence of postoperative complications, promotes a speedy recovery and restoration of working capacity [8]. Therefore, an individually selected method of medical rehabilitation in postoperative patients is relevant and timely.

MATERIAL AND METHODS

The developed complex of rehabilitation measures aimed at preventing early postoperative complications was used in 135 patients operated on on the hollow organs of the digestive system. The control group consisted of 23 patients with traditional management of the early postoperative period. By the nature of the surgical pathology, the volume of surgery, and concomitant pathology, the groups were representative. Evaluation of the effectiveness was carried out by comparative analysis of indicators of the functional state of the respiratory system, cardiovascular system, intestines in dynamics and the frequency of complications.

RESEARCH RESULTS AND DISCUSSION

Rehabilitation measures included both drug correction of existing disorders, prevention of predicted complications, and non-drug effects on the restoration of the functional activity of these organs and systems. At the same time, the individual characteristics of the patient with different severity of preoperative systemic changes in these organs and systems were taken into account, which can be defined as a personalized approach to rehabilitation in the early postoperative period. The most vulnerable in the early postoperative period is the respiratory system. Endotracheal anesthesia, which contributes to damage to the tracheal mucosa; residual effect of muscle relaxants; prolonged recumbency, of atrudnyaet excursion of the chest; the presence of an operating wound of the abdominal wall, excluding for a certain time its participation in the respiratory act - all this leads to hypoventilation of the lungs and contributes to the development of hypostatic pneumonia. However, the traditional measures used to restore impaired functions of the respiratory system in the early postoperative period have been developed schematically, are not complex and often do not provide effective prevention of postoperative pneumonia. We have used a developed complex of rehabilitation measures aimed at restoring the function of the respiratory system, which takes into account all the disorders and systemic changes that have arisen after the operation, caused by the COVID-19 virus. The rehabilitation complex was started immediately after the patient came out of anesthesia. A prerequisite for its implementation is adequate pain relief. For an objective assessment of pain, we have proposed a method that allows one to quantify the patient's pain sensations [4] and to carry out their drug correction by individual correction of painkillers. Passive and then active limb movement in a certain direction, exercises targeted load specific muscle groups allows you to quickly neutralize REMAINING th effects of muscle relaxants, restore muscle tone not only limbs, but also the whole body.

To restore the function of the respiratory system, we used a complex of rehabilitation measures, including, in addition to early restoration of the tone of the muscles of the trunk and respiratory excursion of the chest wall, restoration of airway patency and means of preventing pulmonary atelectasis. The criterion for the effectiveness of these measures was the active behavior of the patient in bed by the end of the first day after the operation. So, all patients of the research group during the first day independently changed their body position in bed, turned on their side, raised the lower limbs straightened at the knee joint.

To restore airway patency, a combination of chest wall massage with forced cough with anteroposterior compression of the chest wall was used. The proof of the effectiveness of these funds is the discharge of sputum and the absence of dry wheezing over the trachea and main bronchi. In 96.3% of patients in the experimental group, by the end of the first day, saturation of more than 95% was achieved, while in the control group, this indicator was observed only in 52.17% of patients. From the second day of the postoperative period, the patient was recommended to take a sitting position. From the third day, patients took an upright position with dosed walking, torso bends and squats. In all patients of the experimental group, we were able to restore the function of the respiratory system, prevent pulmonary atelectasis, and the development of postoperative pneumonia. In three patients of the control group (13.04%), who did not take these measures or were performed incompletely, there were complications from the respiratory system in the form of hypostatic pneumonia and pleurisy. One of these patients died of progressive pulmonary heart disease.

Restoration of the functional activity of the cardiovascular system is of great importance in the postoperative period, especially after complex operations and in elderly patients [9,10]. We used a set of physical exercises, which was selected individually and corrected by objective criteria of the functional activity of the cardiovascular system - the pulse rate and its dynamics during exercise according to the readings of the pulse oximeter, the magnitude and dynamics of blood pressure, and, if necessary, by monitoring the electrocardiogram . In the first hours after the operation, active limb movements were performed with an incomplete range at a slow pace. 2-3 hours after the operation, the patients turned their bodies in both directions. From the second day, the patient was transferred to a sitting position for 10 minutes 4-5 times a day. If the condition was satisfactory, the patients were lifted out of bed on the second day.

Restoration of impaired intestinal functions is one of the main tasks of rehabilitation of patients after abdominal operations. The restoration of the disturbed intestinal functions began immediately after the operation. The complex of rehabilitation measures included non-drug and medical measures. For non-drug effects on the restoration of intestinal functions, a gastric tube was used, which was usually wound up during

the operation, or an intubation tube, which during the operation is nasogastricly passed through the lumen of the entire small intestine. The main task of rehabilitation is to reduce the intraluminal pressure in the hollow digestive organs. With adequate anesthesia, it is advisable to actively contract the muscles of the anterior abdominal wall by alternately raising the lower limb straightened in the knee joint. From the second day, under the supervision of the therapist, the patient raises both lower extremities upward, gradually increasing the time of keeping them in this state. From the second day, in the absence of contraindications, the patient is recommended to lift the upper half of the body, taking a sitting or semi-sitting position in bed without using the hands, only by contracting the muscles of the anterior abdominal wall. For prevention of the event, the patients wore a bandage, which increased the tone of the muscles of the abdominal wall and did not interfere with the excursion of the chest wall. The criterion for the effectiveness of such exercises is the active outflow through the probe when they are performed.

The drug component of the rehabilitation of disturbed intestinal functions consists in the appointment from the second day of prokinetics (metaproclamide, cerucal), cholinomimetics (cerucal), hyperosmolar solutions (sorbilact) and hypertensive enemas. The criterion for the effectiveness of such a complex is the appearance of peristalsis, the passage of gases, and the ultimate goal is independent bowel movements [5]. In the main group, using the proposed personalized complex of rehabilitation measures, we managed to restore the functional activity of the intestines in all patients. In the control group, where the complex or not used, or performed only some of its components without objective control, in two patients (8.70%) there was a steady postoperative intestinal paresis developmental dynamic ileus, requiring execution relaparotomies. This indicates that adequate substantiated rehabilitation of impaired intestinal functions in the early postoperative period can prevent the occurrence of complications in the form of dynamic intestinal obstruction, improve the results of treatment of patients, and shorten the duration of their inpatient treatment. Thus, the early use of rehabilitation in the postoperative period to restore the functional activity of the respiratory and cardiovascular system and digestive tract, taking into account the individual patient, performed with the involvement of a multidisciplinary team, allowing lo prevent the patients of the experimental group the occurrence of e complications that contributed rapid recovery of patients. The duration of inpatient treatment of patients in the main group was 8, 2 ± 1.31 days, in the control group - 12.32 ± 2.54 days. There were no lethal cases in the patients of the experimental group; in the control group, one patient (4.35%) died from progressive pulmonary heart failure.

REFERENCES

1) Gadzhiev ND Influence of combined ozone therapy on the dynamics of proteins of the acute phase of inflammation in generalized peritonitis / ND Gadzhiev, M. Nasirov, S. Sushkov // Clinical anatomist and I and operative I x and rrg and I. - 2012. - T.11, No. 3. - P. 36 - 39.
2) Changes in the directory of qualification characteristics of workers' professions. Issue 78 "Healthcare" Order of the Ministry of Health of Ukraine 13.12.2018 No. 2331.
3) On amendments to the order of the Ministry of Health of Ukraine dated October 28, 2002 No. 385. Order 25.03.2019 No. 668.
4) Pat. 99415 Ukraine. IPC A61B 5/00 method of objectifying sub bE su- th est e APIS ball and / Polansky YU., Vrublyusevsky TV. 3.№ u201409204; declared 08/18/2014; publ. 10.06.2015, bul. No. 11.
5) Pat. 74142 Ukraine, IPC A61B 1/31, A61B 8/00. Method for diagnosing impaired motor-evacuation function of the intestine / Moskalyuk II, Fediv OI, Polyansky I.Yu., Korneichuk OV, Moskalyuk VI; applicant Moskalyuk I.I., Fediv O.I., Polyanskiy I.Yu., Korneichuk O.V., Moskalyuk V.I. - No. u201200577; declared 01/8/2012; publ. 10/25/2012, Bul. No. 20.
6) Physical rehabilitation, sports medicine: a textbook for students. higher honey. study. institutions / Abramov, V. Klapchuk, AB. Nekhanevich [and others]; ed. Professor V.V. Abramov and Associate Professor O. L. Smirnova. - Dnepropetrovsk, Zhurfond, 2014.456 p.
7) Churpiy IK Rehabilitation of patients with peritonitis in the early postoperative period // Ukrainian journal of medicine, biology and sport. - No. 1 (3). - 2018. - pp. 131-136.
8) Evidence-based clinical practice update: practice guidelines for anterior cruciate ligament rehabilitation based on a systematic review and multidisciplinary consensus[N. van

Melick, R.E. van Cingel , F. Brooijmans at all] /Br. J. Sports Med. 2016.– V. 50 (24) P1506-1515. doi: 10.1136/bjsports-2015-095898.

9) FAST TRACK rehabilitation in patients after laparoscopic repair of hiatal hernia [M.A Burikov , I.V. Skazkin , O.V. Shulgin at all] /Khirurgiia (Mosk). 2018. N 10. P.18-22. doi: 10.17116/hirurgia201810118.
10) Program of gastrointestinal rehabilitation and early postoperative enteral nutrition: a prospective study [F.D. Martos-Benítez , A. Gutiérrez-Noyola, A. Soto-García at all]/ Updates Surg.. 2018. V. 70 (1). P.105-112. doi: 10.1007/s13304-018-0514-8.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

CLASSROOM OBSERVATION IN TEACHING PRACTICE

Sadullayeva Nilufar Kadamovna
Teacher of English,English Faculty 1, The Department of Integrated English Course 1,
Uzbekistan State World Languages University

ABSTRACT
Modern pedagogy provides for close interaction between the teacher and students in all levels of education, which is achieved through the widespread introduction of interactive technologies in the learning process. Observation plays a central role in practice teaching, both observation of your teaching by your cooperating teacher and supervisor, as well as your own observations of your cooperating teacher class.

Keywords: observation, teaching practice, classroom observation, teaching process, the nature of classroom observation

INTRODUCTION

The purpose and nature of observation, however, differs according to who participates in the observation process. For example, in observing your coorperating teacher's class your focus will be on *how* the teacher teaches, on such things as how the teacher creates a positive atmosphere for learning, on the strategies and procedures used by the teacher in setting up activities, on the way the teacher gives instructions and explanation, and how he or she gives feedback to learners. Other school staff may also wish to observe one of your classes from time to time, such as the principal, the vice principal, or a senior teacher, so you need to prepare well for every lesson in the event that someone asks to observe your teaching. You may also have opportunity to observe other teachers in your host school and to review video recordings of your own teaching and that of student teachers in your teaching practice seminars.

Teaching is a complex and dynamic activity, and during a lesson many things occur" simultaneously, so it is not possible to observe all of them. Thirty students in a class may be responding to the lesson in many different ways. Some may be finding the lesson stimulating and may have a clear sense of what the purposes of activities are and how they are supposed to carry them out.

At the same time, the presence of an observer in the classroom sometimes influences the nature of the lesson, making the lesson untypical of the teacher's, usual style of teaching. As a student teacher you may "overprepare" for a visit by your supervisor of cooperating teacher in order to show yourself at your best. You may also feel tense knowing that the observer is not only there to assist you in developing your teaching skills, but also to evaluate how well you are doing.

And even if aspects of classroom behavior are observable such as the amount of talking students engage in when completing an activity you may not be able to tell whether this is an indication of confusion or of interest. For all these reasons information you or your cooperating teacher gain during an observation always needs to be clarified through conversation and discussion in order to understand the meaning of what you observed.

REFERENCES

1) James P. (2001). Teachers in Action. Cambridge and New York: Cambridge University Press
2) Nunan D. (1992). Research Methods in Language Learning. Cambridge and New York: CUP.
3) Wajnryb R. (1992). Classroom Observation Tasks. Cambridge and New York: CUP.
4) Wallace M.J. (1998). Action Research for Language Teachers. Cambridge and New York: CUP.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

AUTONOMIC TEACHING TECHNIQUES AND STRATEGIES

Akabirova Mehriniso Baxtiyorovna
Teachers of English Languages,
Samarkand State University, Russian Faculty English Languages Department

Kurbonova Gulmira Usmonovna
Teachers of English Languages,
Samarkand State University, Russian Faculty English Languages Department

ABSTRACT
The article devotes to some strategies and techniques of autonomous learning in the classroom. Being motivated and making students to learn is enough problematic process. Amount of teachers are realize how vital to lead learners to be self-motivated.

Keywords: Autonomy, strategy , Moodle, ICT

INTRODUCTION

Foreign language teaching is developing globally, as well as in our country. The effectiveness and efficiency of teaching the target language is demanded immensely. Therefore, teaching English language is an artistic talent for all pedagogues in the world and the demand for fast and creative techniques to utilize in the classroom increased tremendously in every society.

As well as in our country certain attention to gain progress and development is given. For example, in the fourth area of the Uzbekistan's Development strategy for 2017-2021 foreign language teaching cadres and the methods employed in the classroom are told to be innovative and communicative for the autonomous learning. Learner autonomy is defined as a learner's willingness taking responsibility for participating, applying, monitoring and evaluating his or her learning which is usually developed with the support of teachers.

Rather than traditional methods and less communicative techniques, the most modern and up to date way of tutoring the language is required in the XXI century. Moreover, in the Decree of the first President of the Republic of Uzbekistan "Measures on further development of the system in teaching foreign languages" adopted on December 10, in 2012 puts important points to language teaching such as: commencing teaching foreign languages at the secondary schools from the first class; reforming the curriculums and programs in foreign languages; supporting students and teachers with all the necessary textbooks and manuals; and training highly-qualified teachers in foreign languages. So it's vital thing to develop learners independent or autonomy skills in order to obtain the knowledge. If they know working independent and autonomy they can acquire their learning so far.

THEORETICAL BACKGROUND

According to Holec (1981) "learner autonomy is the ability to take
charge of one's own directed learning". This process covers several variables; Thanasoulas (2000) asserts that "It is noteworthy to know that autonomy can be thought of in terms of departure from education as a social process, as well as in terms of redistribution of power attending the construction of knowledge and the roles of the participants in the learning process." Little mentioned (2015) that:"Learning autonomy is a problematic term because it is widely confused with self-instruction. It is also a slippery concept because it is notoriously difficult to define precisely. The rapidly expanding literature has debated, for example, whether learner autonomy should be thought of as capacity or behavior; whether it is characterized by leaner responsibility or learner control; whether it is a psychological phenomenon with political implications or a political right with psychological implication; and whether the development of learner autonomy depends on a complementary teacher autonomy (for a comprehensive survey,see Benson 2001)''Scharle and Szabo (2000,p.4) designate" In theory, we may define autonomy as the freedom and ability to manage one's own affairs, which entails the right to make decisions as well. Responsibility may also be understood as being in

charge of something, but with the implication that one has to deal with the consequences of one's own actions. Autonomy and responsibility both require active involvement, and they are apparently very much interrelated''.Dickinson's classifications of learner autonomy are as follows:
1) Autonomous learners understand what is being taught;
(2) Autonomous learners can formulate their learning objectives
1) Autonomous learners understand what is being taught;
(2) Autonomous learners can formulate their learning objectives
(1)Autonomous learners understand what is being taught
(2)Autonomous learners can formulate their learning objectives
(3)Autonomous learners select and make use of appropriate learning strategies
Autonomous learners identify strategies that are not working for them; and
(5) Autonomous learners self-assess or monitor their learning (pp. 330–331)
Autonomous learners identify strategies that are not working for them; and
(5) Autonomous learners self-assess or monitor their learning (pp. 330–331)
(4)Autonomous learners identify strategies that are not working for them;
(5)Autonomous learners self-assess or monitor their learning (pp. 330–331).
If students perceive themselves comfortable, energetic and congenial during the lesson, they can be autonomous learners. Conducting the lesson the same teaching method or the same approach can lead students tediously and sad in the learning process. Using another type of methods and approaches can give the best result and make them to work hard. According to the following classification we consider that language learning strategies are important and significant to learn the language independently. It has also been mentioned by Chamot and O'Malley:
"Learning strategies are defined as thoughts or activities that assist in enhancing learning outcomes. Strategies by definition are probably performed with awareness or else they would not be strategic, although the same mental operations can be performed without awareness once they are procedural zed and have the same beneficial results with learning. Three broad categories of learning strategies have been proposed in the cognitive literature and our own research. These types of learning strategies are based in part on theory and in part on the observation that students report using what seem to be executive skills with learning tasks while also using strategies that apply directly to the learning activities.
Finally, autonomous learners are encouraged to "learn how to learn" and "learn how to use" the language. Language learners should not be left to their own devices because they need to be explicitly trained to become aware of and proficient in the use of a broad range of techniques and strategies that can be utilized during the learning process. They need to constantly improve his or her mastery of linguistic and sociocultural knowledge with autonomy and independent learning.

REFERENCES

1) Measures on further development of the system in teaching foreign languages.– *T.: 2012.*
2) Dickinson,L. (1993) Talking shop:aspects of autonomous learning",ELT journal,
3) Oxford. Rebecca . Language learning strategies. Cambridge University Press . 2012.
4) Stephen Stoynoff. Oxford's language learning strategies: The Journal of the National Association for Bilingual Education.Volume 17, 1993.
5) Benson, P. (2001), Teaching and Researching Autonomy in Language Learning, Longman, London.Benson, P. (2007), "Autonomy in language teaching and learning", Language Teaching,

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

IMPORTANT FACTORS IN PROTECTING SOIL LAYERS IN CROP FIELDS FROM DEFLATION PROCESSES

Jora Suyunovich Rakhimov
Karshi Engineering and Economics Institute
E-mail: juraraximov_1964@mail.ru

ANNOTATION
Wind erosion, ie deflationary processes, cause great damage to agriculture, the economy and the environment. Therefore, the problem of protecting soils from wind erosion and dust storms is one of the key issues.

Keywords: reclamation, humus, water-physical properties, soil erosion, agrochemical properties, collector-ditches, agrochemicals, productivity, deflated soils.

INTRODUCTION

Increasing soil fertility in agriculture in many ways requires protecting them from deflationary processes and increasing their nutritional value.

Today, the lands of intensive use in agriculture of the Republic, ie mainly irrigated arable lands, amount to 4.28 million hectares. These arable lands constitute the invaluable reserve fund of the Republic, which produces more than 95% of the gross agricultural output.

Taking into account the following, the main tasks are to accelerate agricultural production in line with modern requirements, efficient use of reserve land resources, development of solutions to problems related to increasing the responsibility and economic efficiency of each hectare of irrigated land. It is recognized that the maintenance of soil fertility in the work carried out, the regular increase of tillage from year to year is an urgent task of agricultural specialists. Today, we are witnessing the allocation of large sums of money in the country to improve the reclamation of agricultural lands, increase soil fertility and improve reclamation systems, measures related to their use.

Some data show that today the soil layers are eroding, and good fertile soils are declining. Over the past many years, humanity has lost nearly a billion hectares of land (cities, settlements, buildings, busy roads, eroded, saline, evaporated, and so on). If we look at the data, 1.5 billion hectares of land around the planet are planted with agricultural crops.

If we take into account that two-thirds of the world's population lives in poverty and famine, today, given that per capita arable land is less than 10-20 years ago, increasing soil fertility will double or triple the productivity of agricultural crops. it is clear that reproduction should remain the main task of agriculture in the near future.

There are big problems in fulfilling the big task without rational use of lands in all respects, without drastically strengthening measures to protect the soil layer from various deflation processes and evaporations, and without implementing ways of saving land use related to agriculture. In order to legally ensure the reform of agriculture in the country, a number of laws and their primary drafts have been developed. It is noteworthy that the Land Code of the Republic of Uzbekistan, the Law on Land Cadastre and other laws aimed at the rational use and protection of land were adopted and unanimously approved.

Under the influence of various work activities of land users improperly organized, the soil layer is eroded and causes evaporation. It is very common in the world that erosion mammals have such an effect on the soil, which leads to damage to the fertile layers of the soil.

The problem of soil erosion protection is one of the most pressing issues for many countries in the arid climate of the world, including the territory of Uzbekistan. It is estimated that the area of eroded land in the region is about 2 million hectares, or more than 40% of the total area of arable land.

According to the data, there are more than 3 million hectares of arable land in the Republic of Uzbekistan. Of these, low-nutrient and semi-subsistence arable lands account for almost 1 million hectares, of which more than 70% of arable lands are subject to surface water erosion.

Perennial data show that up to 100-150 tons and more per hectare per year as a result of soil erosion under

the influence of irrigation erosion, and even up to 500 tons of soil on slopes with a slope of more than 5^0 is recognized. Along with the soil, 500-800 kg of humus, 100-120 kg of nitrogen, 75-100 kg of phosphorus per hectare per year, and in some places even more nutrients can be lost. It should be noted that deflation processes have a negative impact on the soil ecosystem, negatively affecting the amount of solar energy used in biomass and reducing it. As a result of deflationary processes, 30-50% or more of the absorbed solar energy is lost in phytomass, humus and soil microorganisms. the amount of damage can be imagined.

In recent years, secondary salinization and swamping of soils have been observed in irrigated agricultural areas. We are witnessing that almost 40 percent of the irrigated land on earth is saline to varying degrees. About 2.5 million hectares of irrigated lands in the country are now saline, mainly due to inefficient use of agricultural lands, excessive use of water, poor condition of the collector-drainage system, ie muddy flooding, regardless of soil properties and groundwater depth. others have witnessed some lands becoming swampy due to rising groundwater. Another major environmental problem is the intensification of land desertification, where 36-40% of the continents are now deserted, with 25 million hectares of land becoming desert every year.

Humus in the soil is an important factor in determining soil fertility, but in recent years, as a result of the process of soil degumification, humus in the Uzbek cotton-growing districts has decreased by 40-50%, resulting in a sharp deterioration of soil biological activity.

It is noteworthy that in agroecosystems it is necessary to increase the accumulation of organic matter in the soil, in order to raise the energy balance, the balance of substances to a positive level or to moderate it. For this purpose, it is planned to convert the formula of the soil-plant-bio-product system into the system of soil-plant-livestock-bio-products.

Another major problem is soil compaction. Soil compaction, difficulty in breathing, deterioration of water and heat regimes, leads to a decrease in the activity of microorganisms, resulting in a decrease in soil fertility. To solve this problem, it is necessary to reduce the entry of heavy machinery into the field, to regulate tillage, to minimize it. The data obtained showed that good plant development is recognized only when the soil density is up to 1.4 g / cm^3.

Particular attention should be paid to cluster structures and farm managers to conduct the following activities on irrigated lands.

One of the factors determining soil fertility in high yields of agricultural crops is its physical properties.

Only when all types of soils used have sufficient moisture and nutrients, optimal agrophysical and microbiological properties, agricultural crops will develop well and the ground will be created for a rich harvest. In determining the norms of irrigation to achieve high yields, it is important to take into account the types of soils, their water-physical properties, the depth of groundwater, the depth of the area provided by ditches. Irrigation of crops is carried out at the rate of 700 to 900-1100 m^3 when the soil moisture content of the field is 65-70%.

In order to prevent compaction of the subsoil in irrigated fields, it is necessary to widely introduce the technology of planting and minimal tillage. Experiments conducted by experts over the years show that during the growing season, the density of soil per cubic centimeter is 1.20-1.35 g / cm^3 in the buds and remains in optimal condition. Crops planted make good use of the necessary water, air and nutrients, nutrients are evenly distributed, and the biological and biochemical activity of the soil increases. Experiments show that the soil temperature is 2-5 degrees higher during the sowing period, and spring precipitation is less affected. If we look at the cross-section of crop fields, compared to those planted on flat ground, the seedlings germinate evenly, the soil in the bush is well moistened during irrigation, and water is absorbed 1.5-2 times faster. The growth, flowering, fruiting and ripening of a crop planted on a ridge is accelerated by 6-8 days compared to planting on a flat ground, with an average yield of 4-6 quintals per hectare.

One of the factors that negatively affects the production capacity of all types of soil layer and leads to a sharp decline in their high productivity is water and irrigation erosion. It is known from the results of the research that more intense irrigation erosion processes are observed in low mountains, dark and typical gray soils in the foothills and foothills. The area of irrigated eroded lands is 682.6 thousand hectares. Under irrigated agriculture, irrigated soil erosion is common in light-colored and typical gray soils, which is manifested in the manifestations of water erosion. Irrigation erosion in arable lands occurs as a result of

irrigation by pouring a lot of water on crops on sloping lands. When the slope of the crop area is $1.5\text{-}2^0$, the fertile soil surface begins to be washed away by water, and as the slope increases, the erosion process intensifies. The disadvantage is that as a result of the process of irrigation erosion, the humus layer of the soil and nutrients are washed away. As a result, the efficiency of agricultural use of our irrigated lands will decrease. In addition, some of the fertilizers and pesticides used to increase agricultural productivity accumulate in water bodies as a result of leaching from the soil, adversely affecting the environment.

Areas affected by wind erosion are widespread in the bald and light gray soils of Kasan district of Kashkadarya region. When a strong wind speed reaches 10-15 meters per second, a local or permanent erosion process occurs. While the process is almost imperceptible, it reduces soil fertility in crop fields, blowing up the top of it, causing the loss of the topsoil. In areas where deflation occurs, wind speed and soil particle size are key. In observations, at the first critical velocity of deflation processes, soil particles begin to move on the ground, in the second - jump, in the third - the particles fall to the ground, and finally at the fourth critical velocity, this movement stops.

In areas with strong winds, the application of complex measures against water and wind erosion, control of water flow and its velocity gives good results. Protecting soils from erosion, erosion, and deflation serves to increase the fertility of eroded, fallow, and pasture lands. Based on many years of data, it can be said that the various methods developed so far play an important role in preventing water, irrigation and wind erosion, as well as increasing soil fertility and crop yields.

To reduce the negative impact of irrigation erosion, the following measures should be taken:

-improvement of irrigation techniques. At the same time pay attention to irrigation norms depending on the size of the slope of the soil surface;

- the use of chemical anti-erosion chemicals for irrigation, the use of synthetic polymers, polycomplexes (K-4, K-9, TNM-1) and humic preparations (hydrolyzed lignin, ammonium coal, gummophos, humic acid) to continue the process. appropriate In this case, synthetic polymers create an artificial structure on the soil surface. The ability of soils with rich structure to withstand erosion is efficient and high, which is reflected in the scientific studies conducted.

The application of K-9 polymer at a rate of 20 kg / ha in irrigated ditches before irrigation increases the amount of water-resistant macro-aggregates in eroded soils, which simultaneously increases the water-physical and agrochemical properties of crops, increases the yield of cotton and other crops.

Application of biological agents against irrigation erosion. The use of biohumus, chlorella and blue-green algae from anti-erosion biological agents gives good results. These biological agents enrich the soil with organic matter and improve its structure, increase the type and number of beneficial microorganisms, increase the yield of cotton and other crops in the crop area.

I consider it an urgent task today to prevent deflation processes in arable lands with soil diversity and to maintain the high fertility and abundant yields of soils eroded by strong winds.

1. Planting new hedgerows in all areas where strong winds blow - the main force of the blowing wind hits these trees and the speed decreases, 3 and 4 row hedgerows, regardless of the number of rows, serve to protect the soil and crops from strong winds at equal distances. It is advisable to plant mulberry or fruit trees in the first row of slate, poplar and subsequent rows in the first row of Ikhota trees.

2. It is necessary to implement agro-technical measures (planting perennial grasses) against wind erosion.

3. The planting of horticultural crops, including horticultural crops, protects them from wind erosion until they reach adulthood. It is recommended to plant winter wheat, soybeans, rye, corn and other fast-growing crops to establish hedgerows.

Chemical methods of combating wind erosion are widely used. They are nerosine, latex, "K" and SSB type substances. SSB, nerosin and K-4 are effective in combating erosion.

Erosion and ravine protection measures during ravines are as follows: in irrigated areas, ravines are formed mainly as a result of improper drainage and neglect of wastewater, waterfalls in ravines. At the same time, if the first issue is to prevent the expansion of canyons, the second is to develop the technology of leveling the resulting canyon areas, increasing the productivity of flattened lands and their introduction into agricultural turnover.

Another reason for the decrease in soil fertility is the decrease in the amount of humus and nutrients in the soil over the years. The amount of humus, nitrogen, phosphorus, potassium, sulfur and a number of trace

elements in the soils of farms, which are replenished by organic and mineral fertilizers, replaces the nutrients lost from irrigated soils, such as cotton, cereals, fruits, vegetables and melons. on the contrary, the level of soil fertility in farms where their replacement is not covered is observed to decrease from year to year.

CONCLUSION

Research shows that the proper use of organic and mineral fertilizers plays an important role in agriculture to increase the level of fertility of irrigated soils and increase crop yields. With this in mind, special attention should be paid to the application of organic and mineral fertilizers. It is important to use non-traditional fertilizers (bentonite, glauconite, vermiculite, river deposits, coal and municipal wastes) and composts based on them, as well as phosphorite, phosphogypsum from raw materials and waste containing nutrients.

REFERENCES

1) Muhamedov T., Soil erosion disaster for agriculture, T., 1973;
2) Mukhitdinov K., Soil erosion in Uzbekistan and measures to combat it, T., 1976;
3) Mirzajonov et al., High yields in eroded soils, T., 1980.
4) Mirzajanov K.M. Vetrovaya erosion oroshaemyx pochv Uzbekistana¬na i borba s ney. Tashkent: FAN, 1973. - 234 p.
5) Eshimovich, O. T., & Isroilovich, I. A. (2019). Peculiarities of the accelerated methodology of elite seed production of early and medium-determined varieties of potato and their productivity in reproduction. International Journal of Innovative Technology and Exploring Engineering, 8(6), 699-702.
6) Muratov, O. K., Ismailov, A. I., & Ostonakulov, T. E. (2020). Isolation of Varieties and Heterotic Hybrids of Tomato with a Growing Season of 75-90 Days in Repeated Cultivation. International Journal of Progressive Sciences and Technologies, 22(2), 93-95.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

PARLIAMENTARY IMPROVEMENT OF THE REFORM SYSTEM OF UZBEKISTAN AT A NEW STAGE

Sherzodbek Khurramovich Zulfikorov
Associate Professor Of Military-Technical Institute National Guard Of The Republic Of Uzbekistan, Doctor Of Law (DSc), Republic Of Uzbekistan

ANNOTATION
The article examines such issues as the transformation of parliament into a real school of democracy, mechanisms for implementing the tasks set in the State Program of Parliamentary Activity, effective use of the institution of parliamentary control, increasing the efficiency of parliamentary activity in the field of law execution.

Keywords: Parliament, parliamentary oversight, parliamentary inquiry, deputy inquiry, e-government, factions, voters, laws

INTRODUCTION

Reforms in the field of democratization of state power and administration, which are regularly carried out in our country, consistently implement the constitutional principle of separation of powers, form an effective system of checks and balances between governments, strengthen the role of legislative and representative powers at the center and at the local level. serves as.

As stated in Article 11 of the Constitution of the Republic of Uzbekistan, "the system of state power of the Republic of Uzbekistan is based on the principle of separation of powers into legislative, executive and judicial branches." The essence of this principle is that these three functions of political power - the legislature, the executive and the judiciary - must be exercised independently of each other.

Improving the functioning of the parliament is an integral feature of building and developing a modern democratic state. Therefore, systemic reforms are being carried out in various democracies around the world to form ways and means of improving parliamentary activity, increase its efficiency, and harmonize the work of the government with the executive and judicial branches.

As noted in the report of the President of the Republic of Uzbekistan Sh.M.Mirziyoev on July 12, 2017 in a video conference with representatives of the Oliy Majlis, political parties, "our Parliament must become a real school of democracy, the initiator and main executor of reforms." Indeed, our parliament should be the main initiator and executor of the reforms being carried out under the motto of New Uzbekistan.

The state program for the implementation of the Action Strategy for the five priority areas of development of the Republic of Uzbekistan for 2017-2021 in the "Year of Youth Support and Health" sets some important tasks for the parliament.

In particular, strengthening cooperation between the Chambers of the Oliy Majlis and public administration and local authorities in the field of lawmaking and law enforcement. to appoint a deputy head responsible for cooperation with the chambers of the Oliy Majlis in the field of law enforcement, and to further strengthen the mechanisms of cooperation of this deputy head with the chambers of Parliament.

The Action Strategy for the five priority areas of development of the Republic of Uzbekistan, the implementation of the State Program adopted on its basis, increasing the prestige and role of parliament in society, the need to comply with laws, their implementation and regulation by law, Parliamentary control by the chambers of the Oliy Majlis of the Republic of Uzbekistan plays an important role in the regular harmonization with the requirements of life. Parliamentary oversight is also an important tool in increasing the accountability of officials and building a spirit of respect for the law in the minds of citizens.

As the President of the Republic of Uzbekistan Sh.M.Mirziyoev noted, “Who are the main assistants of the President in overseeing the activities of the executive authorities? Of course, you, dear deputies and senators. You should come to me and provide reasonable information about the shortcomings and shortcomings of the executive branch, raise the issue of improving the work of ministries and departments, and, if necessary, make proposals up to the dismissal of ministers and governors "[1].

Parliamentary control is an independent and legal, systematic representative body that ensures the observance of human and civil rights and freedoms, as well as the Constitution of the Republic of Uzbekistan by its chambers, committees and commissions, members of the executive branch and other state bodies and economic management bodies. and monitoring the implementation of constitutional and current laws.

The formation of a bicameral parliament in the Republic of Uzbekistan has had an impact on the legal status of their members. The adopted legal acts created a legal basis for the active participation of members of parliament, their activity in the legislative process, as well as as a representative of the people.

In his reports, the President of the Republic of Uzbekistan Sh.M.Mirziyoev pays special attention to the issues of unification and codification of laws. In his Address to the Oliy Majlis of the Republic of Uzbekistan on January 24, 2020, the issue of adoption of the Environmental Code was also highlighted [2].

The legal basis for the activities of a deputy of the Legislative Chamber of the Oliy Majlis is the Constitution of the Republic of Uzbekistan, the Constitutional Laws "On the Results of Referendums and Basic Principles of State Power", "On the Legislative Chamber of the Oliy Majlis", "On the Senate of the Oliy Majlis". Resolutions of the chambers of the Oliy Majlis of the Republic of Uzbekistan "On the Rules of Procedure of the Legislative Chamber of the Oliy Majlis of the Republic of Uzbekistan","On the status of a deputy of the Legislative Chamber and a member of the Senate of the Oliy Majlis of the Republic of Uzbekistan", "On recall of a deputy of a regional, district and city Kengash of People's Deputies, a deputy of the Legislative Chamber and a member of the Senate" "On the Rules of Procedure of the Legislative Chamber of the Oliy Majlis of the Republic of Uzbekistan", "On the Rules of Procedure of the Senate of the Oliy Majlis of the Republic of Uzbekistan", "On the Rules of Procedure of the Senate of the Oliy Majlis of the Republic of Uzbekistan" and other legislation.

These laws are close in content, essence, systematization. We want to systematize these laws and propose the development of a single "Parliamentary Code". This would have made it much more convenient for members of parliament in all respects, as well as for relevant civil servants and, most importantly, for our citizens. This was also our unique experience in the parliamentary field.

Nowadays, given the development of information technology and the fact that social networks have become a real database, it is important for the Oliy Majlis to organize the publication of responses to parliamentary inquiries on the official websites, which will raise parliamentary control to a new level.

In our opinion, given the effective use of social networks by our citizens in our country today, the placement of responses to parliamentary inquiries on special Internet networks will provide ample opportunity for public scrutiny.

In the 2007 Constitutional Law on the Renewal and Further Democratization of Public Administration and the Strengthening of the Role of Political Parties in the Modernization of the Country, factions that do not join the newly formed government's path and program or some of its directions may declare themselves opposition. If we look at the practice, we have hardly noticed that the factions that do not officially join the path and program of the newly formed government or some of its directions have declared themselves opposition.

Indeed, it would be expedient to enshrine in our relevant laws the following rights of party factions that have declared themselves in opposition to the government. These include: obtaining relevant information from the Cabinet of Ministers of the Republic of Uzbekistan on the basis of their requests and copies of documents received by them; Conduct regular monitoring of the activities of the Cabinet of Ministers, executive authorities and their officials; Development and control over the implementation of the draft State Budget of the Republic of Uzbekistan within the framework of parliamentary control; Preparation of alternative proposals to the program of activities of the Cabinet of Ministers of the Republic of Uzbekistan; Introduce an alternative bill to the bill introduced by the government; Development of an alternative project to the state program. In this way, shortcomings and deficiencies committed by the Government are constantly communicated to them on the basis of relevant information. In this sense, we think that the mechanism of this order should be clarified.

The current parliamentary inquiries by the deputies of the Legislative Chamber of the Oliy Majlis show that in most cases they are scattered on various issues, and in some cases sent to different ministries and departments on the same issue. At present, the lack of a clear legal mechanism in this regard requires

improving the procedure for sending a request of a deputy of the Legislative Chamber to officials of state and economic administration.

Therefore, it would be expedient if the current legislation establishes the procedure for submitting a request of a deputy of the Legislative Chamber of the Oliy Majlis for consideration at a meeting of a faction of a political party and sending it after approval by a majority of faction members. Such an experience can be observed in Germany and Georgia. Of course, this rule may, in part, limit the procedure for exercising the right of deputies to ask questions. But we should not ignore the issues of content, quality and results.

The Office of the Legislative Chamber of the Oliy Majlis will also have to pay special attention to the registration, generalization and constant monitoring of parliamentary inquiries. If we pay attention to the analysis of inquiries sent by deputies of the Legislative Chamber of the Oliy Majlis, the study conducted by deputies in 2015-2019, during meetings with voters in constituencies and to address pressing issues raised by citizens in public appeals to public officials 856 parliamentary inquiries were sent. As a result, many issues that plague the population have been resolved to varying degrees. Of these, in 2019 alone, 304 parliamentary inquiries were sent (in 2016 - 26, in 2017 - 319, in 2018 - 207) [4].

At the end of 2020, the number of parliamentary inquiries sent by deputies of the Legislative Chamber of the Oliy Majlis amounted to 338 [5]

Article 26 of the Law of the Republic of Uzbekistan "On local government" repeals resolutions of regional, district and city Kengashes of People's Deputies that contradict the Constitution and laws of the Republic of Uzbekistan, decrees, resolutions and orders of the President of the Republic of Uzbekistan. is defined as.

In our current legislation, the relationship between the Legislative Chamber of the Oliy Majlis and local councils is almost not regulated. To this end, it is expedient to strengthen the relationship between the factions of political parties in the Legislative Chamber of the Oliy Majlis and party groups in local councils and identify areas of cooperation in the relevant regulations.

In the State Program for the implementation of the Action Strategy for the five priority areas of development of the Republic of Uzbekistan in 2017-2021 in the "Year of Science, Enlightenment and Digital Economy" in the Legislative Chamber and the Senate of the Oliy Majlis was defined as a task [6].

The effective use of these forms of parliamentary control on the basis of a modern approach directly contributes to the solution of many existing problems. In his speeches on the occasion of the 26th anniversary of the adoption of the Constitution, the President of the Republic of Uzbekistan paid special attention to "... the need to strengthen the activities of parliament to make important decisions and monitor the implementation of laws" [7].

Indeed, in the current process of democratization, the parliament should not only adopt laws and decisions, but also pay special attention to their implementation on the ground. Indeed, the adoption of laws is half the battle, and the issue of enforcement should be at the forefront. It should be noted that based on the proposals and comments expressed in many reports of the President, the chambers of the Oliy Majlis pay special attention to the implementation of laws, based on sources in the field of parliamentary control, to amend Article 76 of the Constitution of Uzbekistan. We would like to make the following proposal: "The Oliy Majlis of the Republic of Uzbekistan is the highest state representative body and exercises legislative power and parliamentary control over the implementation of laws." Indeed, whether parliament has passed laws, the function of overseeing the implementation of those laws should also be its primary function.

The State Program on the implementation of the Action Strategy for the five priority areas of development of the Republic of Uzbekistan for 2017-2021 in the "Year of Science, Enlightenment and Digital Economy" the task of introducing a rating system, ie the development of an electronic system for evaluating the activities of deputies in the field of lawmaking and parliamentary oversight [8].

This requires deputies to work harder on themselves, increasing their responsibility and accountability to the people and parliament. In addition, it directly contributes to the formation of a modern approach to parliamentary activities, increasing labor productivity.

In cases when decisions of an election commission are declared invalid, the election commission that adopted them shall be obliged to prove the circumstances on which these decisions were based.

Therefore, in order to study corruption, conflicts of interest, it is necessary to analyze a number of official crimes, as well as the areas of service of officials.

One of the urgent tasks in improving the professional activity of the parliament is to improve the systemic skills of its members. Seminars - trainings, meetings with parliamentary delegations of foreign countries, exchange of experience should be organized in a systematic way. It would also be useful to publish the necessary scientific literature for them.

In short, the institution of parliamentary representation, as a separate independent branch of state power, must demonstrate in practice that it is the initiator and main executor of reforms in society and public administration.

REFERENCES

1) Mirziyoev Sh.M. We will resolutely continue our path of national development and raise it to a new level. - T .: “Uzbekistan” NMIU, 2018. - P.551 - 552.
2) Address of the President of the Republic of Uzbekistan Sh.M.Mirziyoev to the Oliy Majlis of January 24, 2020. https://www.prezident.uz/uz/lists/view/3324.
3) The Constitutional Law "On modernization and further democratization of public administration and strengthening the role of political parties in the modernization of the country." National Database of Legislation, 05.09.2019, No. 03/19/563/3685.
4) 6. Information on the activities of the Legislative Chamber of the Oliy Majlis of the Republic of Uzbekistan of the third convocation (2019). http://parliament.gov.uz/uz/info/analytical-reports/.
5) 7. Information on the activities of the Legislative Chamber of the Oliy Majlis of the Republic of Uzbekistan in 2020. http://parliament.gov.uz/uz/info/analytical-reports/.
6) 8. State Program for the implementation of the Action Strategy for the five priority areas of development of the Republic of Uzbekistan for 2017-2021 in the "Year of Science, Enlightenment and Digital Economy" National database of legislation - www.lex.uz, 03.03.2020, 06 / 20/5953/0246-son).
7) 9. Mirziyoev Sh.M. The work of a nation with a great intention will also be great, its life will be bright and its future will be prosperous. - T .: “Uzbekistan” NMIU, 2019. - P.80-81.
8) 10. State Program for the implementation of the Action Strategy on the five priority areas of development of the Republic of Uzbekistan for 2017-2021 in the "Year of Science, Enlightenment and Digital Economy" National database of legislation - www.lex.uz, 03.03.2020 y., 06/20/5953/0246-son”
9) 11. Tolibjonovich, M. T., & Toxirjonovich, S. D. (2021). The Institutional Mechanisms Of The Development Of The Electoral System In Uzbekistan. European Journal of Molecular & Clinical Medicine, 7(8), 4378-4384.
10) 12. Odiljon, G. (2021). Stages of combating corruption in the Republic of Uzbekistan. Middle European Scientific Bulletin, 8.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

CONDUCTING RESEARCH ON PRODUCTION OF LIQUEFIED HYDROCARBONS FROM PETROLEUM GASES

Yuldashev Toshmurza Rakhmanovich
Karshi Engineering and Economic Institute

Allaqulov Panji Egamberdiyevich
Karshi Engineering and Economic Institute

Kholbozorov Ilkhom Raimovich
Karshi Engineering and Economic Institute
Email: ilxomtmj@gmail.com

Annotation
The composition of associated gas differs greatly from each other when studied in the context of fields and depends on the type of fields and development conditions, i-liquefied gases are obtained not only from satellite gases, but also from gas condensate fields.

Keywords: associated gas, methane, ethane and partially propane, butane, isobutane, condensate.

INTRODUCTION

When oil is stabilized, light hydrocarbons - satellite gases - are released from its composition. Associated gas is the most expensive raw material for the production of liquefied petroleum gas.

Oil from the well enters the separator along with oily gas. The greasy gas in the oil is separated and discharged through the nozzle above, and the oil is directed to the reservoir through the nozzle in the middle. The petroleum gas is directed through a gas separator to the processing plant, where the slightly compressed gases are separated by an absorption method. Then the compressed gas is separated from the absorbents and fed to a separator for separation of individual hydrocarbons into fractions.

In addition to separating liquefied gas from associated gas by absorption, it is also separated using low temperature technology. When processing associated gases at gas processing plants from dry gas and its composition, methane, ethane and partially propane, ethane fractions and liquefied gases: propane, butane, isobutane and components of autobenzene-stable gaseous gasoline are obtained.

Below are data comparing the associated composition of gas from oil fields with natural gas from gas and gas condensate fields (Table 1).

The composition of associated gas differs greatly from each other when studied in the context of fields and depends on the type of fields and development conditions, i-liquefied gases are obtained not only from satellite gases, but also from gas condensate fields. When processing gases at gas condensate fields under high pressure (100-600 kgf / cm^2), some oil components turn into liquid. When the pressure value drops to 40-80 kgf / cm^2, condensate is released from the gas as a result of condensation. This condensate contains a heavy hydrocarbon component of gasoline and liquefied gases.

It is known from the oil preparation process that when the oil rises in the elevators, part of the auxiliary gas remains in the oil in liquid form. The amount of dissolved gas and its composition depend on the mode, pressure and temperature of the elevator.

The gases contained in the oil are sent to the oilfield plants for re-stabilization, and the remaining methane and butane fractions are additionally recovered. More than half of the liquefied petroleum gas is produced during processing at oil refineries. The composition of the gas obtained as a result of oil refining at the refinery will have the following classification for each process (Table 1).

During thermal cracking, a large amount of oliphenes is obtained. The catalytic process produces large amounts of isobutanes, while the pyrolysis process produces large amounts of ethylene and hydrogen.

The gas fractionation apparatus includes gas, propane-propylene, butane-butylene fractions of gas components extracted from plants from oil.

Consequently, the composition of the LPG depends on the production method. Satellite gases contain boundary hydrocarbons (propane-butane) when processed at gas processing plants, and in the latter case, contain a small amount of boundary hydrocarbons (propane-butane).

Table 1 The average composition of satellite gases in several fields was compared with data from gas and gas condensate fields.

№	A place	Depth of field	Component depth								condensates	Relative
			CH_4	C_2H_6	C_3H_8	C_4H_{10}	C_5+ High	CO_2	H_2+ inert gases	H_2S		
I. Gas condensate fields												
1.	Утабулок	2185	88,0	1,4	0,37	0,15	0,21	4,7	0,1	4,9	11,6	
2	Зеварда	2610	90	4,5						0,09	78,8	
3	Шутан	3100	89,0	4,1	0,93	0,37	1,03	2,72	0,72	0,08	58	
4	Одамгош	1750	78,8	8,1	3,7	1,9	3,4	1,8	2,2	0,28	163	
5	Газли	97,2	0,32	0,9	0,47	0,13	2,3279	-	«	«	«	
II. Oil condensate fields												
6	Южный Кемачи	2600	81,5	10,31	3,26	0,73	16	3,25	0,56	0,04	43	
7	Умид	2600	90.87	3.62	0.85	0.32	0.52	3.2	0.55	0.07	56	
III. Oil fields												
8	Северный Утабулок	4300	88.0	3.910	0.91	0.6	2.327	3.38	0.7	0.04	78	-
9	Южный Тошли	1100	59.9	18.1	10.53	4.95	3.58	1.22	2.2	-	-	-
10	Кукдумолок	2950	78.31	5.0	1.97	0.73	9.48	3.7	0.37	0.08	600	
11	Крук	2160	84.58	5.96	1.18	0.24	0.396	2.48	0.17	0.13	73	

When processing associated gases at gas processing plants from dry gas and its composition, methane, ethane and partially propane, ethane fractions and liquefied gases: propane, butane, isobutane and components of autobenzene-stable gaseous gasoline are obtained.

The amount of dissolved gas and its composition depends on the operating mode of the elevator, depends on pressure and temperature. More than half of the liquefied petroleum gas is produced during processing at oil refineries.

The composition of gas obtained during processing at the Fergana refinery will have the following classification for each process (Table 2).

This technology is simple and inexpensive. The separation of C_3 + fractions increases with increasing pressure difference between the inlet and outlet gases.

The disadvantages of this device are the contamination of products with methanol and the complexity of the disposal of methanol water. This scheme differs from the previous one in that when drying products, the gas is dried using solid dryers and does not contain methanol (Fig.1).

Table 2 Obtained on the basis of various technologies in the process of oil refining. liquefied gas content in% by mass

Components	Thermic cracking		Catalytic cracking		Contact coking		Catalytic reforming	Gasoil and catalytic pyrolysis
	Blend of tar and gas oil	Fuel oil	Heavy raw materials	Light raw materials	No destruction	With destruction		
H_2	0,4	0,2	1,69	1,4	0,275	1,78	10,8	3,4
CH_4	14,5	2,8	8,2	2,8	20,0	29	3,66	49,70
C_2H_4	1,9	3,3	2,52	1,2	8,0	7,1	-	23,0
C_2H_6	19,8	3,7	8,4	4,6	15,0	16,3	12,4	19,20
C_3H_6	9,7	4,7	16,90	8,4	8,7	11,1	-	2,56

C_3H_6	7,7	13,0	15,10	20,0	12,05	16,7	27,90	1,28
C_3H_8	1,9	15,5	2,52	9,1	3,3	1,3	-	0,425
$i-C_4H_8$	7,5	-	14,3	-	9,68	5,78	-	-
$i-C_4H_{10}$	42,2	42,2	21,0	36,0	3,12	4,02	22,5	0,425
C_4H_{10}	14,5	14,5	9,3	16,5	6,98	6,30	225	-

Production of liquefied petroleum gases at refineries. According to this technological scheme, it is planned to modernize the Fergana refinery and supply high-quality fuel products today.
The crude oil refining process begins with fraction distillation and this technology differs from one plant to another. Oil is first heated in a tubular furnace, then soluble fractions of fuel oil and bitumen are separated from it, which are pumped for further separation into fractions (Fig. 1).

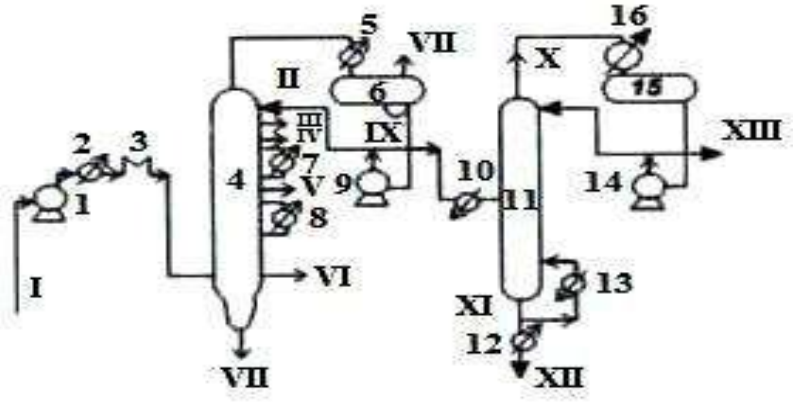


Figure 1. Simplified scheme of utilization of liquefied petroleum gas:
1,9,14- pumps; 2,5,7,8,10,12,13,16- heat exchangers; 3- oven; 4- pipe still; 5 top condenser; 14 debutanizer; 15- distillation manifold; I- raw oil; II reverse product direction; III, IX- heavy and light distillate; IV- kerosene; V, VI - light and heavy gas oil; VII- dry gas; X, XI, respectively C1 and C5; XII- light primary distillate; XIII- Liquefied oil refining direction.

CONCLUSION

Thus, it is necessary to start work on the production of high-quality synthetic motor fuel using satellite flare gases, oily natural gas from gas condensate fields, stabilized oil and refined petroleum gases as the main source of liquefied petroleum gas production.

REFERENCES

1) Шурупов С., Кессель И. “ Переработка природного газа в синтетические жидкие углеводороды” (СЖУ). Журнал Автогазозаправочный комплекс + Альтернативные топливо» №1 (13) 2004 г., с. 49-51.
2) Рачевский Б.С. «Сжиженные углеводородные газы», Москва, Изд-во «Нефтьь и газ», 2009.-640 с., ил.
3) Чириков К.Ю. « Использование сжиженного природного газа на транспорте» ЦИНТИХИМНЕФТЕМАШ, Москва,1987 г., 48 стр.
4) Климова Г.Н., Литвак В.В., Яворский М.И. Перспективы энергетического использования попутного нефтьяного газа //Промышленная энергетика, 2002, №8. с. 2-4.
5) 5.Бекиров Т.М. Промысловая и заводская обработка природных и нефтяных газов. М.: Недра, 1980.-193 с.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

FOUNDATION OF THE THIRD RENAISSANCE

Madumarov Talantbek Tolibjonovich
Doctor of Law, Professor Dean of the Faculty of
Socio-Economics of Andijan State University
E-mail: talantbek4848@mail.ru

Alisherova Zarnigor Bakhromjon kizi
Faculty of Philology, 2nd year Student of
Russian Language in Philology and Language Teaching
E-mail: alisherova.zarnigor@bk.ru

ANNOTATION
The paper will discuss the basics of pedagogical thought of the Renaissance, the characteristics of this phenomenon, the main representatives and the contribution to the development of pedagogical thought. Influence of the concept of humanism of the Renaissance on modern pedagogy.

KEYWORDS: education, humanists, universal education, mutual understanding.

INTRODUCTION

Nowadays, the question of the need for pedagogical adjustment of personal ideals arises sharply, in this regard, we want to turn to the history of the era of the Renaissance - at a time when pedagogical thought was closely connected with the development of science, art and literature. The relevance of the above problem lies in the fact that the Renaissance is the boundary between the Middle Ages and modern times, a turning point characterized by the emergence of something new. The history of the Renaissance begins in the XIV century. And ends at the beginning of the 17th century. This era is a stage with many cultural transformations, for example, the widespread dissemination of architecture and visual arts. But also the implementation of the pedagogical idea of humanism is taking place. The teachers of that time advocated that mathematics, mechanics, geography and natural science should be actively studied in schools. Renaissance humanists believed that a person is awarded with divine reason, is able to act independently, without the tutelage of the church. For children of noble birth, teachers demanded a complete aesthetic education, mastery of Latin and Greek, necessary for the study of classical literary monuments. They treated children with respect, opposed strict discipline, tried to awaken interest in the subject being studied. During the Renaissance, educators put forward many ideas and concepts. They used different methods in education, for example, conversation or play, that is, something that was not characteristic of teaching before the XIV century, and as a result, new basic views of people developed on teaching children in schools. Thus, the Czech humanist educator Jan Amos Komensky proposed universal education. He viewed education as a prerequisite for a fair and humane relationship between an adult and a child, highlighting certain principles of teaching, the first of which was the principle of consciousness and activity. This principle included a deep conscious assimilation of knowledge, that is, the child himself “absorbed” the information he needed and, with the help of interesting creative activity, learned it. The second principle is the principle of clarity: here a lot depended on the teacher. By his example, by his actions, he showed the student the basis of any subject in order to interest him in learning. The next was the principle of gradual and systematic knowledge: a certain schedule was drawn up for training, which included the distribution of the child by age and level of knowledge, and any topics in the learning process were studied gradually. And the last, fourth principle was exercise and the solid mastery of knowledge and skills. It consisted of repetition and consolidation of the studied material with the help of tasks and exercises. The outstanding Italian teacher Vittorino da Feltre opened a school called the House of Joy. So he tried to say that in his school, education will bring not only benefits, but also pleasure in learning. In this school, there were frequent alternations of activity: initially, the children were engaged in intellectual development, then they practiced physical exercises. The training was based on visual aids and practical works. Vittorino da Feltre sought to interest children in learning based on their individual characteristics.

For the first time he began to use games in school as a method of teaching, thereby his school played a large role in the development of humanistic ideas and education. The Netherlands during the Renaissance was of great importance in the development of culture, not only due to the creation of such genres of painting as still life and landscape, but also due to the development of humanistic ideas, having a close connection with Italy. The largest representative of the culture of that time was the Dutch humanist Erasmus of Rotterdam, whose works were very popular, and his contribution to the development of pedagogy turned out to be as significant as his contribution to the development of literature. Erasmus of Rotterdam had his own basic ideas in relation to adults and children and to their education. To begin with, he believed that people are not born, but are made through education. Rotterdam tried to convey to society that, thanks to education, a person creates in himself a personality that has humane characteristics. He also said that a person has free will, and only therefore his moral and legal responsibility is possible. The point is that a person always has and should have a choice. He is able to take responsibility for his actions, be it punishment or reward. Rotterdam opposed all violence and always put the protection of the child above all else, pointing out that children must be properly raised from birth, and it is better if parents do it. But if they cannot do it themselves, then they must find a good teacher. Erasmus of Rotterdam has always prioritized a healthy lifestyle and constant physical activity so that people maintain their health. The teacher has always said that the child has the right to a correct upbringing, as well as the fact that the inner world of the child cannot be treated cruelly. He pointed out that the education of children should be based on mutual understanding and respect. Thus, in the Renaissance, universities were opened, new directions of scientific research and corresponding new academic disciplines appeared, and art was developing. This era was marked by the emergence of bright thinkers and educators-humanists, which influenced the development of education in general. Renaissance pedagogical ideas directly played a large role in modern education. Almost all current institutions use the ideas and methods of teaching teachers of the Renaissance.

The Renaissance (Renaissance) is the name of the period in the history of culture that replaced the Middle Ages and was marked by humanism, the flourishing of the arts. The concept of "Renaissance" (Renaissance), which appeared in Vasari (16th century) and spread for a whole epoch by scientists of the 19th century, primarily J. Burkhart, reflected the idea of the historical development of mankind that arose in the works of humanists.

Renaissance is a culturological term, it is coordinated with the concept of "the era of primitive accumulation" used in historical science (according to Karl Marx, as an intermediate stage between the feudal and capitalist formations).

In cases when decisions of an election commission are declared invalid, the election commission that adopted them shall be obliged to prove the circumstances on which these decisions were based.

Therefore, in order to study corruption, conflicts of interest, it is necessary to analyze a number of official crimes, as well as the areas of service of officials.

This time includes such grandiose transformations as the transition from the hegemony of rural to the hegemony of urban culture, which led to the flourishing of cities (Florence in Italy, London in England, Paris in France, etc.); the formation of large state gifts and nations; the formation of national languages and national cultures. A new cultural ideal is emerging - “universal man”, realizing himself in various spheres of activity, revealing a universal approach to mastering the world. The brightest example of the realization of this ideal is Leonardo da Vinci, who was an artist ("La Gioconda" and others), sculptor, architect, musician, physician, engineer (projects of a submarine, helicopter, tank, encrypted and re-created by him only centuries later). Other examples: Michelangelo Buonarotti and Lorenzo the Magnificent in Italy, F. Rabelais and M. Montaigne in France, T. More and F. Bacon in England and many others. The largest cultural figures of that time are rightfully called the "titans" of the Renaissance.

Great geographical discoveries, the travels of Vasco da Gama, Columbus, Magellan, Drake in a short historical period of half- changed the perception of Europeans about the scale of the Earth. Travels required the creation of a new astronomy, and N. Copernicus put forward the heliocentric system of the universe as opposed to the geocentric system of Ptolemy. The discovery of direct perspective in painting is associated with the process of cognition of space: the vertical concept of the world is replaced by a horizontal concept associated with a priority interest in earthly spaces, and not in heavenly heights.

In the XIV century. in Italy, the ideology of the Renaissance is taking shape - humanism, the first representative of which is F. Petrarch. Humanists, in search of support for a new view of the world, turn to Antiquity, study the works of ancient thinkers (that is, they revive Antiquity). But it is not just a return to old values that is taking place. Humanism is characterized by a combination of ancient anthropocentrism ("man is the measure of all things"), which applied only to free people, with the medieval idea of equality arising from theocentrism ("all people are equal before God"). The largest representatives of the Renaissance in Italy are humanists, poets, writers Petrarca, Boccaccio, Mazuccio, Poggio, Pulci, Boyardo, Castiglione, Bempo, Ariosto, Trissi no, Aretino, Tasso; painters, sculptors, architects Brunelleschi, Alberti, Donatello, Verrocchio, Masaccio, Uccello, Mantegna, Botticelli, Perugino, Leonardo da Vinci, Raphael, Michelangelo, Giorgione, Titian, Correggio, Tintoretto, Caravaggio and others. the development of new genres of secular and spiritual culture (in poetry - a sonnet, a Renaissance heroic and comic poem; in prose - a short story, a cycle of short stories; in drama - the revival of tragedy and the traditions of ancient comedy; the creation of a new type of theater; in painting - a secular portrait, landscape; in architecture - the "Palladian style" of the palace, the Renaissance forms of the temple, embodied in the buildings of the Vatican and the temples of Florence, in sculpture - the revival of "round" sculpture as opposed to medieval statues built into the niches of cathedrals, etc.). The research and translation of ancient monuments of philosophy, history, literature (publication of the works of Plato, Aristotle, Plutarch, etc.) were of great importance. Petrarch and Boccaccio (like Dante before them) laid the foundations of the Italian literary language. The so-called Northern Renaissance includes the leader of the humanists Erasmus of Rotterdam, the founder of Protestantism Martin Luther, artists Jan van Eyck, Memling, Bosch, Bruegel the Elder, Durer, Cranach the Elder, Altdorfer, Holbein the Younger, etc. The new translation of the Bible into Latin by Erasmus of Rotterdam, which laid the foundations for a critical analysis of sacred texts, and also the translation of the Bible into German by M. Luther, which laid the foundation for the formation of the German literary language, played a fundamental role in the activities of the humanists of the Northern Renaissance (Netherlands, Germany). The greatest achievement of the Northern Renaissance was Gutenberg's invention of printing, which led to the rapid development of science, literature, education, literary languages, the entire Western culture appeared as "Gutenberg's galaxy" (M. McLuhan's term). In France, the humanists and writers Rabelais, P. Ronsard and other representatives of the Pleiades, Montaigne, the painter Clouet, the sculptor Goujon and others created their own national version of the Renaissance. In the novel by Rabelais "Gargantua and Pantagruel" found the most vivid expression of "folk laughter culture" (the term of MM Bakhtin), which existed in the Middle Ages almost exclusively in oral form. The influence of the Italian Renaissance was reflected in the architecture of the royal castles in Fontainebleau, Blois and others. In England, the activities of the so-called university minds are of exceptional importance (T. More, in his novel Utopia who embodied one of the first communist theories and laid the foundations of the genre of utopia, and others), the creation of Renaissance drama and theater (C. Marlowe et al.), which prepared one of the greatest conquests of the Renaissance - the work of Shakespeare. English versions of the sonnet, tragedy, comedy appeared, the genre of historical chronicle was born. Shakespeare, who worked in all these genres, created a whole gallery of “eternal images” of world art culture (Romeo and Juliet, Hamlet, Ophelia, Othello, Iago, Desdemona, King Lear, Macbeth, Lady Macbeth, etc.). In Spain, the heights of the Renaissance were M. Cervantes' novel "Don Quixote", painting by El Greco. Cervantes laid the foundations of the New European novel, created the "eternal images" of Don Quixote, Sancho Panza, Dulcinea To-bos. The ideas of the Renaissance influenced the rulers (Lorenzo Medici the Magnificent, Francis I, Henry VIII, Elizabeth Tudor, Pope Julius II, etc.), philosophers (M. Ficino, D. Bruno, F. Bacon), scientists (Copernicus, Kepler, Vesalius). AF Losev defined the philosophical basis of the Renaissance as the development of Neoplatonism, although not all scientists share this point of view. In the works of Shakespeare and other representatives of the Renaissance culture, the philosophical concept of the Single chain of being dominates - the ascent of all things from the stone (the most material, non-spiritual) to God (the most spiritual, intangible), where a person turns out to be a key link connecting the lower world with the higher, material (body) with the spiritual (soul). Hierarchy (ascent from the lowest to the highest) is present in every link of the Unified chain of being, the violation of the hierarchy at any link is reflected in the entire chain, leads to wars, misfortunes, cataclysms, which can be overcome only by restoring the hierarchical order. The

development of philosophy, experimental science, printing leads to the flourishing of university education. Universities that emerged in the Middle Ages are becoming authoritative scientific centers - the first European university in Bologna (Italy), founded in 1088; University of Oxford (England, 1167), since 1218 - the University of Salamanca (Spain, 1218), since 1222 - the Universities of Padua and Naples (Italy, respectively 1222 and 1224), Sorbonne (Paris, France, 1253), University of Cambridge (England, 1284). New universities appear and develop rapidly: in 1303 a university was opened in Rome, in 1338 in Pisa, in 1361 in Pavia, in 1391 in Ferrara (Italy). In 1348 Charles University was opened (Prague, Czech Republic), in 1364 - Jagiellons University (Krakow, Poland), in 1386 - in Heidelberg, in 1388 - in Cologne, in 1407 - in Leipzig (Germany), etc. Universities arose and developed on the basis of combining general education with special education. If in medieval schools, after the initial study of reading, writing, counting, chanting and memorizing sacred texts and prayers in Latin followed by the study of the "seven liberal arts" - first the trivium (Latin grammar, rhetoric and dialectics), then the quadrivium (arithmetic, geometry, astronomy and music theory), then universities arose from professionally oriented schools (legal, theological, medical), when the stage of quadrivium, that is, a broad general education, was added to them from below.

REFERENCES

1) Braudel F. Material civilization, economics and capitalism, XV-XVIII centuries. : in 3 t. M., 1986-1992;
2) Batkin L. M. Italian Renaissance in search of individuality. M., 1989; Renaissance music: 15th century. M., 1989;
3) Bakhtin M. M. Creativity of Francois Rabelais and the folk culture of the Middle Ages and the Renaissance. M., 1990;
4) Burkhart J. The culture of Italy during the Renaissance. M., 1996; Purishev BI Literature of the Renaissance. M., 1996;
5) Bitsilli P. M. Place of the Renaissance in the history of culture. SPb., 1996; Eston M. Renaissance. M., 1997; World History: The Beginning of the Renaissance. M., 2000;
6) Shaitanov I. O. History of Foreign Literature: The Renaissance: in 2 volumes. M., 2001; Culturology: History of World Culture / ed.
7) T.F. Kuznetsova. 3rd ed. M., 2007; Lukov Val. A. Eternal images as constants of thesauri of world culture / Val. A. Lukov, Vl. A. Lukov // Information humanitarian portal “Knowledge. Understanding. Skill". 2008. No9 - Complex Research: Thesaurus Analysis of World Culture. URL: http://www.zpu-journal.ru/ezpu/
8) Tolibjonovich, M. T., & Toxirjonovich, S. D. (2021). The Institutional Mechanisms Of The Development Of The Electoral System In Uzbekistan. European Journal of Molecular & Clinical Medicine, 7(8), 4378-4384.
9) Odiljon, G. (2021). Stages of combating corruption in the Republic of Uzbekistan. Middle European Scientific Bulletin, 8.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

THEORETICAL AND LEGAL ASPECTS OF BUILDING A DEMOCRATIC LEGAL STATE AND CIVIL SOCIETY IN UZBEKISTAN

G'ulomjonov Odiljon Raximjon o'g'li
Andijan State University 3rd year Student of the Basics of National Ideology and Legal Education
E-mail: gulomjonovandu@gmail.com, Orchid: 0000-0002-7212-7540

ANNOTATION
In this article analyzed definition of a legal state and civil society is. The theoretical and legal aspects of the formation of civil society in the Republic of Uzbekistan are considered. The authors conclude that it is necessary to form a civil society and a legal state considering the experience of the world community.

Keywords: society, state, civil society, rule of law state, democracy.

INTRODUCTION

In recent years, many different works, brochures, articles have been published in the Republic of Uzbekistan based on opinions and reflections on democracy, civil society, and the rule of law. There are views that many of the scientific studies have exactly the same meaning and meaning, in some you can also observe cases of their comparison. We are witnessing that many, understanding the concepts of the state and society in different ways, cannot distinguish the connection between the rule of law and civil society.

Thus, F. Musaev writes that the existing civil society is a means leading to an ideal civil society. However, this does not mean that the rule of law is formed first, and then an ideal civil society. The state and society complement each other dialectically. The structure of the rule of law is based on the same conditions and theories on which civil society is formed. Speaking about civil society, it should be noted that the concept of "citizen" refers to the state and means that members of society, that is, people, have their own rights and responsibilities. Society, passing to the union of this or that state, receives the form of a state society, that is, the form of a civil society.

In the views of some researchers reflecting on the modern theory of state and law, we see that the concepts of "state" and "government bodies" do not differ, but are used as the essence of the state. For example, the state of Uzbekistan or the Republic of Uzbekistan in a broad sense clearly means that the people living on the territory of Uzbekistan can freely have their own independent state on the basis of a referendum. The very decision to build a democratic rule-of-law state on the basis of an agreement shows that at the present time, Uzbekistan, in contrast to the previous state and society, in terms of quality, has moved on to building a civil society. In this sense, we believe that the theoretical and legal foundations of civil society and the rule of law are the same. It must be added that society has always been the basis of the state, that is, society, existing before the state, is subsequently formed as a definite concrete state. By saying "society" we can define that society as a whole can exist with or without a state. And civil society refers only to the state society.

A primitive society is a society that has not yet built and does not know the state and law. Relationships in such a society are formed on the basis of the natural rules of kinship. And in a state society, basic relations are governed by positive laws. If in a primitive society people differ in the degree of kinship and relationship to a particular tribe, clan, then in a state society they, regardless of their clan, are determined by citizenship.

For example, speaking the Republic of Uzbekistan or Uzbekistan, first of all, one understands a single integral state of Uzbekistan. For its administration, the citizens of the Republic of Uzbekistan temporarily organize branches of state power: the Oliy Majlis (parliament), the government and the court. It is this social government (public authority) that can be a weapon or a means. In the issue of relations between voters and the elected, or rather the relationship between the people and the apparatus organized for government, the essence of government and other directions of power is determined. It should also be noted that in civil law literature, scientific works often use such a concept as "division of power". In our opinion, power belongs entirely to the people. For example, as stated in Art. 7 of the Constitution of the Republic of

Uzbekistan, the people are the source of any power. Since this is so, power is inseparable, eternal. It would be correct to speak only about its directions and the distribution of responsibilities of state power.

In a state society, in particular in the Republic of Uzbekistan, state bodies, all non-state organizations are formed within the state of Uzbekistan and carry out their activities based on the Constitution and laws. On the territory of the Republic of Uzbekistan, not a single state or non-governmental organization "can be formed outside the state, in this sense we consider it correct to use the expression" non-governmental "instead of the expression" non-state ". All non-governmental organizations: parties, religions, public associations are formed and operate on the territory of the state. If this is so, then their programs, statutes will be within the limits of the Constitution and laws adopted in this state. There cannot be a single non-governmental organization that goes beyond their framework. It is in this sense that the freedom of every person and organization that exists in society is limited by the Constitution. The essence of these restrictions is determined by common interests.

The structure of a legal state and civil society in Uzbekistan is primarily based on the Constitution. Islam Karimov stresses: "The constitution is a new document in its essence, philosophy, idea. It contains nothing of the communist ideology, classiness, partisanship. We have promoted the greatest idea among all world values - man, and on this basis we tried to find a fair legal solution between the relationship "citizen - society - state" "[6]. Regardless of the above party affiliation, class, religion, in the state, society, a citizen is revered and is the true owner of the state, society. The main goal of every political, social organization and movement formed in the state and society is the protection of the legal rights and freedoms of a person-citizen. In this sense, a tool, a means of uniting, bringing closer to each other the concepts of "man", "society", "state" - this is the right, that is, the Constitution and laws of the country. And that is why they cannot be separated or compared to each other. They complement each other on a single legal basis. There is no society without a person. A state union will not arise without society. And without a person, without a state, there is no civil society.

One of the most difficult and delicate is the question of the role of laws, in particular the Constitution, in building the rule of law and civil society in the country. Professor at the University of Manchester, USA, political scientist J. Lane expresses the following thoughts: "based on the degree of use of immunities and inertia by the state, one can distinguish between weak and strong constitutionalism. A strong constitutional state is characterized by many immunities, primarily in the field of private property. In addition, such a state has a constitution institutionalized as a lex superior, which is difficult to change and which is protected by strict judicial supervision exercised by a supreme or special constitutional court with the power to overturn decisions of the legislative and executive branches. Wouldn't such a strong constitutional state create too many barriers to democracy?

A weak constitutional state is characterized by a relatively small set of immunities, less significant constitutional inertia, and mild judicial review. Such a state protects only classic negative freedoms, such as freedom of thought, religion and association. Private property rights may not be constitutionally protected and may be regulated by customary statutory law. In a weak constitutional state, there is both constitutional inertia (but not in the form of a qualified majority) and judicial control over the executive branch - but without giving the courts the right to invalidate laws.

The disadvantage of a strong constitutional state is that it can strengthen the status quo to such an extent that it undermines democracy. The mechanisms characteristic of strong constitutionalism (immunities, qualified majority, judicial review) come into conflict with the requirements that, as already mentioned, social decision-making processes must meet - neutrality, anonymity and uniformity, or an unequivocal response. Ultimately, strong constitutionalism contradicts the egalitarian stance of the concept of democracy, namely the notion that any alternative should be taken into account when forming a social decision, that the opinions of everyone and every person should be equally increase the likelihood of its adoption as a social decision".

Of course, there is a certain logic in this opinion of the scientist, but it is difficult to agree with his idea that weak constitutionality helps the development of democracy, since the very principle of the rule of law is the main principle of building and managing a democratic state and society. In our opinion, in this matter, the experience and practice of Uzbekistan are on the right track. The law is not treated as a dogma, and if necessary, at the request of the time, conditions, timely amendments and additions are made to the

Constitution and the laws in force. In fact, this ensures the supremacy of the Constitution. At the same time, it is not denied that the Constitution is a document of the main, sustainable and programmatic direction. In short, laws emanating from the requirements of social reality naturally modernize and adapt to the realities of the time. These changes and additions are still carried out within the framework of the Constitution. We will not be mistaken if we say that over the years of independence, deputies, organizations and institutions that have the initiative right of law in Uzbekistan have gained experience in this direction that could serve as an example for others. In Uzbekistan, the doctrine of building a civil society is primarily associated with the sovereignty (independence) of the state, which implies support and protection of national independence. In our opinion, it will be expedient if the main directions of the doctrine of building a rule-of-law state and civil society in the country are as follows: first, the creation of a national legal system to ensure and strengthen state sovereignty; secondly, the achievement of such results that obedience to the law and its observance became a way of life for every citizen; thirdly, the development of non-governmental bodies, institutions together with state authorities; fourth, ensuring accountability and accountability of elected representatives and representative bodies to their voters; fifth, active participation in international relations, the affairs of the community of developed democratic states, etc.

In a state governed by the rule of law, ensuring the rule of law, forming and improving citizens' legal consciousness, legal culture turns into a continuous, constant process. The rule of law and civil society are even more united and strengthened in this continuous process.

REFERENCES

1) Karimov I. A. Uzbekistan: its own path of renewal and progress. Vol. 1. - T .: Uzbekistan, 1996. S. 36–81.
2) Karimov I. A. O’zbekiston XXI asr bo’sag’asida: havfsizlikka taxdid, barqarorlik shartlari va taraqqiyot kafolatlari. - T.: Uzbekiston, 1997.
3) Karimov.I.A Yuksak Ma’naviyat Yengilmas Kuch. - T.: Ma’naviyat, 2008.
4) People's word. 2010 November 13. 5. Abu Nasr Forobiy. Fozil odamlar shahri. - T., 1994.

DISPOSAL OF FLARE ASSOCIATED GASES IN OIL AND GAS FIELDS

Yuldashev Toshmurza Rakhmanovich
Karshi Engineering and Economic Institute

Allaqulov Panji Egamberdiyevich
Karshi Engineering and Economic Institute

Kholbozorov Ilkhom Raimovich
Karshi Engineering and Economic Institute
Email: ilxomtmj@gmail.com

Annotation
Expensive chemical raw materials, which make up the bulk of gas, are used as fuel for industrial needs and in heating systems.
Global warming, acid residues, climate change and the growing greenhouse effect are due to satellite oil gases.

Keywords: hydrocarbon gases, underground storage, atmosphere, chemical reagents, associated petroleum gas.

INTRODUCTION

A large resource of hydrocarbon gases is low-pressure and flare associated gases of oil and gas fields. The main part of the recovered associated gases consists of hydrocarbon gases, associated gases in oil and gases released during the separation process.
Large volumes of recoverable gases are not used expediently. Expensive chemical raw materials, which make up the bulk of gas, are used as fuel for industrial needs and in heating systems.
The economical use of satellite oil and gas remains one of the most problematic issues in world practice. More than 170 billion cubic meters of satellite oil and gas are burned in the atmosphere annually. This situation will inevitably cause great damage to the ecology and economy of mining countries.
Waste emissions into the atmosphere as a result of the combustion of flare gases endanger human health, the amount of harmful substances increases in large quantities, and the harmful metals contained in them cause all kinds of serious diseases.
Global warming, acid residues, climate change and the growing greenhouse effect are due to satellite oil gases.
Considering that Uzbekistan produces 60 billion cubic meters of gas per year, 58.4% of them are sent for domestic consumption, 6.5% - to underground storage facilities, 12.5% - to pumping productive formations (cycling process) and 22.5% - for export. If 3% of the total gas produced is flared into the atmosphere, this is a large number.
Considering that when 1000 m3 of associated petroleum gas is burned, 3 tons of carbon dioxide are released into the atmosphere, then when 1.5 billion m3 of gas is burned, 4.5 million tons of carbon dioxide are released into the atmosphere.
Of the 60 billion cubic meters of associated gases produced in Russia, 20 billion cubic meters are burned by flares, and the remaining 40 billion cubic meters are used for the needs of the company, 3 billion cubic meters - for electricity generation, processing and gas chemistry. A small amount of raw material is injected into the reservoir as a raw material.
The issue of utilization of associated petroleum gas is a serious problem for all oil companies. Currently, there are several ways to economically use associated petroleum gases.
Associated petroleum gas can be used as a fuel directly in gas piston generators or in gas turbine plants in blocks of gas preparation and separation devices, partially cleaned and dried. When using associated oil in gas generators or gas turbines, full capacity cannot be achieved, and the presence of heavy hydrocarbons and sulfur leads to rapid equipment breakdown.

On the basis of chemical technology, the fuel components are separated using chemical reagents. Considering the high cost of such chemical reagents and the fact that they are imported, the cost of their use in practice will increase.

Associated petroleum gases are passed through special blocks and the components that make up the fuel are separated. In this case, membrane technology and molecular sieve are used, but the sorbents quickly become saturated, and the films are filled, and they must be quickly replaced.

Low temperature separation technology based on propane cycle can be applied. When this technology is used in hot climates, productivity decreases and operating costs become more expensive.

Associated petroleum gases are transported to gas processing plants and processed. Expensive main pipes are expensive to lay, and the payback period is increased.

With the help of refrigerants, all the auxiliary gas components are separated into fuel components based on combustion.

The use of heavy petroleum fractions of hydrocarbons (C and higher) as fuel for gas generators creates certain problems and is a valuable raw material in the petrochemical industry.

The main solution to the problem is the separation of associated petroleum gases by a two-stage utilization: heavy hydrocarbons in the product and exhaust gases are burned in gas engines with a high methane content, or dry gas is fed into main gas pipelines.

Comprehensive measures will be taken to collect associated oil and gas from oil fields for processing, which will be transported to refineries and processed to obtain degassed dry gas (free gas-free degassed gas), a wide fraction of light hydrocarbons (NGL) and stable gasoline (SB) turns out. In addition to the wide fraction of light gas (C_4 and higher), the gas is collected in the fractionation unit for the separation of liquefied hydrocarbon gases.

At a number of facilities, associated petroleum gas and petroleum products are flared in large quantities, even if they are expensive raw materials for the petrochemical industry.

The reasons for the combustion of associated petroleum gas in a flare include:

- Remoteness of the processing site;
- Lack of the necessary transport (pipeline) infrastructure;
- The need to build a gas processing plant.

To date, the most effective direction of oil refining in the energy sector is to reduce the cost of building networks and transformer substations when using petroleum gas as fuel at gas piston power plants.

When using gas generators, environmental problems cannot be solved by using auxiliary gases supplied to the flare, since the greenhouse effect is associated with the atmosphere and the Kyoto Protocol. The adoption of the Kyoto Protocol poses a threat to the environment associated with human activities, abrupt changes in the Earth's climate, an increase in temperature from 1.4^0C to 5.8^0C due to uncontrolled emissions of Celsius, changes in atmospheric precipitation, and sea level rise.

The Republic of Uzbekistan ratified the Kyoto Protocol on October 12, 1999 and entered into force on February 16, 2005.According to the Kyoto Protocol, 6 types of exhaust gases are controlled: carbon dioxide (CO_2), methane (CH_4), nitrogen oxide N_2O, per carbons (PFCs) and hydro fluorocarbons (SF_2).

Based on this, the "Shurtan Oil and Gas Production Department" joined the Northern Shurtan, Garmiston, Kumchuk and Shakarbulak fields into one block. A project for utilization of associated gases has been developed, a large amount of work is underway.

When burning associated petroleum gas, not only expensive hydrocarbon raw materials are lost, but also great damage to the environment is caused: thermal pollution, environmental pollution, the release of toxic gases into the atmosphere.

Together with CO and CO_2, all toxic organic compounds are emitted into the atmosphere. Their number is estimated in thousands of tons. When burned, satellite petroleum gases consume large amounts of oxygen. CO_2 emissions and heat radiation increase the greenhouse effect of the atmosphere.

The greenhouse effect changes the composition of gases in the Earth's atmosphere. As the concentration of gas in the atmosphere increases, it absorbs the "infrared" rays that hit the Earth and traps some of the heat in the atmosphere, which in turn leads to global warming of the planet.

One of the main tasks in solving problems in this area is the use of a developed and manufactured design of mini-plant modules that process small volumes of gas under normal conditions, separating large fractions of

light gases according to a simplified scheme. By installing such devices in the gas fractionation sections, it is possible to separate liquid hydrocarbons (propane-butane, gasoline, diesel fuel) from the final product.

CONCLUSION

The situation with the use and disposal of associated petroleum gases today does not suit anyone. It is necessary to develop economical technologies and modern methods to prevent air pollution by various gases. Oil companies are unable to fully utilize associated gases in oil. This is due to the high cost of existing technologies and the fact that they do not cover the costs incurred in their implementation. Therefore, in turn, it is impossible to prevent environmental pollution and emissions into the atmosphere, as well as the spread of various diseases.

REFERENCES

1) Акульшин А.И. Прогнозирование разработки нефтяных месторождений. М.: Недра, 1988. – 240с.
2) Климова Г.Н., Литвак В.В., Яворский М.И. Перспективы энергетического использования попутного нефтяного газа //Промышленная энергетика, 2002, №8. с. 2-4.
3) Рябцев Н.И., Природные и искуственный газ. М.: Изд-во лит-ры по строительству, 1987-326стр.,ил.
4) Смирнов А.С. Сбор и подготовка нефтяного газа на промысле. М.: Недра, 1971- 254 с.,ил.
5) Бараз В.И. Добыча нефтяного газа. М.: Недра,1983.-243 с.
6) Бекиров Т.М. Промысловая и заводская обработка природных и нефтяных газов. М.: Недра, 1980.-193 с.
7) Унгер Ф.Г. Фундаментальные аспекты химии нефти: Природа смол и асфальтенов. Новосибирск: Наука, 1995.- 192 с.34.
8) Eshimovich, O. T., & Isroilovich, I. A. (2019). Peculiarities of the accelerated methodology of elite seed production of early and medium-determined varieties of potato and their productivity in reproduction. International Journal of Innovative Technology and Exploring Engineering, 8(6), 699-702.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

USE OF INNOVATIVE TECHNOLOGIES IN THE EDUCATIONAL PROCESS

Nishanova Gulnoza Hayrullaevna
Tashkent State Transport University

ABSTARCT
There is an opportunity to define the concept of innovative activity through the analysis of innovations in the education system, their implementation, management of innovation processes. The renewal of society, the development and prospects of our life, the fate of the results of ongoing reforms, the radical change of the content of education, raising it to the level of modern requirements are among the most important issues of our lives today.

KEYWORDS: development, pedagogy, skills, education, innovation, technology, specialist.

INTRODUCTION

From the first days of independence, the development of the education system has been recognized as a priority of state policy. "Achieving our great goals and noble intentions today, the renewal of our society, the development and prospects of our lives, the reforms we are carrying out, the fate of the effectiveness of our plans are closely linked, first of all, with the problem of training highly qualified, intelligent professionals."The renewal of society, the development and prospects of our life, the fate of the results of ongoing reforms, the radical change of the content of education, raising it to the level of modern requirements are among the most important issues of our lives today. The formation of socio-economic policy - all this is closely linked with the problem of training highly qualified specialists who meet modern requirements. “The first condition for understanding the world is activity, the second condition is education. In the process of activity, people's abilities, knowledge and skills are formed, which means that activity is a social phenomenon and a basic condition of the struggle for life, "said Academician A.N. Leontev.

One of the main principles in the implementation of the national training program is the retraining of professors and teachers to reform the structure and content of the education system, the coordination of the activities of educational institutions to train highly qualified, competitive specialists, The introduction of pedagogical technologies, pedagogical innovations into the educational process. It is a process of motivation. It is impossible to take a step forward in education without changing the activity of the teacher, without increasing his responsibility and activity. Today, as a result of the emergence of a new scientific direction in the field of pedagogy - the idea of pedagogical innovation and renewal of the educational process, a new direction in the pedagogical activity of teachers has emerged - the concept of "innovative activity of the teacher." Lessons based on pedagogical technologies should be adapted to the needs of students in terms of organizational methods and teaching methods. Because such lessons are closer to the child's psyche.

The more innovations in pedagogical activity, the better the teacher understands the private experiment. It should also be acknowledged that the stable and universally accepted scientific concepts and classifications of innovations in education and innovative pedagogical activity have not yet been perfectly formed. Innovative activity implies a creative approach of the teacher to the acquisition of existing forms and means of professional development. One of the main reasons for this is the difficult gaps between education-oriented scientific knowledge systems.

As a subject and organizer of innovative activities, the professor-teacher participates in the creation, application and dissemination of innovations. He must be able to analyze the content and essence of knowledge in science, changes in traditions. The concept of innovative activity is closely related to such concepts as innovation, innovation process.

Innovation is a system of action of social entities aimed at improving the quality of the socio-cultural object, which is an important part of practice and theory. There are different approaches and opinions on the creation of the essence of this theory of ideas, and there is no single opinion in science about its essence. Innovations are relevant, important, new approaches formed in one system. They are born on the basis of

initiatives and innovations, are promising for the development of educational content, as well as have a positive impact on the development of the education system as a whole. Innovation is the end result of a technology, form, or method in a particular field of activity or production, a new approach to solving a problem, or the application of a new technological process that is known to lead to greater success than ever before. Today, the classification of innovations in the education system is approved as follows:

The goal of innovation is to get the most out of the money or effort expended. Unlike a variety of other spontaneous innovations, innovation is a mechanism of controlled and controlled change. Any innovation in the education system cannot be an innovation. Therefore, it is necessary to point out the main differences between the concepts of "innovation" and "innovation". The basis for this is a clear form, content and scope of reform activities. If the activity is short-lived and does not have the character of an integrated system, if the task is to change only some elements of a particular system, then we are communicating with innovation. We can call innovation only if the activity is carried out on the basis of a certain conceptual approach and the result leads to the development of the system or its fundamental change. The criteria for both concepts are as follows: innovation is carried out within the existing theory, limited in scope and time, methods are updated, and the result is an improvement of the previous system. Innovation will be systematic, integrated and sustainable, will design a new system of activities in a particular practice, will completely update the positions of the subjects of practice. At the same time, new areas of activity will be opened, new technologies will be created, new qualitative results of activities will be achieved, and as a result, the practice itself will be updated.

It was noted that innovative changes in the educational process, the introduction of any innovations in the education system are carried out directly through the renewal and transformation of the teaching profession. There is an opportunity to define the concept of innovative activity through the analysis of innovations in the education system, their implementation, management of innovation processes. Innovative activity is the driving force, the driving force, the driving force of the pedagogical team.

"Innovative activity is an activity aimed at solving complex problems that arise as a result of incompatibility of traditional norms with new social requirements, or the collision of a newly formed norm of practice with an existing norm," he said.

V.I.Slobadchikov. Innovative activity is an important part of practice and theory, a system of action of social actors aimed at improving the quality of the socio-cultural object, which is based not only on the ability to solve certain problems, but also on motivational training to solve problems in any situation. to have. The central issue of innovative teacher activity is the effective organization of the educational process.

Innovative activity is a continuous work on the basis of innovations, which is formed and improved over a long period of time. Based on the views of pedagogical scientists who have studied the characteristics of innovative activities of teachers, the following can be considered the main features of innovative activities:

- Striving for creative activity;
- Mastering pedagogical research methods;
- Ability to create concepts;
- Be able to plan and carry out experimental work;
- Cooperation with colleagues;
- Be able to exchange ideas and provide methodological assistance;
- Search for news and adapt it to your situation.

Addressing the problem of preparation for innovative activities arose as a result of understanding the growing dynamics of innovation processes in society. Its analysis includes not only the use of modern advances in science and technology, but also the process of searching for, creating, adapting, implementing and re-examining the results obtained. V.Slastenin, one of the scientists who studied the structure of innovative activity, points out that it has the following structure: “The structure of innovative activity is a creative approach, creative activity, technological and methodological preparation for innovation, innovative thinking, and culture of communication.

Levels of innovative activity can be: reproductive, heuristic, creative.

During the period of innovative activity, innovations, innovations, literally enter the educational process. Therefore, the introduction of innovations in the education system in the pedagogical process is carried out:

Such a conclusion can be drawn. Although the concept of "innovative activity" has been defined, there is no single definition in this area that is acceptable to all and reveals the full content of innovative activity, and there is no single approach to the process of formation of this activity.

In short, innovative activity is the creation of a new technological process or a new improved product using scientific research, development, experiments or other scientific and technical achievements, the pragmatic feature of which is that both in the field of ideas and it is not carried out in the field of action of a particular subject, but the experience of carrying out this activity is a real innovation only if it is universal in people's lives. The essence of innovative activity is the formation of new technology in practice, the result of which is the activity aimed at transforming the invention - the project, the project - the technology, which emerged as an innovation. In innovative activity, scientific ideas are not born of the logic of academic science, but arise from the reflection of the developing practice as a result of the support of modifications of the development process.

REFERENCES

1) Theoretical and methodological problems of improving the quality and effectiveness of continuing education. Proceedings of the scientific conference. - Samarkand: SamSU edition.
2) F.Zakirova and others. Methods of creating electronic educational and methodical complexes and scientific resources. Methodical manual, T .: OO`MTV, 2010. - 57p.
3) Abduqodirov A.A., Begmatova N.X. Methods of using multimedia technology in educational institutions (textbook). - Against: Nasaf, 2018.
4) Olimov, Shirinboy Sharofovich. "THE INNOVATION PROCESS IS A PRIORITY IN THE DEVELOPMENT OF PEDAGOGICAL SCIENCES." (2021).
5) Мамурова Ф. И., Мамурова Д. И. КОМПЬЮТЕР ГРАФИКАСИ ФАНИНИ ЎҚИТИШ ҲОЛАТИ //TULAGANOV AA. – С. 145.
6) Islomovna M. D., Ruziboevich S. A. SCIENTIFIC AND METHODOLOGICAL BASES OF DEVELOPMENT OF CREATIVE ACTIVITY OF STUDENTS IN DRAWING ON THE BASIS OF COMPUTER ANIMATION MODELS //International Journal of Psychosocial Rehabilitation. – 2020. – Т. 24. – №. 4.
7) Khodjayeva N. S., Mamurova D. I., Nafisa A. IMPORTANCE IN PEDAGOGICAL TECHNIQUES AND EDUCATIONAL ACTIVITY //International Engineering Journal For Research & Development. – 2020. – Т. 5. – №. CONGRESS. – С. 5-5.
8) Shavkatovich A. A., Sharifovna X. N. DEVELOPMENT OF DESIGN SKILLS OF HIGH SCHOOL STUDENTS //International Engineering Journal For Research & Development. – 2020. – Т. 5. – №. 7. – С. 5-5.
9) Aminov, A. S., Shukurov, A. R., & Mamurova, D. I. (2021). Problems Of Developing The Most Important Didactic Tool For Activating The Learning Process Of Students In The Educational Process. International Journal of Progressive Sciences and Technologies, 25(1), 156-159.
10) Erkinovna, Magdieva Marhabo. "THE ROLE AND IMPORTANCE OF THE CREATIVE APPROACH IN THE TEACHING OF FOLK ART AND THE SCIENCE OF ARTISTIC DESIGN." E-Conference Globe. 2021.
11) Salimovich, Sharipov Sohib, and Nematova Mohibegim Fazliddinovna. "Dictionaries in Modern Life." International Journal on Integrated Education 2.6: 166-168.
12) Rasulmukhamedov, M., Kadyrov, I., & Davronov, D. (2021). ABOUT THE INFLUENCE OF A ZEOLITE CONTAINING FILLER (NATROLITE) ON THE PROPERTIES OF CEMENT BINDER. International Engineering Journal For Research & Development, 6(1), 7-7.
13) Adilkhodjayev, A. I., Kadyrov, I. A., & Umarov, K. S. (2020). ABOUT THE INFLUENCE OF A ZEOLITE CONTAINING FILLER (NATROLITE) ON THE PROPERTIES OF CEMENT BINDER. Journal of Tashkent Institute of Railway Engineers, 16(2), 20-27.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

THE ROLE OF BILINGUALISM IN THE DEVELOPMENT OF SOCIAL SCIENCES UZBEKISTAN STATE UNIVERSITY OF WORLD LANGUAGES ENGLISH LANGUAGE

G'ulom Ataev
The first faculty, Senior teacher

ANNOTATION

In the past decade, the amount of research investigating the bilingual effects on cognitive and linguistic development has increased significantly. Bilingualism is a field of continuous growth and it covers a broad range of cognitive and linguistic achievements. Through most of the 20thcentury, bilingualism was assumed to threaten normal language development and impair cognitive achievement.

Studying bilingual development is challenging in many aspects. Undoubtedly saying that at the concurrent time in our country, the top priority to accomplish is not only to teach youngsters foreign languages, but also to prepare the specialists who can speak in other languages fluently and comprehend any material in English without difficulties. For that reason, the government is establishing crucial laws to create opportunities for the young generation to learn one more languages that has become one of the crucially important demands in our country at present.

Keywords: bilingualism, trend, socio-linguistic, to socio-psychological, lexicon, automation.

INTRODUCTION

People in oriental countries have inherited from their ancestors the trait of communicating with foreigners in foreign languages.

Knowledge on the first language brings about considerable improvement in the acquisition of second language, because knowledge gained through comparison and contrast is significantly effective.

Thus, lexicon of any language is improved through borrowing individual lexical units from other languages. Since recent times, some linguists are putting forward their ideas about non-linguistic i.e. socio-psychological factors behind language acquisition. For instance, V.G Kostamarov speculates that english lexical units are becoming widespread among Russian speakers due to socio-psychological factors. He highlightes that so-claimed linguistic “trend” has emerged when it comes to import words from foreign languages. The same linguistic “trend” is today the driving mechanism of borrowing words from other languages today.

One of the important phenomena in socio-linguistics is bilingualism. Bilingualism is usually characterized by the knowledge on two languages simultaneously. From ancient times, in Central Asia people had known arabic and persian languages along with turkic and could interact in these languages. On the brink of 19th century, due to the dissemination of Russian language among public, the social class that could communicate in both uzbek and russian appeared. Whereas, today, owing to the prevalence and reputation of English throughout the world some can simultaneously communicate in Uzbek and English.

Therefore, bilingualism has been present across the history of Uzbekistan in the form of various languages.

21st century is notable in human history not only for the emergance of globalization as the age of information, but also it can be coined as “the age of prosperity for all sciences”.

The development of new branches within individual sciences, the elaboration of new research methods to solve scientific problems and their application into practice are backbones for further development of science.

Uzbekistan, which has made huge contribution to world civilization with her rich historical background, scientific achievements and culture, is becoming a role model even for developed countries in terms of paying attention to youth development and enlightenment and with her broad-scale reforms.

Out Head of State's reliance on the young generation, his intentions to seen the bright future in them, assigns the important responsibility of serving our motherland to the young. Our President's decree, as of December 10th, 2012,

On "the measures on improving foreign language teaching" and, as of February 6th, 2014, on "State policy on youth" gave start to the new era of learning foreign languages in our country.

Approximately a century ago, one of the notable representatives of Uzbek literature – Makhmudkhuja Bekhbudi in his work "four languages are a must, not two" pointed out that the people of Turkestan should know a lot of languages: "Industrial development and state affairs as well as public service cannot be sustained without knowledge. We need those who know at least four languages"

Knowing a foreign language paved the way for the knowledge of a foreign country from ancient times.

The practical importance of knowing a foreign language can be evident in the following:

To be acquainted with culture of other countries and to observe them comparatively with her own culture and mentality;

To be aware of the latest news on social, economic, political, cultural and scientific affairs occurring worldwide;

To broaden horizon, to foster independent thinking skills;

To develop self-confidence and related skills in other languages;

To foster cognitive development through language acquisition;

To learn scientific and technological achievements with more opportunity;

The improvement of computer science and technologies through engineering software dedicated to learn foreign languages and et cetera.

Language acquisition is of practical significance within the scope of natural and applied sciences. This brings about the improvement in Medicine, natural, applied sciences.

The implications of language learning in social sciences is broad-spectrum and of complex nature.

First of all, the can be a complementary medium towards individual spiritual development. No person can learn foregn languages unless they know their own language, culture and mentality. Some implications of foreign language acquisition on social sciences can be noted as follows:

- To be acquainted with world literature heritage, through such readings, to recognize the value of universal moral principles.

– New directions can possibly emerge;

To be acquainted with world experience on the innovations in Jurisprudence, to learn from main points and implement them into practice;

To be acquainted with many sources related to history;

Growth in the importance of comparative linguistics and literature;

To observe cultural difference and similarities of various countries, to research the reflection of culture on language and its implications;

To improve linguistic opportunities;

The Art is one of the driving forces that form moral picture of people. Knowledge on foreign languages can give the opportunity of being acquainted with foreign art examples in with precision and in detail. Taking the power of belles letters into consideration, knowledge on foreign languages can be a bridge between arts and literatures of various countries.

Besides, from 21th on, computer technologies are being utilized for following purposes:

Uzbek language as a mother tongue, Uzbek language as a foreign language, and foreign languages are taught through computer technology and software;

To make use of computer data to teach grammar, phonetics and lexicology of particular language;

To assess learners knowledge through computer technology.

This phenomenon paved the way for the development of computational linguistics and the automation of translation.

CONCLUSION

Foreign language learning, the ability to communicate in two or more languages are important for all theoretical and practical spheres including social sciences.

REFERENCE:

1) Сирожиддинов Ш. Сўз ўзлаштириш омиллари хусусида// Ўзбек тили ва адабиёти, 2017. – № 4. – Б.85.
2) Крысин Л.П. Иноязычное слово в контексте современной общественной жизни. 1994. – С.60. XV Пейпей. Английские неологизмы-заимствованиния в русском и китайском языках. КД. – Москва, 2012. – С.42; Богаченко Н.Г. История восточноазиатских заимствований в английском языке (на материале Большого Оксфордского словаря). КД. – Владивосток, 2003. – С.22-23.
3) .The Concise Oxford Dictionary of Current English, ed. by Fowler H.W. and Fowler F.G., based on The Oxford English Dictionary, 4th ed., London, Oxford University Press
4) Appel, R., & Muysken, P. (1996). Bilingüismo y contacto de lenguas. Barcelona: Ariel. (Original work published 1987
5) Auer, P., & Wei, L. (Eds.). (2007). Handbook of multilingualism and multilingual communication. Berlin - New York: Mouton de Gruyer.
6) Baetens Beardmsore, H. (1982). Bilingualism: Basic principles. Clevedon: Multilngual Matters.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

LEXICO-GRAMMATIC CHARACTERISTICS OF ADJECTIVE PHRASEOLOGISTS

Sheralieva Mukhlisa Sharifjon qizi
Kokand SPI.
xamdamovamuxlisa@mail.ru, tel:+998912049620

Annotation
This article is devoted to the study of the external grammatical structure of the correct phraseological units based on their lexico-grammatical features. The authors proposed to study lexemes based on their quantitative composition. The authors also highlighted what to consider when dividing phraseological units into a particular phraseological or grammatical group.

Key words: static expressions, adjective phraseological units, common grammatical meanings, basic combinations, independent meaning words.

INTRODUCTION

In recent years, an intensive development of the general theory of phraseology has been underway, which indicates the interest of linguists shown to this level of language. Such close attention paid by linguists to this branch of linguistics played a large role in the identification and formation of phraseology as an independent scientific discipline. Scientists still have to solve many problems facing modern phraseology, since its formation took place with sharp disagreements, sometimes with different views on the same issue.

In light of the above, our article is aimed at studying the external grammatical structure of one phraseological part of speech, namely adjective phraseological units (hereinafter PU) from the point of view of their lexical and grammatical organization.

According to N.M. Shanskiy, "... as reproducible linguistic units, phraseological turns always act as a certain structural whole of a composite nature, consisting of words that are different in their morphological properties and are in different syntactic relations with each other." [1]

When referring phraseological units to one or another phraseological - grammatical class, an essential role (in addition to the general grammatical meaning) is played by its external grammatical form and, to a large extent, the part of speech reference of its supporting component. By the latter, we mean such a word in the grammatical structure of phraseological units, which performs the function of the grammatical center of a given unit. It dominates the rest of the phraseological units, subordinates them to itself and thereby assigns them certain grammatical forms. Consequently, the morphological characteristics of the whole phraseological unit as a whole are laid mainly by the grammatical supporting component. When referring phraseological units to the corresponding phraseological - grammatical class, one should take into account, first, which part of speech the word belongs to, which acts as a supporting component; secondly, its lexical meaning, expressed by it in free use.

The factual material collected by us by means of continuous sampling from the phraseological dictionary of the Russian language edited by A.I. Molotkov, made up 262 adjective PU. Depending on the quantitative composition of lexemes, we have divided them into several groups. Let's consider them.

Two-component adjective PU. They constitute a significant part of the entire corps of the units in question. We have classified the phraseologisms included in this group into two large categories. The first subgroup was made up of prepositional-case constructions of the type extremely rare, big, with a degree, like silk, not sugar, insole, etc. (39 units in total). It should be noted that the assignment of units of this kind in the circle of phraseology in the scientific literature is solved ambiguously. So, A.I. Molotkov believes that phraseological units can consist of two or more components, regardless of whether they go back genetically to significant words or not, and on this basis, he allows the assignment of individual stable prepositional-case forms of the type in openwork, under the fly in the circle of phraseology. [2]

According to N.M. Shansky, phraseological turns should consist of at least two semantically equal components. “Phraseological turnover is a unit of two or more stressed components of a word character,

reproduced in finished form, fixed (ie constant) in meaning, composition and structure." [3] Judging by this definition, N.M. Shansk prepositional-case constructions does not include phraseology in the object.

As the analysis of the works of the leading phraseologists of the Russian language shows, the opinions of scientists on this issue differ diametrically. In our opinion, stable phrases formed according to the model of "significant word in combination with official" have many features of phraseological units and are transitional units located between the verbal and phraseological tiers of the language, to a greater extent gravitating towards the latter.

In the circle of similar units, we have identified the following structural types:

a) "Preposition + significant word": at the age, at the age, in kind, with the head, in years, with a needle, to match, under the fly, to hell, etc .;

b) "Particle not + significant word": not released, not a model, not sugar, not a fool, etc .;

c) "Comparative union as + significant word": as it is, as a piece of glass, as a picture, as silk, etc.

The second subgroup of two-component adjective phraseological units is represented by combinations of two full-valued words. In the circle of similar units, the following varieties are distinguished:

a) Adjective phraseological units, the categorical meaning of which is expressed explicitly. The external grammatical form and part of speech of lexemes in such units already in themselves signal their belonging to adjective phraseological units. We found only two such phraseological units: counter - transverse, the first one that came across;

b) Adjective phraseological units, the categorical meaning of which is expressed implicitly. Neither the external grammatical form, nor the lexical and grammatical meaning of the supporting component in such units predict in any way about its belonging to adjective phraseological units: you will lick your fingers, you see the views, the sand is pouring, you will swallow your tongue, there is no face, the soul is plowing, the side is hot, the head is higher and etc. (12 units in total);

c) Adjective phraseological units, the categorical meaning of which is expressed both explicitly and implicitly. They make up the bulk of the phraseological units assigned to this subgroup (57 units in total). An indicator of adjectivity in such units is the tendency of their external grammatical form to express the function of definition to varying degrees. This type is mainly represented by units built according to the model: "adjective (participle) in full or short form + noun in case form": the highest standard, pure water, big hand, killed by God, touched by the mind, knocked out by the wind, bast sewn, hand full , strong head, well-defined eyes, etc.

Three-component adjective phraseological units. Phraseological units of this kind were divided into two subgroups. One of them is represented by two full-valued tokens combined with different prepositions. Several varieties stand out here:

a) Phraseological units formed according to the model "preposition + attribute + noun" (32 in total). Such phraseological units are combinations built according to the type of agreement: for one cut, worth its weight in gold, on fish fur, for one shoe, from someone else's shoulder, from a pinhead, from a gulkin's nose, in an Eva suit, etc. Units with a negative particle NOT were also included here: not of the first youth, not remembering kinship, not so hot, not bastard, etc.

b) Phraseological units formed according to the model "full-valued word + preposition + full-valued word". The lexemes related to all significant parts of speech act as full-valued words for the included (53 units) in this subgroup of units: firing pin on the tongue, one in one, skin and bones, on your mind, hard on the ear, weak on the tongue, zero without a stick, the nose is not mature enough, blood with milk, etc. This also includes units with a supporting component-verb, the categorical meaning of which is expressed implicitly: it won't hurt a fly, you won't break it with a gun, you won't spill it with water, didn't come out with a snout, be born in a shirt, etc.

Somewhat isolated in this subgroup are expressions such as gray-haired as a harrier, naked as a falcon, pale as death, stupid as a cork, dumb like a fish, cowardly like a hare and some others. In the scientific literature, units of this kind are presented in different ways. Some consider them as one-vertex phraseological units with two-component elements, other linguists consider them as one integral unit. [4] A.V. Kunin, for example, believes that the theory that considers words with a literal meaning in a phraseological unit not as a component, but as an accompanying word, and only a rethought part related to them, is erroneous, since the rethought part of a phraseological unit without a word with a literal meaning is not used in speech. [5]

According to V.P. Zhukov, the accompanying words in such units perform a concretizing, meaningful function. [6]

In our opinion, units of this kind should be approached differentially. So, among them there are phrases in which the accompanying words are in close semantic and syntactic unity with the rest of the stable combination and on this basis they meet all the criteria for phraseological units. For example, naked as a falcon - "terribly poor", gray-haired as a harrier - "completely white", one as a finger - "absolutely lonely" and some others. And for such units as curious as a magpie, meek as a lamb, cold as ice, etc. the literal meaning of the accompanying words is still clearly felt and therefore the optional elements do not fully participate in the creation of a single image of the entire phraseological unit as a whole. On this basis, we attribute them to a transitional phenomenon between stable and free combinations of words.

c) The phrases assigned to this subgroup consist only of full-valued words. There are not so many adjective phraseological units with a similar grammatical structure: the small is smaller, the hind mind is strong, shorter than a sparrow's nose, two pair of boots, the position is worse than the governor's position, etc. (12 units in total). As you can see from the examples given, units of this kind have different names in case form as components.

Four-component adjective phraseological units. We divided the units assigned to this group into three subgroups. The first included phraseological units, the external grammatical form of which consists of two significant words in combination with service words (21 units in total). Depending on the syntactic connections between the components, they are represented by two types of phrases: phraseological units, genetically ascending to phrases with a compositional connection (neither alive nor dead, neither give nor take, neither fish nor meat, nor skin or face, from young and early, without genus and tribe, etc.); and phraseological units, genetically derived from phrases with a subordinate connection (you can't break out of a cannon, you don't stand on your feet, without a king in your head, you can't see anyone from the earth, etc.)

The second subgroup is represented by phraseological units, consisting of three full-valued words and one service word (27 units in total). The following models stand out:

a) "Preposition + significant word + significant word + significant word": out of the ordinary, in what the mother gave birth, two inches from the pot, etc .;

b) "Significant word + preposition + significant word + significant word": the bear stepped on the ear, you can see it a little from the ground, there is no blood in the face, etc .;

c) "Significant word + significant word + preposition + significant word": seven spans in the forehead, seventh water on jelly, oblique fathom in the shoulders, etc .;

d) One unit is represented by four full-valued components: quieter than water below the grass.

In the same subgroup, we attributed phraseological units of a comparative construction of the type as lowered into the water, as if hung by the tongue, as two drops of water, etc. According to L.D. Ignatieva, in this kind of phraseological unit "... the component, as it loses its lexical meaning inherent in free use, becomes a form-building means of a new unit, which has structural and grammatical unity and semantic integrity. The union "how", arising from an adverb denoting a mode of action, in a free combination retains the meaning of an image, a mode of action and is an indication of an image. "[7] Her statement is confirmed by the data of the phraseological dictionary of the Russian language edited by A.I. Molotkov: of the included phraseological units that go back to comparative constructions, a significant part of them in speech is realized with adverbial semantics (about 60%) and only a small part - with adjective (about 15%).

Five-component adjective phraseological units are represented by five units, genetically derived from phrases connected by a compositional and submissive connection: without a rudder and without sails, the milk on the lips has not dried, there are not enough stars from the sky, in which only the soul holds on, as if from around the corner with a bag nailed.

Six-component adjective phraseological units are represented by only two units: they do not go into their pocket for a word, neither a candle nor a damn poker for God.

As shown by the lexical and grammatical analysis of adjective phraseological units, their quantitative composition ranges from two to six units. The components of adjective phraseological units are words of various parts of speech, most of which are built in accordance with the grammatical rules of the syntax of

the Russian language. The main part of the phraseological units under consideration are units with two and three components.

When categorically differentiating phraseological units, it is necessary to be based on its integral meaning, which is formed on the basis of rethinking the semantics of the constituent components. At the same time, one should take into account the essential role of its external grammatical form, in particular the paradigm of the supporting component, which is the grammatical center of the entire phraseological unit.

REFERENCES

1) Shansky N.M. Lexicology of the modern Russian language. M .: Education, 1972 - S. 215
2) Molotkov A.I. Fundamentals of the phraseology of the Russian language. - L .: 1977 - S. 42
3) Shansky N.M. Phraseology of the modern Russian language. Moscow: 1973 - p. 22
4) Ovezova M. Adjective comparative phraseological units with the value of quality. M .: RYASH, 1986. - No. 3. - P. 64
5) Kunin A.V. In collection: Phraseology and context. - Kuibyshev. 1982 - p. 18.
6) Zhukov V.P. Semantic and phraseological turns. - M.: 1978. - p.19
7) Ignatieva L. D. Conversion of the union "as" in the phraseologization of comparative constructions. In collection: Problems of phraseology. - Tula. 1980 .-- p.8
8) Tukhtasinova O. Y. Lexical Occasionalisms And Its Relation To Related Phenomena //The American Journal of Social Science and Education Innovations. – 2020. – Т. 2. – №. 08. – С. 103-109.
9) Tukhtasinova, O. Y. "Occasional Words Speech Unit." International Journal on Integrated Education, vol. 3, no. 8, 2020, pp. 107-111, doi:10.31149/ijie.v3i8.542.
10) Abdullaeva Nasiba Burronovna. (2020). Integration Of Scientific And Rational And Artistic And Aesthetic Aspects In Design And Art. International Journal of Advanced Science and Technology, 29(8s), 1334 - 1336.
11) NafosatZikirova,Nasiba Abdullayeva, Ozoda Nishanova, Baktior Djalilov, Enajon Nishanbayeva. (2020). Issues On Using Interactive Strategies In Teaching Process. Journal of Advanced Research in Dynamical and Control Systems, 12 (02), 2753-2756.
12) Nafosat, Z., Nasiba, A., Ozoda, N., Baktior, D., & Enajon, N. (2019). Interactive strategies and methods of education.
13) Abdullaeva, N. B. (2015). THE ESSENCE AND CONTENT OF THE AESTHETIC COMPONENT IN DESIGN. ISJ Theoretical & Applied Science, 9(29), 169-171.
14) Yakubjonova, H. (2020). SOCIO-ECONOMIC COMMUNICATION BETWEEN ECOTOURISM AND NATURE. In НАУКА И ТЕХНИКА. МИРОВЫЕ ИССЛЕДОВАНИЯ (pp. 11-13)
15) Yokubovna, Y. H. (2019). Evaluation of the economic impact of local population in the development of regional economy: an example of Chadak village. American Journal of Economics and Business Management, 2(3), 83-93.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

LUBRICATION MODELS IN RAILWAY CURVES

Ali Samet Ayvaz
Samsun Metropolitan Municipality, Department of Transportation
* alisametayvaz@samsun.bel.tr

Mohammad Alalou
Ondokuz Mayıs University, Faculty of Engineering, Department of Civil Engineering
* mohamadalou93@live.com

ABSTRACT
One of the most important problems of the Railway Operations is the wear problems that occur in the rails under load and momentum. Many businesses in the world have developed different solution methods on this issue and the same methods are still applied. Noise is also the bleeding wound of many railway operators, regardless of or dependent on wear and fatigue problems. Noise, especially in the curves, adversely affects human and environmental health. In this report, we will examine the factors caused by these 2 problems and examine the solution methods with their costs.

INTRODUCTION
With the completion of the 2nd Stage of Samsun HRS line, our Main Line consists of 28 + 700 m double track rails. The section between the Warehouse Fields, level crossings and Büyük Cami-Kılıçdede stations consists of Ri60 grooved rails. The remaining part of the line consists of S49 mushroom rails.

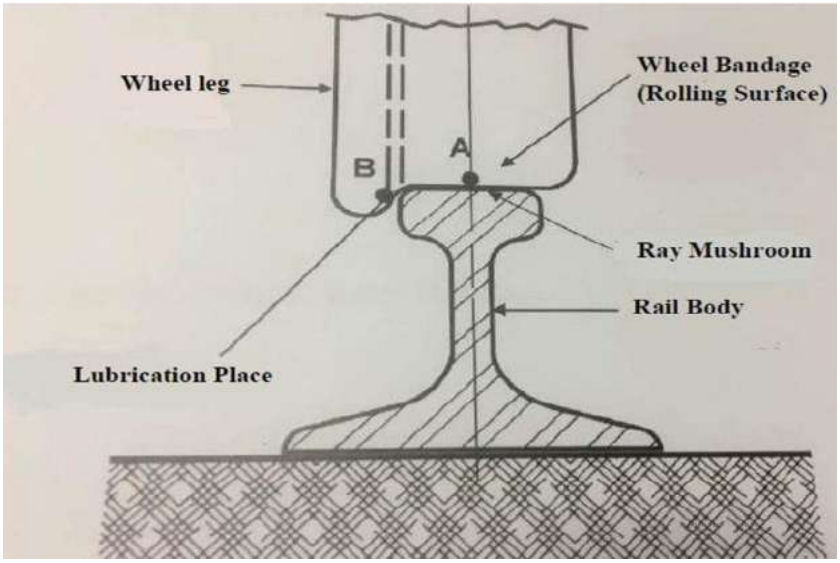


Figure 1: S49 Rail-Wheel Relationship

Wear and Fatigue Tolerances
Fatigue is the gradual decrease in the mechanical strength of a material when the stress caused by the effect of continuous loads reaches the fatigue limit. This does not happen with stresses below the fatigue limit. The material, whose strength decreases over time, breaks at lower strengths than the breaking stresses corresponding to the initial loading. In the fatigue test, the rail or weld is continuously loaded up to a fatigue stress of at least 2 million times and no cracks are required.
The cause of fatigue in metals is the spaces between the crystals that have been found from the beginning. When stresses and loads reach the fatigue limit, voids spread, expand, and cause the material to deteriorate without visible deformations.
Visible deformations in the rail profile are examples of wear. Apart from this, invisible wear between 0.10-2.00 mm can be read with Line Maintenance Tools or laser-optical equipment.

The maximum vertical wear tolerance depends on the maximum train speed and line traffic load.

Table 1. Maximum vertical rail wear values according to British Railways;

Above 160 km/h	9 mm
120-160 km/h	12 mm
80-120 km/h	15 mm
Below 80 km / h	18 mm

Table 2. Maximum vertical rail wear values according to German Railways;

19 MGT - 25000 tons – above 140 km / h	12 mm
1.75-7.5 MGT - 20000 tons – below 140 km / h	20 mm
0-1.75 MGT	26 mm

According to the BoStrab standard, the vertical wear tolerance of the S49 rail is 25mm‘. Vertical rail wear is proportional to total tonnage. The vertical wear rate for 900A rails is 1mm / 100MGT if there is buden lubrication.

According to British Railways, the point that makes an angle of 26 degrees with the rail axis 3mm above the lowest point of the rail cork is used as the reference point in lateral wear tolerance.

The total vertical and lateral wear of the rail cork should not reach 25mm.

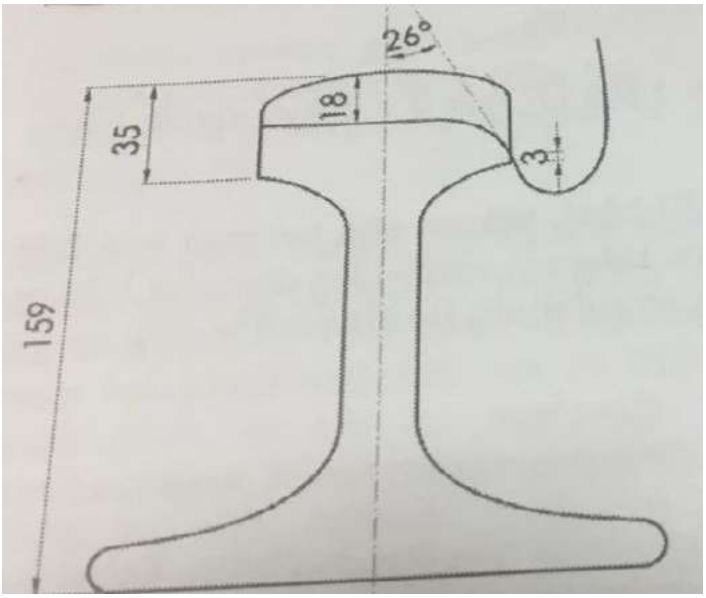


Figure 2: Lateral and Vertical Wear Criteria According to British Railways

In our main line, we do not have a zone where the total lateral-vertical wear reaches 25 mm. Although we do not have a wear measuring device or vehicle, periodic control of the pulleys is carried out in the scissors and curve areas.

Wheel - Rail Contact

Our S49 and Ri60 rails in the main line and warehouse area are of R260 - 900A quality. In other words, they have 260 BHN Brinell Hardness.

There are 3 different tram models serving in our business. Of these models,

- Wheel Budeni 290 BHN on Ansaldo Breda tram
- Wheel Budeni 305-320 BHN on CNR tram
- Wheel Budeni 305-320 BHN on Durmazlar Panorama tram they have their hardness.

The fact that the rail is harder than the wheel causes more wear of the wheel, and the harder the wheel than the rail causes more wear of the rail. In the enterprises, the desired rail is also the least level of wear on the wheel. It is useful to pay attention to these rail wheel stiffness criteria in line manufacturing and when choosing the vehicle to work on the line.

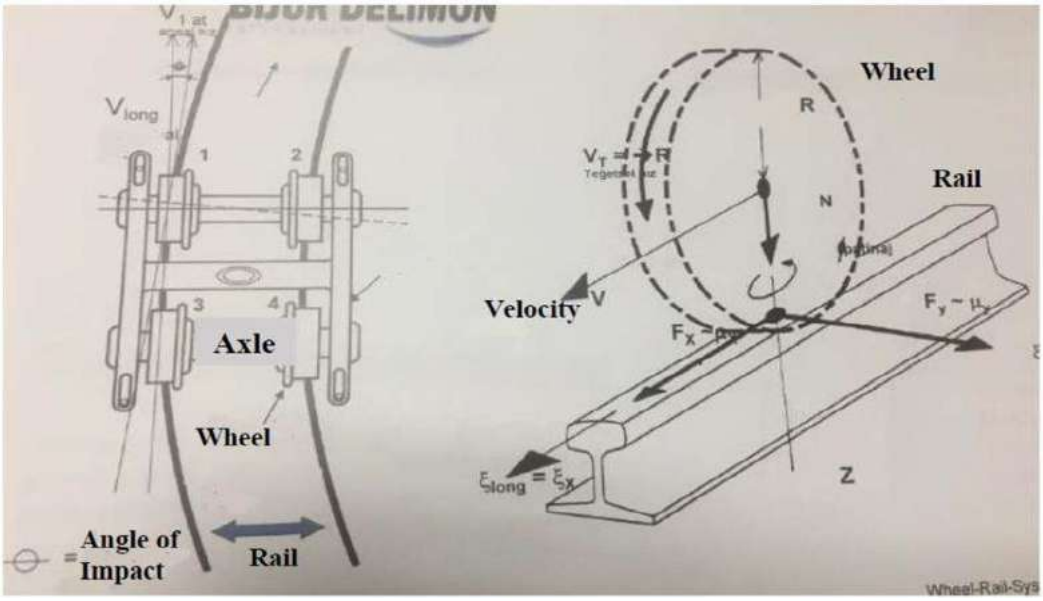


Figure 3: Bogie Team Movement on the Cross

As seen in the figure above, the Bogie team oscillates on the curve. There can be many reasons for the abrasion and squeaking noise that occurs on the curve. These;

- Speed difference of wheels on inner and outer tracks
- The swing of the wagon on the track
- Skid
- Sudden Braking
- Laterally controlled or uncontrolled sliding
- Geometric error on the screen
- Exceeding Speed Limits
- It can be listed as the absence of the Transition Curve.

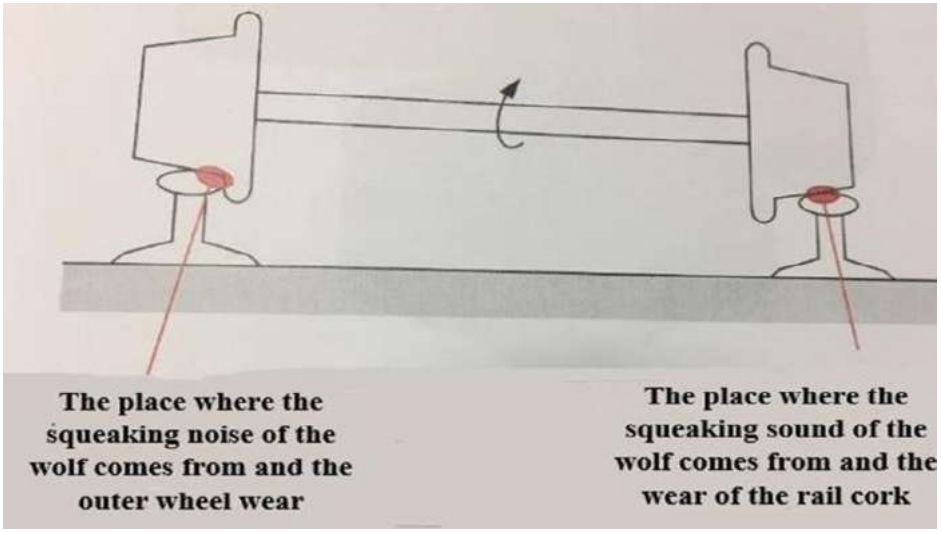


Figure 4: Points of Wear and Noise

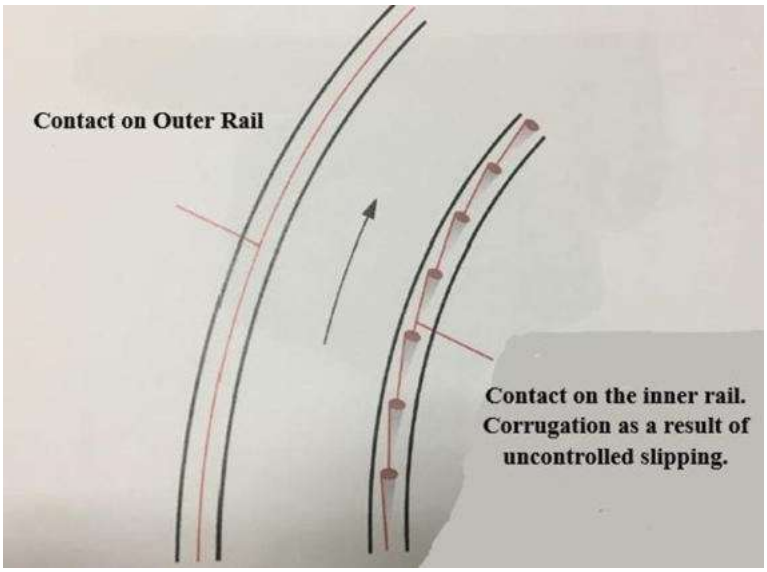


Figure 5: Corrugation points

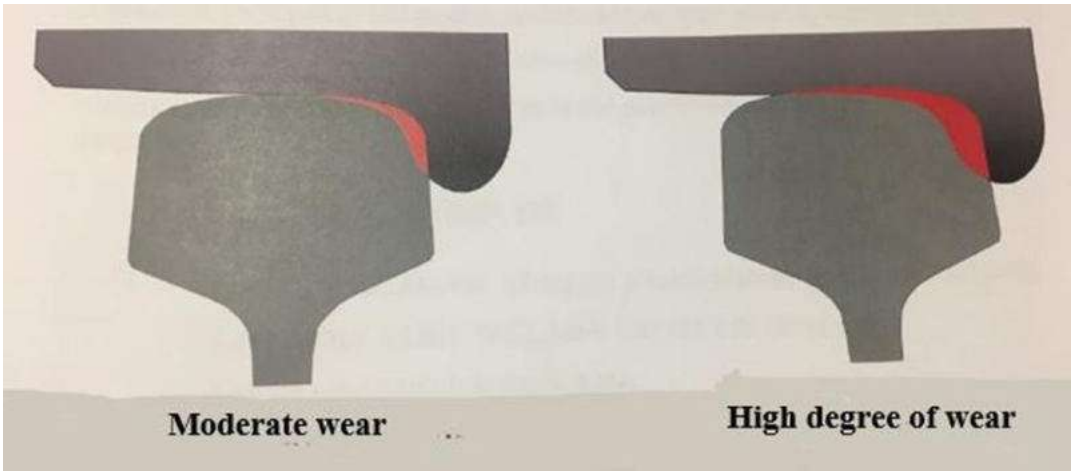


Figure 6: Wear Points on Rail and Wheel

Wheel Wear

Boden has passed from English as a term to our language and technique. In English, "Flange" means prominence in Turkish. If we explain it as a technical term, Boden is the protrusion part of the wheel that allows the train to move without derailment. The height and thickness of each wheel can vary within the standard limits (UIC 810-UIC 510).

Boden is the most worn part of the wheel. Especially in the curves, the entire load of the train rests on the rail over the basement. Fattening of the body is a very important issue. The better the body is lubricated, the longer the life of the wheel. During the turning of a wheel whose body is worn, approximately 3 times more sawdust is removed compared to normal turning.

To give an example numerically; Let us assume that a wheel whose rudder thickness should be 32 mm decreases to 28 mm as a result of wear in the measurement. To increase the thickness of the body back to 32 mm, you need to decrease approximately 12 mm from the diameter. For a wheel that wears 1mm per month, this means. The life of the wheel is shortened by 12 months as a result of the thinning of the body.

- Wheel Wear Tolerances
- Ansaldo Breda / Lucchini OIC810 st. 610/656 mm
- CNR / GHH EN13749 st. 540/600 mm
- Durmazlar Panorama / GHH EN13749 st. 570/650 mm

Because the wear is on the flanges rather than the rolling surface of the wheel, therefore, more chips are removed from the wheel diameter in each turning cycle in order to maintain the thickness of the flange. Wearing flange and required flange thicknesses are shown in Picture-5 and Picture-6 below.

Figure 7: CNR profile defective flange thinning

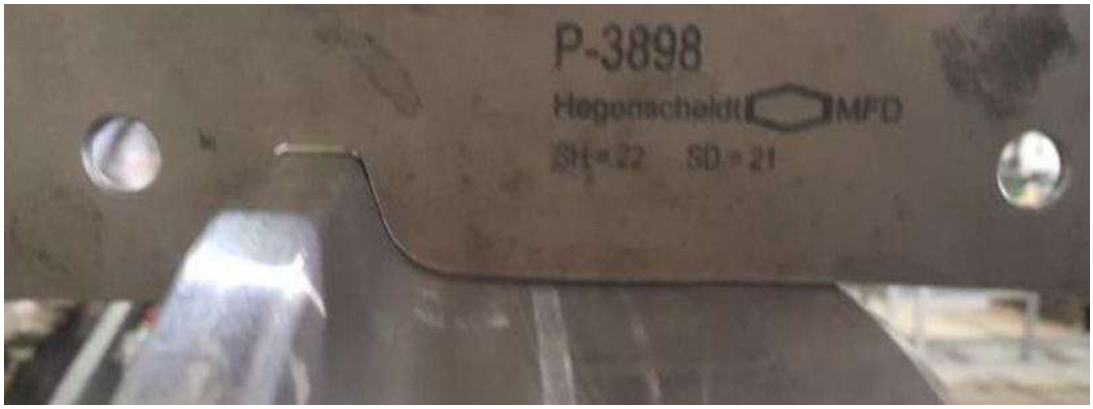


Figure 8: CNR profile smooth wheel bandage

Tram number 5522 can be given as an example of flange thinning.

Turned at 120500 km and the P Bogi wheel flange thickness is 17.36 mm. The next lathe was made after 41000 km, that is 161400 km, and as seen in the preliminary measurement data, the flange thickness of the same wheel was seen to be thinner by 15.08 mm. In order to correct the profile, 20 mm of sawdust was removed from the diameter.

Importance of Lubrication

Until recently, rail wear, especially in narrow curves and under load, was the most important problem to be avoided for railway engineers. Nowadays, railway noise has been added to this. The primary cause of railway noise is the wear between the outer rail on the curve and the knuckle, and the second is the so-called snap-slip movement. This stick-slip movement is due to the slippage of the inner wheel in order to compensate the difference between the inner wheel and the outer wheel in curves.

What needs to be done to reduce this wear and noise on the rails is to cut the contact between the wheel and the outer rail on the curve with tribological methods, in other words, to lubricate. A layer should be placed between the inner rail on the curve and the wheel to prevent the noise caused by slipping.

This layer is provided with high viscosity lubricants and friction modifiers applied independently from each other and automatically.

As the main line railways are exposed to a much higher load compared to the tram, it is not possible to drill holes in the rail in practice. For this reason, lubricants and friction modifiers are transported to the application points (rail side and rail) by various equipment.

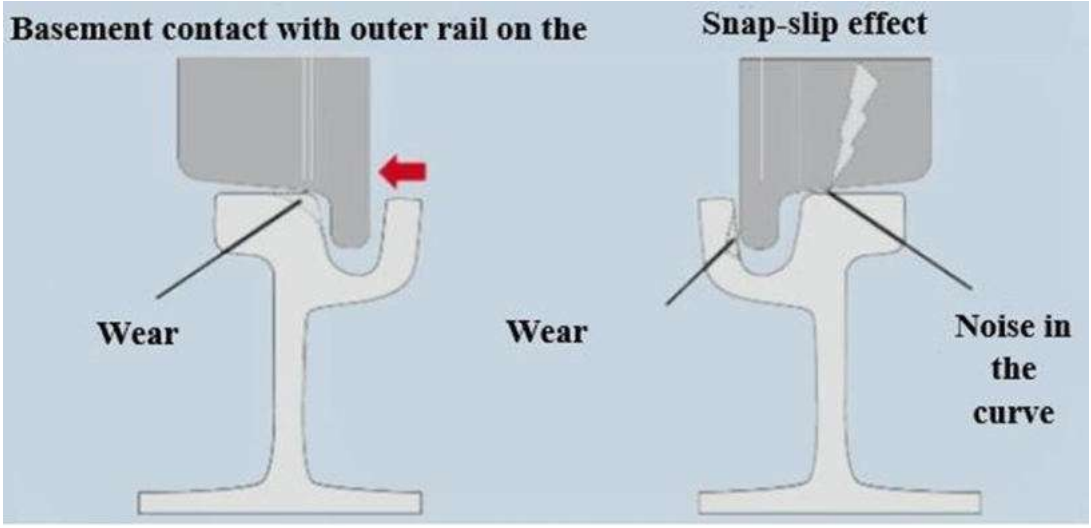


Figure 9: Abrasion and Snap-slip effect

Lubrication reduces friction between the rail-wheel and reduces lateral loads. In this way, the risk of wheel climbing and the widening of the gauge is reduced. With friction modifiers (grease, solid oil, etc.) on the rail, the friction coefficient is required to be between 0.2-0.4. In this way, rolling resistance, corrugation and wheel squeal noise in curves is reduced.

The friction coefficient is measured by a hand-driven car (Crab etc.) or vehicle-mounted tribometer device. The friction coefficient is between 0.3-0.7 in dry track and is considered to be 0.5 on average. The friction coefficient increases with the turned wheel or the ground rail. It is between 0.2-0.4 in lubricated rail. While it is desired to be between 0.2-0.4 on the rail with lubrication, it is desired to be below 0.1 at the edge of the rail.

CONCLUSION AND EVALUATION

Considering the cost of the automatic lubrication system, it is the ideal method for tram companies like us to continue to apply fixed flange lubrication from the vehicle and manual (with brush) lubrication systems together. Because there is no wear on the rails in the main line and our warehouse area above the tolerance values yet. In addition, the continuity of the line and tramway flanges with minimum wear can be ensured with the grinding and lubrication trainings that the Line Maintenance Team personnel will receive continuously.

Kayseray, Ankaray and Antalya Transportation companies have recently started to use the Automatic Lubrication System in their lines. When the data obtained from these plants were analyzed, it was seen that, for example, 1/6 of the oil consumption of the automatic lubrication system in a curve of R150 was consumed in 1 curve of similar radius in our line. In other words, it has been observed that our Line Maintenance Team consumes an average of 15% of the oil consumed by the Automatic Lubrication System with Manual Lubrication. This is because they have known how much oil to apply for many years and even where.

The Line Maintenance Team does not only focus on this job while lubricating the line on a curve, but also checks whether there are any adverse situations around the curve and the line (drainage channels - scissor motor and zone - scissor sliding pads). In other words, it always keeps the Maintenance and Repair Directorate up-to-date on whether there is a malfunction or a negative situation.

REFERENCES

1) Akçelik, R. 1993 . Traffic Signals: Capacity and Timing Analysis, Research Report ARR No:123, ISBN 00 869910 015 7, 108, Australia.
2) Akçelik, R. 1981 . Traffic Signals: Capacity and Timing Analysis, Research Report 123, Australian Road Research Board, Melbourne, Australia.
3) Ayfer, M. Ö. 1977 .Trafik Sinyalizasyonu, T.C. Bayındırlık Bakanlığı Karayolları Genel Müdürlüğü, Yayın No:226, 182, Ankara.
4) Doherty, A, R. 1977 . Comprenhensive Junction Delay Formulae, LRT1 Working Paper, Department of Transport, U.K.

5) Gökdağ, M. 1996 . Sinyalize Kavşaklarda Meydana Gelen Taşıt Gecikmelerinin Simülasyon Modellemesi, Doktora Tezi, Karadeniz Teknik Üniversitesi Fen Bilimleri Enstitüsü İnşaat Mühendisliği Anabilim Dalı, Trabzon.
6) Gökdağ, M., Haşiloğlu, A. 2001 . Sinyalize Kavşaklardaki Taşıt Gecikmelerinin Yapay Bulanık Sinir Ağı ile Tahmin Edilmesi, Türkiye İnşaat Mühendisliği XVI. Teknik Kongre ve Sergisi, TMMOB İnşaat Mühendisleri Odası, Ankara.
7) Murat, Y. Ş. 1996 . Denizli Şehiriçi Kavşaklarındaki Trafik Akımlarının Bilgisayarla İncelenmesi, Pamukkale Üniversitesi, Fen Bilimleri Enstitüsü, İnşaat Mühendisliği Anabilim Dalı Yüksek Lisans Tezi, Denizli.
8) Murat, Y. Ş., 1999 . Prediction of Traffic Volumes In Bosphorus Bridge Using Artificial Neural Networks, Proceedings of The 11. Mini-EURO Conference on Artificial Intelligence In Transportation Systems And Science, And The 7.EURO-Working Group Meeting On Transportation, Helsinki University Of Technology Espoo, 43-47 p, Finland
9) Murat, Y. Ş. 2001 . Sinyalize Kavşaklarda Bulanık Mantık Tekniği ile Trafik Uyumlu Sinyal Devre Modeli, İstanbul Teknik Üniversitesi,Fen Bilimleri Enstitüsü, İnşaat Mühendisliği Anabilim Dalı, Ulaştırma Mühendisliği Programı, İstanbul.
10) Orhunbilge N. 1996 . Uygulamalı Regresyon ve Korelasyon Analizi, Avcıol Yayınevi, 44-49, Türkiye.
11) TRB, 1994 . Special Report 209: Highway Capacity Manual, Transportation Research Board, National Research Council, Washington D.C., USA.
12) TRB, 2000 . Special Report 209: Highway Capacity Manual, Transportation Research Board, National Research Council, Washington D.C., USA.
13) Webster, F. V., 1958 . Traffic Signal Settings, Road Research Technical Paper, No39,Road Research Laboratory, Her Majesty Stationary Office, London, UK.
14) Webster,F.V. 1966 .Traffic Signal Settings, Road ResarchTechnical Paper, No39,Road Research Laboratory, Her Majesty Stationary Office, London, UK.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

WAYS OF EXPRESSING NEGATIVE CATEGORY IN ENGLISH

Buranova Dldora
EFL Teacher TERSU
998905219736, buranovad@gmail.com

ABSTRACT
The article examines the category of negativity in English and translation into Uzbek at the lexical level i.e. the positional possibilities of negative elements in the structure of a sentence.

Keywords: negative components, category of negation, lexical means, logical-semantic function.

INTRODUCTION

In modern linguistics, the problem of "negation" occupies significant place and, despite the large number of researchers, insufficiently studied. "Negation" as a term denotes an element of meaning in a sentence, indicating that the link established between the components the sentence does not take place in reality or whatever is the opposite of it an affirmative sentence is perceived by the speaker as contrary truth. In most cases, a negative statement is used in situations where its corresponding statement of approval was used earlier. Denial is one of the characteristics of the entire language pictures of the world originally existing undivided semantically connotational categories that cannot be defined by more simple semantic elements. Denial can be expressed negative words, negative prefix, negative form verb, and may also not be expressed separately, that is, as a component meaning of a word or the whole sentence. The category of denial includes the history of many centuries.

The study of this category, which began with the ancient Indian and ancient Greek philosophers as early as the third century BC, continues its development to this day.

A large number of scientific discussions devoted to the study of denial do not subside, in various approaches change only the angle of view on the problem and the component of analysis consideration. Denial is one of the main concepts in many areas of science: in linguistics, philosophy, formal and mathematical logic.

Each of of these independent sciences defines the phenomenon of the category of negation according to the characteristics characteristic of this science.

Therefore, it is necessary recognize that the problem of denial is multifaceted. However, according to Bondarenko V.N., special attention should be paid to the logical-semantic function of negation in language, since logical negation constitutes the essence of the language.

Two negative particles sometimes form an affirmative sentence (sentence with double negation), since it occurs denial of denial. In English, negation in a sentence can be expressed:

a) in the subject:

This is not very pleasant. Indeed, it is even indecent.

Bu juda yoqimli emas. Darhaqiqat, bu hatto odobsizlikdir.

In the last example, in the English sentence, the negation is expressed using the negative particle not, and when translated into Uzbek negation is also transmitted by the negative particle not.

c) in addition:

I know nothing, Lady Blacknell.

I don't know anything, Lady Blacknell.

Men hech narsani bilmayman, Lady Bracknell.

d) in the circumstances of the time:

I never saw a woman so altered; she looks quite twenty years younger.

Men hech qachon bunday o'zgargan ayolni ko'rmaganman; u yigirma yosh yosharganga o'xshaydi.

As well as with the negative particle not- words with the prefix un express not just negation, but a new quality, a new sign.

Now let's dwell on the lexical means that convey negative meanings: these are negative verbs, nouns, Adverbs, pronouns.

The proper lexical way of expressing negation is a way of expressing using verbs with a negative meaning, to such verbs include:
-to deny (don't do, don't decide) rad qilish
-to doubt- shubha qilish
- to fail (fail, fail)- muvaffaqiyatsiz
Also, this way of denial applies to some noun:
- failure (failure, crash) muvaffaqiyatsizlik (muvaffaqiyatsizlik, halokat)
And also to negative adverbs:
hardly (hardly) deyarli (deyarli)
scarcely (barely) deyarli (zo'rg'a)

This way of expressing negation in parts of speech is actually lexical way of expressing negation. The very words used in speech carry negative semantics. It's pretty common method. At the same time, negation can move freely from one part speech to another.

Negative pronouns indicate the absence of an object or sign. They are correlative, on the one hand, with indefinite pronouns, on the other hand - with generalizing, denying the presence the concept that the mentioned pronouns express.

So, we can draw the following conclusions:

The main morphological means of denial is prefix and affix, with negative affixes more are common.

At the level of negative particles, not is the primary remedy making a negative offer, but can give negative connotation and individual parts of the sentence (for example, predicate).

Lexical means of expressing negation are the most independent, in view of the fact that the negative semantics of these universals are contained in them themselves, and negation moves freely from one part of speech to another, derivative from it.

At the syntax level, the variability of the negative syntactic constructions in terms of meaning is associated with strengthening and weakening negation values.

REFERENCES

1) Barkhudarov L.S., Stelling. English grammar - M., Higher. shk., 1973. - 423s.
2) Bondarenko V.N. Types of modal values and their expression in language // NDVSh / Philological Sciences - 1979.
3) Bondarenko V.N. Negation as a logical-grammatical category. - M., 1983 .-- 212 p.
4) Graham, Kenneth. The Wind in the Willows. [Text] - M .: Progress, 1976 .-- 360p.
5) Jerome, K Jerome. Three men in a Boat. [Text] - M .: Higher school. - 288p.
6) Leech, G. A Communicative Grammar of English [Text] / Leech, G; Svartvik, J. - M .: 1983. - 224p.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

COMPARATIVE ANALYSIS OF ENGLISH SOMATIC PHRASEOLOGICAL UNITS WITH COMPONENT

Buranva Lola Uktamovna
Senior Teacher Samarkand State Institute of Foreign Languages
ibadovanafisa83@gmail.com, 998915779911

ABSTRACT
The article presents the structural and semantic characteristics of corresponding phraseological units. The relevance of the article is determined by the need for further detailed studies of the somatic phraseology of the study was implemented on the basis of the cognitive models that contribute to revealing the semantics of somatic idioms under consideration

Keywords: somatic phraseological units, somatic idiom, phraseological variation, adjective, somatic, etymology, semantics, compound word, phrase

INTRODUCTION

In the recent decades, the process of anthropology of knowledge has become dominated by the process of anthropology, which raised almost all areas of scientific knowledge and expressed in the desire to comprehend them through the prism of human worldview.

In our rapid time, people are more frequent and more often go into the world, there are intercultural contacts. People began to own other languages for communication, so they need to know the cultural component of the language. In this regard, the study of the language in terms of its interaction with culture has recently become extremely relevant, and therefore a new special direction called linguocultureology has appeared.

The composition of phraseologies and today is the subject of the discussion of researchers. Based on the stability of phraseological units, the equivalence of their word, some scientists, such as L. P. Smith [11], V. P. Zhukov [7], V. N. Telia [13], H. M. Shansky [16], A. Makkai [23], U. Weinreich [25] introduced a wide range of phrases: proverbs, sayings, aphorisms, winged words; Others refer to the main streamology of phraseology (V. V. Vinogradov [6], H. H. Amos [1], A. M. Babkin [3], A. I. Smirnitsky [10]). This implies the diversity of existing classifications of phraseological units , but none of them is optimal.

Somatic (from Greek. Soda - body) phraseology form each, which includes the name of the body of a person or an animal. A person has to emphasize with his animals, plants, environmental objects, as well as inanimate objects, which leads to the language anthropomorphism [5, C. 146]. In addition, somatic vocabulary is combined with numerous sustainable associations associated with religious, mythological, philosophical and other extralyinguistic contexts.

Somatic phraseology is characterized by the presence in the languages of numerous analogues, which is explained not only by borrowing, but also by general patterns, which lead to the emergence of similar in the meaning of phraseological units, "demonstrating the universal nature of the transfer of somatic lexemes, their functional and semantic dynamics in the composition of phraseological units" [9 , 52].

Somatic phraseologisms, in the main mass, are metaphorical or metonymic speech speeds based on human or animal behavior observations: Step On Smb 'S Toes - hurry. Feelings [20, C. 73]. or many years, the study of foreign languages in our country remained the case of narrow-professional, but in our age of globalization, not only the possibilities arose, but also the urgent need to study foreign languages with broad layers of the population. However, this process is complicated by the presence of such a language phenomenon as phraseological circulation. Nevertheless, phraseologists enrich speech, make it shaped, lively and

multifaceted. They reflect the original culture of the people, the features of his thinking and worldview, as well as its history .

Linguculturology, the development of which began in the early 1990s today is one of the most relevant directions of modern linguistics, the tasks of which include learning and description of the relationship and mutual influences of language and culture, language and popular mentality. It relates to both the science of culture and to the science of language.

Linguculturology studies national-cultural semantics of linguistic units in order to understand them in its entirety content and shades, to the extent as close as possible to their perception by the speakers of this language and this culture. In short, this is an aspect of linguistics, which studies the problem of reflection of national culture in the language. The most complete ratio of "Language - Culture" is reflected in the writings V. von Humboldt, who wrote: "A person is predominantly: living with objects as they pretends to him language. Each language describes the circle of the people to whom it belongs, the circle, where does the person come from Only inside, because it enters into a circle of another language. "

The Structure is more complex than that of language units: it includes both a linguistic representation ("form of thought") and an out-of-voice environment (situation, realize). So any word in a person who knows the language is accompanied by a "cultural halo", in the absence of which it is impossible to penetrate the meaning of the text as the expression of the cultural phenomenon.

The process of "oculting" of language units leads to the knowledge and inclusion of a sign-object into a network of cultural associations, characteristic of a particular nation. One of the language units, an important component of which is cultural information is a phraseological unit. The cultural components of the phraseological value focuses the value-semantic relations established in this ethnocultural community, turn out to be a cultural form of knowledge. As a consequence, we can conclude that the phraseological units are a very valuable source of knowledge about the culture of the people and are a direct etymological reflection of the national-cultural specifics of the language community and that is, at this time, phraseological units are the brightest language unit of expression .

The ability of the language metaphor to express worldview and, accordingly, its cultural labeling is based on the connection of its shaped foundation with categories of culture - symbols, stereotypes, references, mythologies and prototypical situations. The metaphor turns out to be loaded by cultural connotations and in cases where it functions in the language as an independent unit, and when it acts as a knitted component of stable phrase.

So, in each language there is a set of expressive metaphors characterizing a person through an allyls to animals, and the content of the images in different national languages and cultural ranges is significantly different, although it can sometimes be partially coincided.

Thus, the phraseological units is the most studied cultural unit of the language, because Phraseological units reflect the national-cultural specificity of the language, its originality. In the phraseology, the rich historical experience of the people is captured, it reflects the ideas related to the work, life and culture of people. The study of phraseology is the necessary link in the assimilation of the language, in increasing the culture of speech.

The correct and appropriate use of phraseologies gives a speech unique originality, special expressiveness, accuracy, imagery. That is why, the task of our study includes analysis, phraseological units from the point of view of their national-cultural specificity. As the analysis of our material showed, special interest for linguacultural studies is also presented, phraseological units of component somatic. This group, phraseological units is a visual example of not only linguistic, but also extralinguistic factors in the language.

REFERENCES

1) Blum A., semantic features of somatic phraseology, Moscow, asteral, 2000.
2) Vinogradov V. V., Lexicology and lexicography: Favorites Proceedings, Moscow: Science, 1977.
3) Kunin A.V., Phraseology of modern English,Moscow: Publisher "International Relations", 1972.
4) Pekler M. A., Russian-German idiotic, Tbilisi: AKD, 1967.
5) Rakhshtein A. D., comparable analysis of German and RussianPhraseology, Moscow: Higher School, 1980.
6) Chernysheva I. I., phraseology of the modern German language,Moscow: Higher School, 1970.
7) Shan N. M., phraseology of the modern Russian language,Moscow: Higher School, 1985.
8) Fernando CH., IDIOMS ANDIDIOMATICITY, OXFORD UNIVERSITY PRESSPublication, 1996.
9) Gibbs. R., Literal Meaning and Figurative Language, Discourse
10) Process 16, 1993.
11) Iskov A., Lenkova A., Deutsche Lexikologie, Moscow, 1970.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

CONCEPTUAL AND TERMINOLOGICAL APPARATUS OF CULTURAL LINGUISTICS

Mukumov Makhmud
EFL Teacher TERSU
caen05@gmail.com

ABSTRACT
The current article focuses on analyzing basic notions of cultural linguistics, its terminology and concepts. The author identifies main trends of the issue, and cites leading scientists' ideas towards the terminological apparatus and cultural linguistics in its turn.

Keywords: terminological apparatus, linguo-culturology, conceptual analysis, ethnolinguistics, conceptual picture of the world (CPW), linguistic picture of the world (LPW)

INTRODUCTION
The starting thesis of anthropological linguistics, according to which language is a constructive property of a person, formed the basis for such trends in modern linguistics as ethnolinguistics (linguo-ethnology), cognitive linguistic and cultural linguistics.
The youngest branch of anthropolinguistics today is cultural linguistics, which, according to S.G. Ter-Minasova, is a complex scientific discipline of a synthesizing type that studies the relationship and interaction of culture and language in its functioning and reflects this process as an integral structure of units in unity their linguistic and extralanguage (cultural) content using systemic methods with a focus on modern priorities and cultural institutions [1, p. 8].
VN Telia defines cultural linguistics as a part of ethnolinguistics, which is devoted to the study and description of the correspondence of language and culture in their synchronous interaction. According to the author, linguocultural studies devoted to the cultural and national aspect of the meaning of phraseological units, as well as other linguistic entities, should include information about the characterological features of the mentality, the content of which is manifested in cultural connotation. The latter is one of the basic concepts of cultural linguistics - a scientific discipline that explores material culture and mentality embodied in a living national language, which are manifested in linguistic processes in their effective continuity with the language and culture of an ethnic group [2, p. 97-99].
The author emphasizes that cultural linguistics is designed to explore and describe the interaction of language and culture not only in its ethnic forms, but also in the forms of national and common human cultures in their current state or in certain synchronous sections of this interaction. Synchronous sections are understood as certain periods or epochs in the life of the people as a whole or of any of its social groups that have had a noticeable impact on the formation of the mentality of the people [2, p. 99-100].
Thus, cultural linguistics is a discipline intermediate between linguistics and cultural studies, the main goal of which is to study the processes of cultural and linguistic synthesis operating in the modern state of language. Since the right to exist and the maturity of any discipline is determined by the presence and degree of formation of its categorical apparatus, we consider it necessary to provide an explanation of a number of terms that are key concepts in this area of linguistics. The basis of the categorical apparatus of cultural linguistics is formed by the concepts of a conceptual picture of the world, a linguistic picture of the world, a concept and a linguistic personality, as well as cultural connotation.

LITERATURE REVIEW
The core concept of the linguoculturological direction is the theory of pictures of the world, which originates from the appearance of the works of L. Weisberger. This theory is based on the dyad "conceptual picture of the world - linguistic picture of the world", which are considered as bilateral unity. Such linguists as D.A. Dobrovolsky, G.V. Kolshansky, O.A. Radchenko, B.A. Serebrennikov, V. . N. Telia and many others.
A conceptual or conceptual picture of the world (CPW) is a "conceptual framework", an "ideal cast" of objective reality, on the basis of which a native speaker learns the world and communicates with other native

speakers. As EV Gorodetskaya rightly notes, the conceptual picture of the world is identical to the conceptual sphere of this or that ethnic group, and therefore is ethnospecific [3, p. 4].

The way of explication of knowledge that creates a conceptual picture of the world is the linguistic picture of the world (LPW), "a set of patterns contained in categories (morphological, word-forming, syntactic and lexical) reflecting the ways of seeing the elements that make up the world characteristic of a given language as well as the existing hierarchy of values recognized by native speakers "[4, p. 30].

RESULTS AND DISCUSSION

According to V.A. Maslova, each language in its own way dividing the world, that is, it has its own way of conceptualizing it. Hence, we can conclude that each language has a special picture of the world, and the linguistic personality is obliged to organize the content of the utterance in accordance with this picture. And in this, a specifically human perception of the world, fixed in the language, is manifested [5, p. 67 - 68].

Bao Hong shares this point of view, arguing that each language has its own way of perceiving and reflecting the world and creates its linguistic picture in its own way. Awareness of this peculiarity becomes clearer in the process of comparison with another system of perception. The difference in the linguistic picture of the world, the absence of names of certain objects and phenomena that exist in one culture and have no analogues in another, leads to a difference in linguistic understanding [6, p. 305 - 310].

According to G.V. Kolshansky, the formation of a picture of the world in a historical perspective goes from the initial point of cognition (mythological, naive) to scientific (for example, the state of science at the turn of the XX-XXI centuries), which shows a relatively adequate idea of a person about the world. Language, according to the author, acts as a way to consolidate all the reflective activity of thinking - activity, which, in turn, is inextricably linked with the practical (physical) human activity [7, p. 78-79].

The author emphasizes that the existence of language as a material form of consolidating a person's thinking, and, consequently, the body of knowledge that a person's thinking has at a certain stage, creates a new problem in interpreting the content of the expression "picture of the world". This problem turns the question of the content of this expression in such a way that the picture of the world as a body of human knowledge about the world is replaced by the picture of the world that exists in the language, that is, the "linguistic picture of the world" [7, p. 79-80].

V.A. Maslova emphasizes that the linguistic picture of the world forms the type of a person's attitude to the world, i.e. to nature, animals, oneself as an element of the world, etc. It sets the norms of human behavior in the world, determines his attitude to the world. Each natural language reflects a certain way of perceiving and organizing ("conceptualizing") the world. The meanings expressed in it add up to a certain unified system of views, a kind of collective philosophy, which is imposed as mandatory on all native speakers [5, p. 3 - 24].

As noted by N.S. Novikova and N.V. Cheremsina, in the structure of each linguistic picture of the world in the process of its formation and functioning, three pairs of tendencies-antinomies act, as in the system of any language and literary text: a) towards stability / dynamics , b) to the standard / expression, c) to economy / redundancy [8, p. 47].

Thus, being a complex and multidimensional phenomenon, the linguistic picture of the world includes not only the linguistic system, its units and correlations, but also the peculiarities of their use, conditioned, among other things, by such factors as ideas about the world and the system of universal and national values expressed in the language.

E.V. Uryson, agreeing with the opinion of many scientists, writes that it is customary to contrast the linguistic picture of the world with the scientific one. Emphasizing the "pre-scientific" nature of the linguistic model of the world, it is also called naive. The author points out that a naive picture of the world is usually interpreted as a reflection of everyday (philistine, everyday) ideas about the world. In other words, it is believed that language reflects our most ordinary, everyday ideas about a particular object (situation). Thus, on the one hand, the studied fragment of the linguistic model of the world corresponds to our, not explicated by anyone, everyday ideas about this piece of reality. On the other hand, this same fragment of a naive picture of the world may differ from scientific knowledge, which a modern educated person is inclined to regard as a standard of "correct ideas." However, the last statement is not contradicted by the fact that intuitive ideas about things are not always at odds with scientific ones. This is largely due to the fact that in the model of the world of modern man, the border between the naive and scientific pictures has become less distinct, since the

historical practice of mankind inevitably leads to an ever wider invasion of scientific knowledge into the sphere of everyday ideas imprinted in the facts of language, or to the expansion of the scope of these everyday ideas at the expense of scientific concepts.

According to SG Vorkachev, "the naive picture of the world" as a fact of everyday consciousness is reproduced fragmentarily in the lexical units of the language, however, the language itself does not directly reflect this world, it only reflects the way of representing (conceptualizing) this world by the national linguistic personality, and therefore the expression " the linguistic picture of the world "is rather arbitrary: the image of the world, recreated according to only one linguistic semantics, is rather caricatured and schematic, since its texture is intertwined mainly from the distinctive features underlying the categorization and nomination of objects, phenomena and their properties, and for the adequacy the linguistic image of the world is corrected by empirical knowledge about reality, common to users of a certain natural language [9, p. 65 - 68].

An important component of the conceptual picture of the world is the concepts, by which A. Vezhbitskaya suggests to understand objects from the ideal world, having a name and reflecting a culturally conditioned idea of a person about reality [14, p. five]. According to Yu.S. Stepanov, a concept is, as it were, a "clot of culture in the mind of a person", objectified in linguistic form [10, p. 40]. According to the researcher, the concept is a multidimensional semantic formation, including 1) the main, actual feature; 2) additional or several additional, "passive" features that are no longer relevant, "historical"; 3) an internal form, usually completely unconscious [10, p. 12]. At the same time, not only individual words, but also idiomatic expressions and precedent texts take part in the verbalization of concepts. The conceptual sphere of this or that ethnic group includes both universal and national-specific concepts, and even the former can be "painted" in national colors under the influence of the mentality of the ethnic group [3, p. five]. The presence of national-specific concepts in the KKM leads to the appearance of lacunae, which indicate the existence of national features in the perception of the world and the categorization of the world by different ethnic groups.

SG Ter-Minasova argues that the question of the relationship between cultural (conceptual, conceptual) and linguistic pictures of the world is complex and multifaceted. She does not agree with the assertion that the conceptual and linguistic picture of the world correlate with each other as a whole with a part and with the fact that although the linguistic picture is the most essential part of the cultural picture, it is poorer than the cultural one, since, along with the linguistic, they participate in the creation of the latter. and other types of mental activity, as well as due to the fact that the sign is always inaccurate and is based on any one sign. She believes that it is more correct to speak not about the part - whole relationship, language - part of culture, but culture is only part of the language. This means that the linguistic picture of the world is not completely absorbed by culture, if by the latter we mean the image of the world refracted in the consciousness of a person, that is, a person's worldview, created as a result of his physical experience and spiritual activity. The cultural and linguistic picture of the world are closely interconnected, are in a state of continuous interaction and go back to the real picture of the world, or rather, just to the real world surrounding a person [1, p. 54 - 58].

The process of transformation of the conceptual picture of the world, realized in the form of linguistic signs, is carried out through the prism of a linguistic personality, "fixed mainly in the lexical system of the basic national-cultural prototype of a native speaker of a certain language, a kind of" semantic positions reflected in the dictionary "[9, p. 66]. As noted by Yu.N. Karaulov, who developed the concept of a linguistic personality, three levels are distinguished in its structure, namely, verbal-semantic, linguo-cognitive (thesaurus) and motivational. At the same time, if the personality of a certain native speaker is most explicitly manifested at the highest, motivational level of the language, then the cultural specificity of the entire nation is manifested precisely at the linguo-cognitive level, reflecting the nation's system of values, its cultural-specific characteristics.

According to SG Vorkachev, a "linguistic personality" is understood as a person as a native speaker, taken from the side of his ability to speech activity, essentially a speech personality. A "linguistic personality" is also understood as a set of features of the verbal behavior of a person who uses language as a means of communication - a communicative personality. And, finally, a "linguistic personality" can be understood as a basic national-cultural prototype of a native speaker of a certain language, fixed mainly in the lexical system, compiled on the basis of ideological attitudes, value priorities and behavioral reactions reflected in the dictionary - a vocabulary, ethnosemantic personality [9, p. ... 66 - 67].

G.V. Kolshansky points out that the active process of reflecting reality in the mind of a person is accompanied simultaneously by an active process of speech production, i.e. the conscious objective world is fixed as the mental world of a person, which exists on the basis of a natural sound language [7, p. 77-78].

According to V.I. Tkhorik, the problems associated with the linguistic personality were and are being solved with an orientation towards the need to take into account the role of the human factor in the language, which, in turn, is associated with the identification of the relationship between the language and the picture of the world. At the same time, two pictures of the world are distinguished - linguistic and conceptual. The author believes that the conceptual picture is richer than the linguistic picture of the world, since different types of thinking are involved in its creation, incl. and non-verbal [11, p. 113 - 114].

As N.V. Kurbatova notes, it is impossible to comprehend the peculiarities of the national picture of the world without studying the consciousness of a person, recorded with the help of language. The author rightly believes that the most powerful source of interpretation of national standards is the phraseological fund, since the typicality of the images underlying the meaning of stable units, the presence of symbols and standards of the world outlook in them is the result of collective representation. The national-cultural significance of stable units is realized on the basis of an unconscious or conscious correlation of this living meaning with the cultural codes known to the speaker, which is the content of the national-cultural connotation [12, p. 5-6].

The primary problems of cultural linguistics include the study of verbal means and methods of storing cultural information, one of which is the cultural-national connotation, i.e. "all associative historical, everyday, emotional-expressive-evaluative, stylistic connotations that are formed in the semantics of phraseological units as a reflection of national identity and the spiritual world of a certain ethnic group and are reflected in connotative semes" [14, p. 6].

CONCLUSION

Thus, the surrounding reality is reflected in the so-called conceptual or conceptual picture of the world, consisting of a number of concepts, which, in turn, is reflected in the language as a linguistic picture of the world, represented by linguistic units. At the same time, the conceptual and, consequently, the linguistic picture of the world are nationally specific, i.e. tend to reflect the national culture and mentality of the native speaker. Obviously, most of the above categories are mental formations devoid of any real expression. In this light, it becomes clear why it is precisely the units of the lexical composition of the language that have become and are becoming the object of research for those who study the interaction of language and culture. As noted by A. Vezhbitskaya, the meanings of words reflect and convey the way of life and way of thinking, characteristic of the linguistic community and are invaluable keys for understanding culture [14, p. 267]. In the opinion of most researchers, even more indicative in this regard are the units of the phraseological fund of the language, reflecting in their inner form the vision of the world, national culture, customs and beliefs, fantasy and the history of the people speaking it.

To create a holistic concept of the linguistic picture of the world, it is necessary to deeply study its various fragments, such as individual lexical and semantic groups, microfields and conceptual sphere, in which botanists play a significant role.

REFERENCES

1) Ter Minasova S.G. Language and intercultural communication. - M.: Word / Slovo, 2000. - 624c.
2) Telia V.N. Russian phraseology. Semantic, pragmatic and linguculturological aspects. - M.: School "Languages of Russian Culture", 1996. - 288C.
3) Gorodetska O.V. National District Markovi Concept in British Movniy Picks Svitu XX Tipitty: Author. dis. ... Cand. Filol. science - KIIV, 2002. - 24c.
4) Shapkin ON The image of the sky in the Polish language picture of the world // Bulletin of Moscow State University. Ser. 19. Linguistics and intercultural communication. - 2003. - № 2. - C. 31-35.
5) Maslova V.A. Linguculturology. - M.: Publishing Center "Academy", 2004. - 208C.
6) Bao Hong. National and cultural specificity of phraseological units in Russian and Chinese // phraseology in the context of culture. - M.: Language of Russian Culture, 1999. - P.305-310.
7) Kolzhansky G.V. An objective picture of the world in knowledge and language. - M.: Union of URSS, 2005. - 128C.

8) Novikova N.S., Cheremisina N.V. Multi-family in the realities and general typology of language paintings of the world // Philological sciences. - 2000. - № 1. - P. 40-49.
9) Vorkachev S.G. Linguoculturеology, language personality, concept: the formation of anthropocentric paradigm in linguistics // Philological sciences. - 2001. - №1. - P. 64-72.
10) Stepanov Yu.S. Constants. Dictionary of Russian Culture. - M.: Rusky Yazik, 1997. - 824 p.
11) Thorik V.I. Linguoculturеology and intercultural communication. - Krasnodar: cube. State University, 2003. - 260c.
12) Kurbatova N.V. Palevia, poinamic expressions and people of judgments as a reflection of the national cultural specificity of the language painting of the world: author. dis. ... Cand. Filol. science - Krasnodar, 2002. - 26 p.
13) Melnik L.V. Cultuno-National Dovetzia Ukrainian phraseologist: dis. ... Cand. Filol. science - Lugansk, 2001. - 206s.
14) Welgezkaya A. Semantic universals and descriptions of languages. - M.: Languages of Russian Culture, 1999. - 780 p.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

INTERCULTURAL COMMUNICATIVE COMPETENCE IN ENGLISH LANGUAGE TEACHING IN UZBEKISTAN

Khamzayev Otakhon
EFL Teacher TerSU
+9989672992, otahonhamzayev@gmail.com

ABSTRACT
This article is devoted to the formation and development of students' communicative competence when studying a foreign language In the university and its role in the formation of intercultural communication. Cultural and mental differences of native speakers, which is a prerequisite for a successful dialogue of cultures.

Keywords: intercultural (social) competence, interethnic communication, cultural dialogue, ethnocultural values, intercultural communication.

INTRODUCTION

Since the language is a mirror of culture, a piggy bank of culture, a transmitter, a tool and a culture tool, a solution to the actual task of learning in foreign language as a communications too between representatives of different nations lies in the fact that Languages should be studied in unity with the world and culture of peoples, speakers in this language [1, p. 78].

The process of globalization, developing at present, leads to the expansion of interactions of various countries, peoples and their cultures. Influence is carried out by cultural exchanges and direct contacts between state institutions, social groups, social movements, by scientific cooperation, trade, tourism, etc. Communication with foreigners becomes reality, and a clash with representatives of other culture is included in our daily life. More often, educational institutions exchange students and schoolchildren, teachers organize joint projects and undergo internships abroad, participating in the intercultural communication and dialogue of cultures.

Achievement of mutual understanding in the intercultural communication process promotes intercultural competence. Intercultural competence is the ability to communicate in a foreign language, taking into account the difference in cultures and stereotypes of thinking. Several aspects of intercultural competence warrant further comment. First, intercultural competence does not involve abandoning one's own cultural identifications or affiliations, nor does it require individuals to adopt the cultural practices, beliefs, discourses or values of other cultures.

Intercultural competence instead involves being open to, curious about and interested in people who have other cultural affiliations, and the ability to understand and interpret their practices, beliefs, discourses and values. Intercultural competence enables people to interact and co-operate effectively and appropriately in situations where cultural "otherness" and "difference" are salient. It also enables people to act as "media- tors" among people of different cultures, and to interpret and explain different perspectives.

That said, encounters with people from other cultural orientations can be a source of personal development and enrichment if their perspectives are integrated into one's own sense of self. Second, because intercultural competence involves learning about and interpreting other people's cultural perspectives and relating them to one's own, interculturally competent individuals are able to use their intercultural encounters to learn about and reflect critically on their own cultural affiliations.

Due to the enculturation process in which cultural beliefs, values and practices are acquired particularly during child- hood and adolescence, it can be difficult to psychologically decentre from one's own affiliations. Interculturally competent individuals acquire a more critical awareness and understanding of their own cultural positioning, beliefs, discourses and values through comparing and relating them to those of other people.

For this reason, intercultural competence not only enhances one's knowledge and understanding of other people; it also enhances self-knowledge and self-understanding. Third, it is important to emphasise that language has a privileged role within intercultural encounters because it is the most important (although not the only) symbolic system which enables group members to share their cultural perspectives, beliefs and values.

When people interacting have similar cultural affiliations, the medium of language itself is not usually a salient problem from the point of view of communicating with each other. However, when people with different languages (or sometimes just different language varieties) interact, language becomes highly salient because they are unable to communicate effectively.

Thus plurilingual competence and communicative awareness are crucial components of intercultural competence. It is important to acknowledge and understand the relationship between language and culture, and between language competence and intercultural competence.

Because there is no simple, one-to-one correspondence between languages, and because languages carry meanings (some of which are unique to particular cultural perspectives), competence in a language is crucial to understanding the cultural perspectives, beliefs and practices to which it is linked. When studying a foreign language, the learner performs various kinds of action, during the execution of which it develops language and communicative, as well as general competencies.

General competencies include: the ability to learn, existential competence, declarative knowledge, skills and skills. General competencies are not linguistic, they provide any activity, including communicative.

Communicative competence is a fundamental and interpreted mainly as the ability to understand and generate Inactive statements in accordance with a specific situation and communicative intention and allows you to carry out activities using language tools. In turn, language funds provide an understanding lexico-grammatical and genre-stylistic features speeches and texts, countryed and sociocultural knowledge

The following components of communicative competence are allocated:

- Grammatical or linguistic competence - systematic knowledge of grammatical rules, vocabulary and phonology, which transform lexical units into a meaningful statement;
- Sociolinguistic competence - the ability to choose and use adequate language forms and means depending on the purpose and situation of communication, on social roles of participants in communication, i.e., from who is a partner to communicate. Includes knowledge of the language system and the rules for operating with language knowledge in speech activity in various spheres of communication and communicative situations;
- Discursive competence - the ability to build holistic, connected and logical statements of different functional Styles in oral and written speech on the basis of understanding various types of texts when reading and listening; assumes a choice linguistic means depending on the type of statement;
- Sociocultural competence - includes the whole set knowledge and ideas about the world and culture of the country under study, about the cultural characteristics of the native speaker, about their habits,

Traditions, behaviors and etiquette standards. The ability to understand and adequately use them in sociocultural competence implies integration of personality in the system of world and national cultures;

- Pragmatic competence - transmits communicative content in a situation of communication;
- Self-educational competence - is the most relevant in modern conditions, which is explained by the following reasons: in modern conditions for the rapid development of science, information updates are impossible to teach a person for life.It is important to develop in it

Skills of interacting, as well as other components of intercultural competence, are thus very much dependent on at least one partner in the interaction having competence in the language of the other (or both partners having competence in at least one common language – a lingua franca). Where both partners have plurilingual competence which includes the other's language, the interaction will be all the richer and more successful.

Fourth, it is important to acknowledge that intercultural competence alone may not always be sufficient to enable individuals to engage in successful intercultural dialogue. This is because there are often systematic patterns of disadvantage and discrimination, and differentials in the allocation of resources within populations, which effectively disempower many groups of individuals with particular cultural affiliations from participating on an equal footing in such dialogue (irrespective of their levels of intercultural competence).

These inequalities and disadvantages are often further compounded by disparities of power and by institutional constraints and biases which lead to the terms of the dialogue being dictated by those occupying positions of privilege.

Thus, in order to achieve harmonious societies in which all are able to participate fully in intercultural dialogue, the development of intercultural competence through education needs to be implemented in conjunction with and alongside measures to tackle inequalities and structural disadvantages, including giving special assistance to those with socio-economic disadvantages, taking action to counter discrimination, and

remedying educational disadvantages. Finally, there is now a considerable body of research into intercultural competence.

The significance of intercultural competence may not be acquired simply through exposure to and encounters with people with other cultural affiliations if the contact takes place under unsuitable conditions. However, intercultural competence can be enhanced through a range of intercultural experiences, for example by participating in intercultural events that have been organised in an appropriate manner and by attending educational institutions which have a non-discriminatory environment. It has also been found that intercultural competence can be enhanced through intercultural education and training. Moreover, the research indicates that intercultural competence is a lifelong developmental process, and that there is no point at which someone achieves full intercultural competence.

The study of intercultural communication problems involves acquaintance with the following phenomena and concepts: the principles of communication, the main functions of culture, influence

Cultures on perception and communication in its various spheres and species, parameters for describing the effect of culture on human activity and the development of society [see: 4, p. 73].

The formation of intercultural competence should be considered in connection with the development of students' ability to participate in the dialogue of cultures based on the principles of mutual respect, tolerance to cultural differences and overcoming cultural barriers. Intercultural training is aimed at forming.

Students have the ability to intercultural communication and contributes to both the awareness of the students of their belonging to a certain ethnic group, and familiarize themselves with the traditions and cultural features of representatives of another culture.

REFERENCES

1) Welgezkaya A. A. Language. Culture. Cognition / Ed. M. A. Krongauz. M., 1997.
2) Gabdulhakov V. F., Gareeva A. M., Garifullina A. M. On lingvodidactics of a polycultural education // Education and self-development.2012. No. 5.
3) Podchurezki Yu. Yu., Dombrovska A. Yu. Language and communicative competence in the context of the modern paradigm of cultures // Education and self-development. 2012. No. 5.
4) Sviridon R. A. Formation of intercultural competence of the future specialist in the field of world economy by the means of business English / innovative educational technologies in the teaching of foreign languages: Sat. Scientific Tr. II International. Summer shk.For young researchers. Tomsk, 2005.
5) Solovova E. N. Methods of teaching foreign languages. M., 2002.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

THE SIGNIFICANCE OF DISCOURSE ANALYSIS IN LANGUAGE TEACHING AND LEARNING

Tadjieva Mastura Fayzullaevna
Senior Teacher, Termez State University,Uzbekistan
tadjieva.mastura@mail.ru, 998972432826

ABSTRACT
The article deals with the role of Discourse Analysis in English Language Teaching. In this paper the methodological significance of discourse to master language materials in teaching a foreign language has been determined**.**

Keywords: discourse analysis, discourse competence.

INTRODUCTION

Over the past decades, after the publication of Z. Harris's book "Analysis of Discourse" in 1952, the concept of "discourse" has become interdisciplinary. Currently, this phenomenon is being studied by various sciences, and each puts its own meaning into it.

MAIN PART

In the mid 70s of the XX century the concept of "discourse" penetrated into the theory of teaching foreign languages. This happened, when the term "discourse" appeared in a number of articles devoted to the problems of teaching and learning foreign languages. Traditional language teaching methods were mainly concerned with grammar. Even with perfect knowledge of grammar most learners had difficulty in using the language for communicative purposes. As Widdowson states "Knowing a language does not mean to understand, speak, read, and write sentences, it means to know how sentences are used to communicate effectively."[3] Towards the end of 1970s teachers changed their direction to teaching language as communication. The purpose of teaching foreign languages has become to form communicative competence of learners, that is, to accept language as a tool for communication. Now teachers should be responsible for training students accordingly. Therefore, discourse should be considered as the most important component of teaching foreign languages.

As stated by Cook there are “two different kinds of language as potential objects for study: one abstracted in order to teach a language or literacy, or to how the rules of language work, and another which has been used to communicate something and is felt to be coherent. This latter kind of language – language in use, for communication- is called discourse: and the search for what gives discourse coherence is discourse analysis.” [2] Brown and Yule state "the analysis of discourse, is necessarily, the analysis of language in use. As such, it cannot be restricted to the description of linguistic forms independent of the purposes or functions which these forms are designed to serve in human affairs." [1]

According to Cook novels, as well as short conversations or groans might be equally rightfully named discourses.[2]

Seven criteria which have to be fulfilled to qualify either a written or a spoken text as a discourse have been suggested by Beaugrande. These include:

Cohesion – grammatical relationship between parts of a sentence essential for its interpretation;

Coherence – the order of statements relates one another by sense.

Intentionality – the message has to be conveyed deliberately and consciously;

Acceptability – indicates that the communicative product needs to be satisfactory in that the audience approves it;

Informativeness – some new information has to be included in the discourse;

Situationality – circumstances in which the remark is made are important; Intertextuality – reference to the world outside the text or the interpreters’ schemata

The application of discourse analysis in the theory and practice of teaching foreign languages is important. The analysis of discourse encourages students to reconsider the ‘rules’ of language with which they are already familiar. The aim of teaching discourse analysis is to develop students’ awareness how language is described and used and to enable students to analyse spoken and written discourse from different perspectives.

With the help of discourse analysis students will be able to compare written and spoken discourse in English, be more aware of phonological, lexical, grammatical features of different types of discourse, be able to distinguish main features of different written discourse types, be more aware of conversational features of spoken discourse and sociolinguistic dimensions in discourse. The discourse analysis provides students with the opportunity to study the meaningful production and interpretation of texts and talk which may include written texts of all kinds, and spoken data, from conversation to highly institutionalised forms of talk. Successful interaction, in both written and spoken form, is essential in language learning. When you do discourse analysis, you might focus on the purposes and effects of different types of language, cultural rules and conventions in communication, how values, beliefs and assumptions are communicated, how language use relates to its social, political and historical context. It aims to understand how language is used in real life situations.

"While some linguists may concentrate on determining the formal properties of a language, the discourse analyst is committed to an investigation of what that language is used for" [1] Grammar analysis focuses on the structure of sentences while discourse analysis focuses on the broad and general use of language within and between particular groups of people. In terms of textual analysis, grammarians may examine texts in isolation for elements, but discourse analysis takes into account the social and cultural context of a given text. Pronunciation, grammar and vocabulary are essential elements in communication, and discourse is realized through them. Students should study language materials not in isolation, but in context, that is, in a discourse that shows how a linguistic phenomenon is used in a particular speech situation. Discourse is extremely important for mastering language materials. Discourse and formal skills are interdependent and must be developed together. We need to consider activities which can develop discourse skills, without concentration on any one aspect in isolation. These will be activities in which students handle all the interlocking systems of discourse at once, and those of grammar, vocabulary, and pronunciation as well.[2]

Let`s turn your attention to existing exercises and activities for the language learners. Many activities are designed in the communicative approach, because using language for communication of necessity involves discourse in operation. Activities in Communicative Approach are mainly focused on students in realistic and meaningful communication. This kind of activities and practice give students motivation to learn. Activities are carried out to fulfil specific purposes such as booking a plane ticket, answering an invitation letter, shopping,etc. In this case we refer to the types of speech and functions :

Spoken interaction - telephone calls (business or private), service encounters (shops, ticket offices, etc), interviews (jobs, journalistic, in official settings), casual conversation (strangers, friends, intimates), organizing and directing people (at work, at home, in the street);

Spoken production - monologues (speeches, stories, jokes), language-in-action (talk accompanying doing: fixing, cooking, demonstrating, assembling etc), classroom language (classes, seminars, lectures, tutorials);

In communicative activities conversational features like politeness, appropriacy: hesitation devices and pragmatic strategies are also considered.

It should be noted that language teaching should not follow only a bottom-up approach in isolated sentences, without developing the way that system operates in context. The bottom-up approach may be a very fruitful way of trying to understand what language is and how it works, but that does not mean that it is the best way to teach a language. A top- down approach which considers all levels of communicative products as a whole is more holistic. It is important to make students be aware of these two ways and take advantages of both approaches.

CONCLUSION

In conclusion it can be said that the above characteristics of discourse determine discursive competence, the formation of which is one of the goals of teaching foreign languages. As the main aim of teaching English is to form the communicative competence of learners, language should not be taught in isolation but in discourse. Foreign language learners should be exposed to genuine circumstances or natural input frequently. It gives them the opportunity to store, develop and use the knowledge about the target language effectively. Thus, in order to avoid difficulties in language teaching, discourse of language has to be taught carefully by the teachers.

REFERENCES

1) Brown, G. and Yule, G. (1983) Discourse Analysis. Cambridge: CUP. (1983:1)
2) Cook G. (1995) Discourse. Oxford: Oxford University Press.
3) Widdowson, H. (1979b) Teaching English as Communication. Oxford: OUP.
4) McCarthy M. 1991. Discourse analysis for language teachers. Cambridge: CUP.
5) Renkema J. 2004. Introduction to discourse studies. Amsterdam: John Benjamins

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

THE USE OF AUTHENTIC VIDEO MATERIALS IN ORDER TO INCREASE THE MOTIVATION TO THE STUDY OF ENGLISH LANGUAGE

Ibadova Nafisa Akhmatilloyevna
Senior Teacher Samarkand State Institute of Foreign Languages
ibadovanafisa83@gmail.com 998915779911

ABSTRACT

The article examines the use of authentic audio/video materials at foreign language lessons that enhances motivation to learn English. Some characteristic features of authentic materials and main stages of the work with authentic audio/video materials are described, different exercises area also provided. Based on the results of the experiment it is revealed that the use of authentic materials helps to form positive motivation and to develop the communicative competence.

Keywords: motivation, authentic materials, authentic audio/video materials

INTRODUCTION

Currently, in the method of teaching foreign languages, special attention is paid to the search for active methods and forms of learning, with the help of which the high level of activity of students' training activities was achieved and the conditions were created to increase their motivation to the study of the English language. Good assistants to achieve this goal are modern technical means, a special place among which is occupied by authentic audio and video materials. They provide the ability to educate the skills of perception of speech speech of the language, which reflects the peculiarities of the national culture, lively real reality, which stimulates the cognitive interest of students, their willingness to discuss the problems, to enter into a discussion.

In the organization of the modern educational process, the motivation of students play a huge role. The problem of studying motivation is engaged in both domestic and foreign psychologists. The multiplicity of approaches to understanding the essence of motivation, its nature, structure, as well as the methods of studying, determines the complexity and many aspects of the problem of motivation. But, despite the diversity of approaches, the motivation is understood by many authors as a totality, a system of psychologically heterogeneous factors determining the behavior and human activity. The quality of activity and its results depend primarily from the prompting and needs of the individual, its motives. As motifs, the needs and interests, aspirations and emotions, installations and ideals are in relation to each other [Sub-clause 2013] contributed to the disclosure of the internal motivational potential of the student's personality.

Based on this, it is possible to consider the conditions for internal motivation of students. One of them is freedom to choose a student. A student, having the opportunity to choose an educational institution, specialty, training program, types of classes, the form of control is experiencing much greater responsibility for its results. It is also important if possible, relieve external control and minimize the application of awards and penalties for the results of learning, as this leads to the weakening of internal motivation. External awards and punishments, first of all, are not needed for control, but in order for the study to know about the success of its activities, the level of its competence.

Similarly, pushing out of the requests, interests and aspirations of the student, should develop learning tasks. Complies with the needs of the learner and be significant for him, the results of his training. The student should have an idea that studying and its results is an important step in life path [Markova 2014].

It is equally important to organize classes so that the learning it is interesting from the process of the teachings and joyfully from communicating with the teacher, classmates. The use of interesting tasks with high motivational potential also increases internal motivation.

The result of a similar learning strategy is to increase the attractiveness of success, confidence in their forces and, as a result, optimal motivation and successful study. Authentic video materials, in our opinion, are an effective means of improving motivation to the study of a foreign language. The problem of authentic materials used in training in foreign languages causes a lot of disagreements in itself. The concept of authentic materials in the technique appeared not so long ago. But by now, there are several approaches to determine the essence of authentic materials.

So, Krchevskaya gives a definition of authentic materials, calling them with genuine literary, folklore, visual, musical works, objects of real reality, such as clothing, furniture, dishes and their illustrative images, highlighting materials of everyday and domestic life in an independent group: Pragmatic materials (ads, questionnaires -Other, signs, labels, menu and accounts, cards, advertising prospectuses on tourism, recreation, goods, work vacancies, etc.), which, in accessibility and domestic application, are pretty significant to create an illusion of admission to the habitat of native speakers and consider that their role is an order of magnitude higher than authentic texts from the textbook, although they may give them in terms of [Krichevskaya 2016]. With the other side, this material is sometimes too complicated in the language aspect and does not always meet the specific tasks and conditions of learning. For training it is recommended Select methodologically or educational and authentic texts. Under educational and authentic texts are understood by the arts compiled by the authors, taking into account all the parameters of authentic educational production.

The main criterion of authenticity is the functionality criterion. Under functionality it is understood as the orientation of authentic materials on life use, to create an illusion of admission to a natural language environment, which is the main factor in successfully mastered by a foreign language. Work on a functionally authentic material brings closer to the real conditions for the use of the language, introduces it with a variety of linguistic means and prepares for independent authentic use of these funds in speech. Active penetration into the practice of educational institutions of new technical means allows to allocate and consider the use of video materials as a method of learning. The use of authentic video materials is not only for the presentation of knowledge, but also for their control, consolidation, repetition, generalizations, systematization, and, therefore, successfully performs all didactic functions.

The use of authentic video materials is based primarily at the visual perception of information. It assumes both inductive and deductive ways to absorb knowledge, various degree of independence and cognitive activity of students, allows one-personal ways to manage the cognitive process. In essence, it is already about the complex didactic technology [Lonergan 2014].

As a rule, mastering foreign language as a means

Intercultural communication occurs in the absence of a natural communication environment, so it is important to note that authentic video materials can help increase the motivation of students, being an effective means of forming the necessary skills and skills, mainly because they show integral scenarios, clearly represent sociocultural reality, context and communication situation . Work with authentic video materials contributes to the intensification of learning, stimulates the read-honored, educational, creative activity of students, allows individualization of training. It is important to choose such a material that will correspond to the level of knowledge of students, goals and tasks of training.

Methodical work with audio and video material traditionally consists of three stages: preparatory, textual or Demonstration and after the demonstration.

In the first, preparatory stage, the purpose of the teacher to facilitate

The perception of foreign language speech for students, having prepared certain tasks, for example, exercises for an exercise on the content of the fragment on pictures or title, or the choice of faithful / wrong statements, defining the topic of audio / video fragment on the proposed list of words.

Such tasks help the student intensifying their vocabulary. reserve, collect sociocultural and background knowledge according to a specific topic, decrease both language difficulties and psychological stress.

Tasks that are performed directly during listening, at the demo stage, are directed to extract necessary information. Through such exercises, as, for example, to correlate printed information with the voice speech by the speech, insert skips, determine the correct answer from several above options, you can check the skills of learning to navigate the text of the audio and video material, find the necessary information.

After the demonstration stage, the degree of understanding is checked and

Penetration into the content of the fragment as a whole and its individual parts.

Here you can highlight three types of exercises: reproductive, partially

Reproductive and productive or creative.

Reproductive and partially productive types of tasks better offer learning with low and medium levels of language competence. This, for example, such tasks where students should determine which of the proposed statements correspond, and which do not correspond to the film's plot; Answer specific questions, most often these are common questions requiring the answer "Yes" or "No" or dividing questions. Then there may be alternative and special questions.

Creative tasks can be offered with a higher level of language competence. These include the retelling of the plot, discussing the problems of the film in small groups, the transformation of the material (televisionality - a written representation of the news is a story); Production of text (retelling, summary, description, etc.); solving problem tasks (selection of information with a specific purpose, analysis, argument, refutation, proof, allocation of the essential, main); Project tasks (reports, reports on topics, etc.).It is worth noting several well-known series of authentic training video that can be widely used in addition to the study

Material for students on the middle stage: "Window on Britain", "This IS BRITAIN, "" Wizadora "," Top Show ". For practical confirmation of theoretical conclusions, an experiment was carried out, the purpose of which was to identify the effectiveness of the use of authentic audiovisual materials in English classes.

At the beginning of the experiment, test control was conducted in

Two groups to verify the perception and understanding of the English speech on the hearing available from the student skills and skills. Following the test, it turned out that the quality of knowledge among students is about the same. This is due to the fact that the performance in classes is approximately the same, and they operate according to a single program. The most typical errors for students when activating the skills and skills of auditing.

There were lack of words within a certain topic, misunderstanding of the main content and basic facts contained in the text, inability to find

Text or some texts of the desired or specified information.

Learning in all groups lasted 6 weeks, which was 18 lessons. In the control group, classes took place on the usual technique. Only those texts and tasks that suggested The program, and in the experimental group, classes were carried out with the introduction Authentic audiovisual materials. Excerpts were selected from

Authentic video phrases from the video courses "Window on Britain", "TOP

Show "," This Is Britain "," Easy English "," Real English ". Training S.

Application of authentic materials on a developed complex

exercises took place 2 times a week, from 10 to 25 minutes of each

lesson. At each lesson, the disciples performed tasks aimed at

Formation of phonetic, lexical and grammatical skills when auditing.

According to the results of the experiment, quality improvement was noted
Knowledge in the experimental group by 9.75% compared with the control group.
So, the analysis of these experimental and experienced learning allows argue that the use of authentic audio / video materials at
Properly built working with them allows you to effectively form the skills of perception and understanding of the text on the rumor, promotes the rapid and easy learning learning material, develops the memory of the students, sets them on active work in the classroom. The use of authentic video materials helps to form a positive sustainable motivation to study activities, which encourages them to stubborn systematic academic work. Studying middle school age master social reality interpersonal relations are aware of the standards of public consciousness,
Compare yourself with them through opinions and evaluations of other people.
It follows from this that at this stage of training it is especially important to create real situations of communicating in English, using materials taken from the life of native speakers or compiled by the features of their culture and mentality in accordance with accepted and used speech standards. The use of such authentic materials, which is a natural speech product, will make it possible to teach all types of speech activities with greater efficiency.

REFERENCES

1) Podalusy, I. P. Pedagogy: New course: studies. Higher. studies. Establishments. /
2) I. P. Podlavy. M.: Vlados, 2013. Markova, A. K. Formation of the motivation of the exercise. / BUT.
3) K. Markova. M.: Surveys, 2014.Krichevskaya, K. S. Pragmatic materials, acquainting students with culture and habitat of residents of the country under study / K. S. Krychevskaya // Foreign languages at school. 2016. No. 1.
4) Lonergan, J. Video in Language Teaching / Lonergan J. Cambridge University Press,

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

USING HEURISTIC APPROACH IN TEACHING FOREIGN LANGUAGES

Shavkatjanova Maftuna Furkatovna
EFL Teacher Samarkand State Institute of Foreign Languages
ibadovanafisa83@gmail.com 998915779911

ABSTRACT
The article highlights the peculiarities of the heuristic method; describes some special features of its use in foreign language teaching; gives some specific examples of heuristic techniques such as mind-mapping, cluster-method, cinquain and ―5-W‖ methods.

Keywords: heuristic techniques, FLT, mind-mapping, cluster, cinquain, ―5-W‖ method

INTRODUCTION

As you know, the XXI century - the period of cardinal changes and innovation. In all spheres of human activity. Accordingly, changes affect the education system. Today is modern education.It is impossible to imagine without innovative technologies that are designed.Increase learning efficiency. Under these conditions, the teacher foreign language has some freedom to choose training technologies, freedom of creativity, without which it is difficult to submit an educational process. Since the purpose of learning a foreign language is to develop

Communicative skills learning practical skills of ownership .By language, the main task of the teacher is to create appropriate conditions that allow students to show creative activity. Methodists note that the formation of foreign language communicative

Competences in the context of the requirements of educational standards should be conjured with the development of the personal characteristics of students [Nikitina 2014: 294]. At the same time, traditional learning methods of foreign language are aimed at learning knowledge in artificial situations, as a result pupils do not see the relationship between training situations and the real world.

However, in real life, students are increasingly faced with problematic situations requiring solutions. Therefore, modern paradigm education is directed primarily to the development of creative thinking students. Fulfillment of this problem in many ways contribute Heuristic teaching methods. Heuristic learning technologies (translated from Greek"I find") take its beginning since Socrates (469-399 BC).

Before in total, heuristics are associated with a system of verbal training Socrates, in which, with the help of questions and reasoning, he helped the interlocutor self-solve problems, open the truth.

Thus, studying, relying on existing knowledge, independently formulate new rules, derive concepts. Euristic teaching methods are built on the principle of induction, therefore. Often, when explaining the new material, they complement it [Azimov2009: 350].With the help of heuristic teaching methods, educational and educational. Activity turns into intellectual and creative, occurs qualitative learning learning through the use internal reserve and creative potential.

It should be noted results achieved through the use of heuristic methods in teaching a foreign language:

- A comfortable atmosphere is created, the student appears the ability to express yourself, learning knowledge yourself;
- The practical significance of the subject is strengthened;
- Create training products that can be used when teaching peers;
- Socialization of students by exploring adult occurs models of behavior;
- Creative thinking is developing;
- The development of the flexibility of the mind and independence.

These results are achieved by immersing trainees in fundamentally new conditions, a new environment. Plus, heuristics can be

Name its successful use in various forms of work: individual, frontal, steam room, group.

In addition, the heuristic method of learning takes into account the various levels of preparing students, the properties of memory and thinking, psychological features, performs a differentiated approach to the choice

of the content of education. The teacher can introduce heuristic technologies into a cool-time and extracurricular work, combining them with a traditional learning system. The knowledge gained will be useful in professional-oriented learning, in the development of the creative and intellectual potential of students.

Due to the fact that heuristic education has a functional the appointment of content changes the criteria for estimating activities. In traditional learning, the result of the formation is estimated in the degree of its approximation to the sample (specified), however, the use of heuristics.

Increases the development of creative thinking, manifestation of the intellectual potential of students. In this case, the task is estimated to the degree of its difference from the specified one. In the learning process using heuristic technologies, the student, along with knowledge, acquires the experience of creative activities, an emotional and value attitude towards the environment, develops thinking, imagination. Currently, there are a large number of forms and methods Heuristic learning.

These include those tasks, the main task which is the creation of students of new educational results, such as research, essays, artworks, crafts, etc. Heuristic lessons, interactive forms of training, business games, projects, dives, Olympiads belong to the heuristic forms of classes.

Heuristic forms of classes contain appropriate methods learning. The main goal of heuristic methods is the ability to make discoveries, relying on the knowledge and personal experience. Their use contributes to the development of the independence of the student, their ability to self-education. The result of heuristic teaching methods is educational product created by students: text work,Hypothesis, idea.

One example of the use of heuristic teaching techniques. The situation is the main element of learning on this technology. In this context, the educational situation is a situation of activating ignorance, the purpose of which is the birth of the pupils of a personal educational product, such as a hypothesis, idea, a scheme, text. The teacher does not indicate pre-defined educational results, it only sets the technology of activity and problematizes the situation, and therefore the educational result is unpredictable.

When using this heuristic technology used the following methods: The method of hypotheses, constructing concepts, "cooling", creativity, shaped vision, mutual examination, "brainstorming", hyperonization. It is worth noting that reflection is the leading learning method.

Among the features of this heuristic technology can select the evaluation criteria, as it is supervised, first of all, the degree of absorption of ready-made knowledge is controlled, but a creative deviation from them.The main criterion of evaluation is the personal gain of the student,Comparison of it with himself for a certain period of training [Stoveta].

The following heuristic methods and techniques can also be used in a foreign language lesson.

Mind-mapping

This technology includes a recording of thoughts, ideas, associations. In The center of this card is the topic from which words record, ideas. This technology makes it possible to manifest creative abilities, expresses individual capabilities. The result of the work is the individual product of the group or one person. This method can be used when introduced into the topic, working with text, systematization, repetition at the beginning of the lesson, at the control stage.

Cluster-Method - Cluster Method

This technique stimulates mental activity. For this technique of thought is arranged in a certain order, absent Rag of thoughts. There is a specific technology for compiling a scheme for this technique. At first, the keyword is recorded, then the words spontaneously come to the head around the main word. They are deployed and connected to the keyword. Then every new word forms the kernel for which further associations are recorded. Concepts associated with each other are connected by lines. As a result, associative chains are formed. This technique can be effective at the call stage.

Methods Synkievin.

Synkievine is a systematization of information in the form poem in which information is synthesized and expressed in short form. This method allows you to describe and argue any question [Stoveta].

Method "5-W" - Method

Students propose to fill in a table with WHO / What /WHEN / WHERE / WHY. This task is effectively at the stage of understanding information.

It should also be noted the method of making a story of the specified words.

This technique forms students the ability to find a connection between elements contribute to the development of creative abilities, thinking.

Examined the essence of the heuristic training system, its main Forms and methods of learning, we can conclude that this system aims to develop critical and creative thinking, skills Solve non-standard tasks and find a way out of difficult situations. Besides Togo, the personal development of students is happening, which is necessary condition for the successful development of the educational program.

The forms and methods of heuristic education contribute disclosure of the internal potential of students, creative abilities, moral feelings help engage in discussion to form. The emotional scope and ability to justify their point of view.

It should be noted that the evidence of the professional closing of teacher in heuristic approach to the mathematical development of the child is his ability to go to review, change and development of their plans and ideas about the methodology of work with children. Inclined to heuristics the teacher himself is inevitably the subject and object of education, carries out all activities that involve children, i.e., its heuristic mathematical development happens simultaneously and in parallel with the development of the pupils.

Thus, heuristic technologies in combination with traditional learning methods can be effective and bring good results in foreign language training. However, it is worth remembering that these technologies should not be applied at the initial stage of education, the opening of knowledge through the search requires certain efforts, which at this stage may be difficult.

The heuristic approach is successful connection of individual creative self – realization of all subjects of the pedagogical process with their contemporary collective work. Education, constructed on attributes heuristics gives the child the opportunity to realize one of its main missions – the opening of the inner and outer world, in particular the mathematical laws that from the point of view of psychology is a natural human abilities and needs.

REFERENCES

1) Avilkina, J. N. Heuristic training in the educational process: history and modernity [Electronic resource] / J. N. Avlinina. URL:.https:// studwood.ru/ 1400014/literatura/ evristicheskoe_ obuchenie_ uchebnom_ protsesse_ istoriya_sovremennost (Date of handling: 07/05/2018).
2) Azimov, E. G. New dictionary of methodical terms and concepts (theory and practice of teaching languages) / E. G. Azimov, A. N. Schukin. M.: ICAR Publishing House, 2009. 448 p.
3) Radionova, S. A. Application of heuristic methods in teaching a foreign language [Electronic resource] / S. A.Radionova.URLhttps://cyberleninka.ru/article/v/primenenie-evristicheskih-metodov-v-obucheniingliyskomuyazyku (date of handling: 05/06/2018).
4) Nikitin, G. A. Collaborative training as a way of forming foreign language communicative competence / G. A. Nikitin, E. A. Nosova // Foreign languages in the context of intercultural communication: Materials of reports VI InternationalInternet conference "Foreign languages in the context of intercultural communication"(February 26-28 2-18). Saratov: IC "Science", 2014. P. 293-298.
5) Staleta, S. V. Heraistical training: his role and place in the study foreign languages [Electronic resource] / S. V. Stovetskaya. URL: http://elib.bsu.by/bitstream/123456789/148115/4/betskaya%20C.V.% 20 EVICE%20CHATING.%20OVER THERE 20Pol%20i%20MEMTER%20V%20 Connery%20 Instable %20 yaski.pdf : 07.05.2018).
6) Zagoktsina, N. G. Heuristic Method of formation OK and PC in foreign language classes [Electronic resource] / N. G. Tyztscin. URL: http: //orestshestagogog.rf/publ-mater/ad? CID = 9: MASTER & ID = 101: Heuristic-formation-formation-OK-I-PC-in-Foreign language (date of appeal: 05/03/2018)

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

A CRITICAL ANALYSIS OF MEDIA EMPLOYEE PERFORMANCE AFTER COVID- 19 SCENARIO

Taha Shabbir
Assistan Prof. Fuuast, Karachi
tahashabbir51@gmail.com

Dr. Yasmeen Sultana Farooqui
Associate Prof, Ilma Uni Karachi

Dr. Muhamad Nadeemullah
Associate Prof, Social Work, UoK, Karachi

Umair Ansari
Phd student Mass Comm, UoK , Karachi

Sabir Ahmed
Assistant Prof, Greewich uni, Karachi

ABSTRACT
COVID-19 has a detrimental impact on the employee's work performance and raised the likelihood of mistake. It's about determining whether a correlation between employee support and business success can be established on a wide scale. Let us examine the distinctions between job fairness and workplace justice. A convenience survey of 222 media workers was defined and chosen for this analysis. To elicit answers, the questionnaires were left open-ended. It was used to evaluate a subset of the responses through a Pseudo-Differential Templating Method. Employee morale increases through periods of increased cash flow, since COVID-19 sees this as supplying workers with more resources rather than providing a foundation for their jobs. Both concepts are not mutually exclusive; indeed, they must be followed together, since corporate fairness is critical in explaining the relationship between perceived operational assistance and employee performance. Managers must provide their employees with the opportunities necessary to excel if they want their employees to perform well. When workers perceive management's motivation and honesty as something of personal worth, they become inspired and perform at their highest. Employee commitment to an organization's overall success is much more important. The thesis examined the relationship between non-reported assistance and employees' levels of job success in the sense of COVID-19 and discovered a nonlinear relationship between expectations of assistance and performance. The public continues to face extra financial assistance from companies in the modern era.

Keywords: Media; COVID-19; Organizational justice; Employee performance; Organizational justice theory; Media Management

INTRODUCTION
The employee performance has its worth for competitiveness that has even grown in current times. The external changes taking place not only effect the organizational functioning but influence each and every individual working there. The spread of COVID-19 has affected maximum part of the world. It has infected people that negatively affected their Performance. Moreover it has negative repercussions for the economy and businesses ultimately affecting the whole society (Hofmeyer, Taylor, & Kennedy, 2020; Caligiuri, De Cieri, Minbaeva, Verbeke, & Zimmermann, 2020). The organizations are continuously figuring out the ways to restore from its negative effects on the functioning of the organizations and especially the employees' work attitudes and behaviors without which the organizations cannot move ahead. The major question in front of the organizational managers is how to minimize the impact of the epidemic on employees? For this they are making their efforts of being much supportive but due to the large volume of organizational

hierarchy and the employees working there in they may not manage to practice justice and may create a sense of disparity among employees and influence their performance levels (Hofmeyer, Taylor, & Kennedy, 2020).

Maintaining employee performance needs several mechanisms to be developed especially in times of instable economic situations among which providing employees with the organizational support and justice are few ways. Among the significant risks to Performance providing the support to the employees is important and assigning the continued workloads to a single set of employees may create a sense of injustice and may possibly harm their Performance.

A recent survey revealed that the company executives have pointed out that COVID-19 will have an impact on performance efficiency of organizations: 46% of respondents expect a reduction in performance targets in 2020 (Caligiuri, et al., 2020). It leaves grounds to answer several questions including what measures are most important and appropriate to improve the Performance of employees for continue the operations of the organizations during the lockdown?

The survival of the organization always remains priority for the managers. This becomes even more important when it comes to the services offering organization, Medias, in which the employees have to work beyond their job descriptions for better individual and organizational outcomes, showing in-role and extra-role Performance. Without the organizational support it is merely possible for the employees to accomplish the assigned targets. The organizations must see employees as assets (Miao, & Kim, 2010) especially in times of crisis like COVID-19.

Employees can only perform well and deliver their best services to the customers however it is merely possible without their satisfaction with the organizational practices and their belief that their organization supports them. At the same time the organizations try their best to retain the competent employees for provision of enriched services. This reciprocity plays an important role to develop a win-win situation for both employees and the organization. As it is reported that the organizations must develop an understanding of the factors that have a concrete effect on employees' Performance in which organizational support is one.

It is noted that the organizations that take care of employees may enjoy better employee engagement (Carnevale, & Hatak, 2020), higher levels of organizational commitment (Rhoades, Eisenberger, & Armeli, 2001), decreased dissatisfaction from work (Miao, & Kim, 2010) and so forth. This is because the employees are continuously noting that how their organizations treat them and whether their contributions are being valued?

The employees having weak or no feelings of organizational support may adopt work avoidant and deviant behaviors (Omar, Halim, Zainah, & Farhadi, 2011), dislike their work, and may develop intentions to leave the organization (Dawley, Houghton, & Bucklew, 2010). That is why it becomes necessary for organizations to induce a sense of support among employees. Not merely the presence of support is enough, but developing the sense of prevailing organizational support is also necessary, especially when the employees are really looking for it. That is support from the organization to protect them from the negative consequences of COVID-19.

This study posits that the employees perceiving that their organization is least supportive and do not value them, especially in times of health hazards prevailing in the environment that is the prevalence of COVID-19, may lose their concentration on work and may focus more on saving themselves from the bad effects of COVID-19. This may harm their Performance. At the same time, the organizations claiming that they are providing safety measures, but if those measures are adequately and equally applied throughout all branches of the media, thus showing injustice may also count towards decreased in-role and extra-role Performance of employees.

This study contributes to the literature in the following ways. Earlier studies have been done in the normal economic conditions, whereas this study is conducted in the times of COVID-19 that has become a constant threat to the employee's health and overall well-being thus can possibly harm their Performance. Moreover, the perceived organizational support and organizational justice have rarely been studied together. Mostly the studies have revealed that perceived organizational support is enough to have better employee's Performance (Dawley, Houghton, & Bucklew, 2010; Byrne, & Hochwarter, 2008; Eisenberger, Fasolo, & Davis-LaMastro, 1990) whereas this study posits that not only the sense of organizational support is enough rather the fairness and justice is equally important to have higher standards of employee's Performance.

Additionally, the study looks deeply into the effects of organizational support on the in-role and extra-role Performance of employees. That is the requirement of the day. As in times of COVID-19, the employees have not only to perform the job-related tasks, but they have to assume extra roles as well to protect themselves and their colleagues and customers from the bad effects of the COVID-19, and at the same time, they have to deal with customers in such a manner that they do not develop a sense of dissatisfaction from employees who are dealing them at the media. Furthermore, the foundations for this study are laid on the basis of organizational justice theory introduced by Greenberg (1990), where the theory posits that the employees' perceptions of fairness in the organization have a greater impact on the employee work and non-work outcomes.

At the same time, the employees are continuously noting that how their organizations treat them whether their contributions are being valued by the organization? To answer these questions, the examination of the selected factors such as the perceived organizational support and organizational justice remains important. The higher the level of perceived organizational support (POS) higher is the chances of achieving better Performance.

The study is beneficial for the managers and researchers equally. It adds to the existing base of literature combining the three streams of knowledge such as the perceived organizational support, organizational justice, and employee Performance. Moreover, it is beneficial for the managers to help them maintain required levels of employee Performance by developing a sense of available support in times of COVID-19.

DOI: https://www.talentlyft.com/en/blog/article/191/its-time-to-make-employee-training-digital

METHOD

Sample and Data Collection

The responses from the male and female media employees were gathered. It was ensured that the employees worked in the media for at least two years to have a greater idea of the organizational practices. The respondents were selected on a convenience basis as it was left to the willingness of the respondents to respond to the questionnaire or not. The data was gathered through a closed-ended questionnaire adopted from existing literature. The medias were contacted prior to the visit through an official letter requesting the media manager for a visit for data collection for the research purpose. The English version of the questionnaire was distributed for response generation as all the respondents were having at-least graduation degrees as their qualification. The respondents were ensured that their responses will merely be used for the research purpose and will not be shared with any other person inside or outside the organization. Moreover to maintain the unanimity they were clearly asked not to write any identification number or even the name of the media or branch on the questionnaire. This helped the researcher to get the genuine responses. While gathering data it was observed that medias have displayed the instruction and it was again written that it is

mandatory to read and follow the instructions to before entering into the media to avoid the possible threats of COVID-19.

Instrumentation

1. Perceived organizational support

The items for assessing the perceived organizational support were adopted form the questionnaire used by Rhoades, Eisenberger and Armeli (2001). The sample items were "my organization really cares about my well-being", "my organization cares about my opinions", and "my organization would forgive an honest mistake on my part". The reliability scores for the scale were 0.877.

2. Organizational Justice

Organizational justice was measured by using the fifteen item scale of justice validated by Enoksen (2015). A five point Likert scale was used to analyze the respondents' level of agreement. The same items used were "I am usually told about important things that are happening in this organization", "I am rewarded fairly for what I do for the organization", and "my supervisor respect my rights as a sub-ordinate". The reliability scores were 0.886.

3.Employee's in-role Performance

The questionnaire was adopted from Becker and Kernan (2003). The sample items used were "I adequately complete the assigned tasks", "I meet all the formal requirements of the job:, and "I fulfill responsibilities specified in the job description". The reliability scores were 0.976. All the statements were assessed on five points likert scale from 1 to 5. 1 representing strongly disagree and 5 represented strongly agree.

4.Employee's Extra-Role Performance

The organizational citizenship behavior was considered as the extra-role Performance. It was assessed using scale adapted from Vigoda-Gadot, et al., (2007). The sample items included items such as, "The employees do more than the assigned duties adequately", "The employees help others who have been absent", and "The employees in this organization go out of their way to help new employees". A five point Likert scale was used to analyze the respondents' level of agreement.

RESULT AND DISCUSSION

The results are divided into two main sections including the demographic information of the respondents and the results of structural equation model. Table 1 presents the demographic information.

Table 1. Demographic Information, n = 222

Variables	Category	Frequency	Percentage
Age (years)	26-35	88	39.6
	36-45	99	44.5
	46-55	35	15.7
Gender	Male	132	59.4
	Female	90	40.5
Education	Below Graduation	47	21.1
Graduation 67	30.1		
	Masters	108	48.6
Experience (Years)	<1	54	24.3
	1-5	91	40.9
	6-10	51	22.9
	<10	26	11.8

Source: Field Data

Table 1 shows that the data were collected from more than half of the male respondents (59.4%) and the remaining female media employees. The respondents belonged to different age groups that were 26 to 35

years (39.6%), 36 to 45 years (44.5%), 46 to 55 years (15.7%). It is also noted that nearly half of the respondents were well qualified that is they were having masters qualification (48.6%) while majority of other employees were having graduation as their qualification (30.1 %). Maximum of the respondents were having a handful experience of 1 to 5 years (40.9 %) followed by the people having experience of less than one year (24.3 %). The characteristics of the respondents show that they were adequately fit for being the respondents to this study as they were having adequate experience and qualification to respond to the questionnaire and respond to the statements written in the questionnaire. They were well versed with the organizational practices taking place in their medias. The respondents were invited for data gathering on their willingness without forcing them to respond to the questionnaires to get their genuine responses.

The Measurement Model

In the first stage the assessment of the measurement model is done whereas the second stage involves the assessment of the structural model (Hair et al., 2012).The structural equation modeling was used for data analysis. Table 2 contains information about the factor loadings, Cronbach's alpha to access the reliability and validity of the constructs. Moreover, to gauge convergent validity, the authors evaluated the Average Variance Extracted (AVE) statistics for each construct.

Table 2. Loadings, Composite Reliability and AVE

Construct	Loading	C.R.	AVE
Perceived Organizational Support		0.875	0.867
POS1	0.764		
POS2	0.792		
POS3	0.852		
POS4	0.779		
POS5	0.775		
POS6	0.873		
POS7	0.856		
Organizational Justice		0.866	0.827
OJ1	0.790		
OJ2	0.731		
OJ3	0.786		
OJ4	0.869		
OJ5	0.752		
OJ6	0.762		
In-role Performance		0.869	0.844
EP1	0.775		
EP2	0.848		
EP3	0.768		
EP4	0.763		
EP5	0.773		
Extra-role Performance		0.970	0.785
EP6	0.839		
EP7	0.843		
EP8	0.786		
EP9	0.797		
EP10	0.764		
EP11	0.793		

Source: SamrtPLS Results

Table 2 shows the adequacy of the measurement model including factor loadings, the value of C.R and AVE as recommended by Hair et al, (2012). This permitted to carry out the examination of the structural model.

Table 3. Discriminant Validity

Constructs	1	2	3	4
POS	**0.931**			
OJ	0.702	**0.909**		
In-role	0.492	0.521	**0.918**	
Extra-role	0.628	0.676	0.448	**0.886**

Source: SmartPLS results

Table 3 presents the discriminant validity. The discriminant validity is established if the square root of constructs' AVEs is greater than the inter-correlations of other constructs. In this study, the results of the analysis show that the square root of AVE were greater than the correlation between each pair of constructs as shown in table 3, thus providing evidence for discriminant validity. Table 3 reports that all the diagonal elements are greater than the off diagonal elements (Fornell, & Larcker, 1981). Overall, the results of the measurement model are satisfactory and suggest that it is appropriate to proceed further for the evaluation of the structural model. The square root o the AVE for perceived organizational support is 0.931, organizational justice is 0.909, in-role Performance is 0.918 and extra-role Performance is 0.886.

Structural model

The structural model is examined by calculating the coefficient of each relationship along with its significance value. Moreover the R square is computed. Table 3 shows the results.

Table 4. Relationship of Constructs

Relationship	Coefficient	P-Value
POS--->In-role	0.367	0.000
POS--->Extra-role	0.199	0.001
OJ---> In-role	0.292	0.000
OJ---> Extra-role	0.135	0.000
POS--->OJ---> In-role	0.076	0.000
POS--->OJ---> Extra-role	0.199	0.020
R^2	0.489	

Source: SmartPLS output

Structural model describes the relationship among the latent variables (Hair et al., 2012). Furthermore, the structural model depicts the relationship between the exogenous and the endogenous variables. The value of R-square lies between 0 to1. Table 4 represents the standardized parameters. Bootstrapping simulation is done to confirm the significance of the hypothesis. It is noted that the perceived organizational support has a significant positive relationship with in-role performance (beta = 0.367, p <0.05) and extra-role performance (Beta = 0.199, p <0.05). Similarly the organizational justice significantly increases the employees in-role performance (beta = 0.292, p = <0.05) and extra-role performance (beta= 0.135, p <0.05). Upon examining the moderating effects of organizational justice in the relationship between POS and in-role Performance and extra-role Performance it is found that it significantly moderates the relationship (beta = 0.076, and beta = 0.199, p <0.05 respectively). All the developed hypotheses in the light of literature were accepted. Table 5 summaries the results of the hypotheses developed. The coefficient of determination revealed that collectively the independent constructs brought about 48.9% change in the dependent variable. Overall it is noted that POS and OJ has a stronger effects on extra role performance than in-role Performance. OJ moderated the extra-role Performance more than in-role Performance.

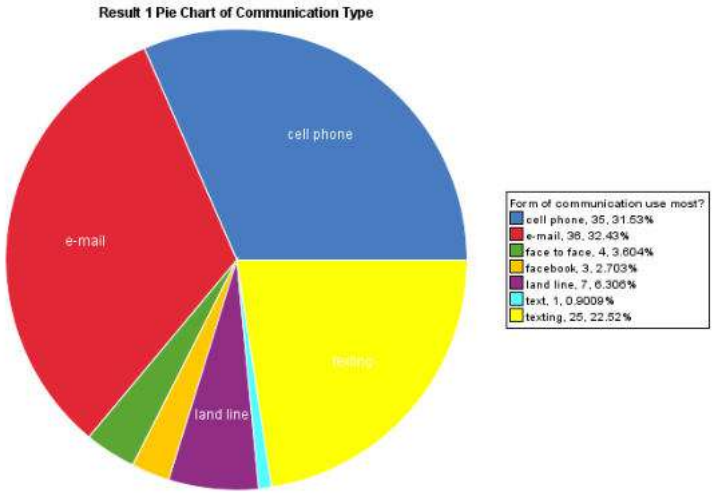
Table 5. Hypotheses summary

Hypothesis	Statement	Result
H1	POS positively affects in-role performance	Accepted
H2	POS positively affects extra-role performance	Accepted
H3	OJ moderates between POS and in-role performance	Accepted
H4	OJ moderates between POS and extra-role performance	Accepted

Source: SmartPLS output summary

CONCLUSION

This research found that getting stronger participants during COVID-19 correlates with positive outcomes in employees' performance and participation in the POS and open-based economy stress. Organizational assistance has many advantages: most importantly, it increases the ability of people to collaborate at all levels of management. This especially occurs while individuals are actively seeking help. This is because people actively searching for support increases the employee's overall performance and it increases overall performance particularly during a crisis.



Face to Face Communication Chart of Media Employee

Implications

The study identified some practical implications based on the results of the study. This study demonstrates that the organizational justice for strengthening the relationship of the factors such as perceived organizational support and employee performance plays its role. Its presence not only strengthens the in-role Performance but also the extra-role Performance. the importance of extra-role performance cn not be ignored during COVID-19 where each individual at the workplace is looking for some guidance and help, especially in medias.

Moreover, by providing the support to the employees the organizations can develop their strengths in terms of having strong employees and at the same time the support adds to employees self-efficacy that motivate them to have better in-role and extra-role Performance.

The organizational practices like the distribution of resources, information and the fairness in performance appraisals and the use of procedures may help employees builds trust in the organization and help establish stronger reciprocity based behaviors that positively influence both the organization and the employees. The managers can boost employees' Performance by having the appropriate micx of the organizational support and justice at the same time. These include having required standards of employees' Performance requires managers as organizational agents to manifest organizational support through uninterrupted interaction with their subordinates, provision of resources, sharing of in-time and uninterrupted information, and addressing the conflicts arising at the workplace.

Moreover besides providing the actual support to the employees it is necessary to develop a sense of support availability at the workplace among employees. This is merely possible by practicing justice thoroughly and throughout the organization. It is necessary for the employees and managers to have positive Performance. The employees who perceive support efforts as positive, that is possible through ensuring organizational justice, show least negative reactions. This is how the managers can control the negative behaviors at the workplace and can save time and other organizational resources.

Limitations and Future directions

In any analysis, there are inherent weaknesses and unique constraints that determine the generalizability of the results. It was a simple and convenient survey in which subjects were selected on the basis of convenience. As a result, the generalizability of this analysis is restricted. Further investigated one domain (the field of interest: the media), rather than investigating the whole industry It is possible that the prevalence of COVID-19 would have a greater impact when there is more cooperation between individuals. The system that they are urged to research several variables within this suggested that the research of the future examine various aspects of the issues.

REFERENCES

1) Aube, C., Rousseau, V., & Morin, E. M. (2007). Perceived organizational support and organizational commitment. Journal of managerial Psychology.
2) Becker, T. E., & Kernan, M. C. (2003). Matching commitment to supervisors and organizations to in-role and extra-role Performance. Human performance, 16(4), 327-348.
3) Becker, T. E., & Kernan, M. C. (2003). Matching commitment to supervisors and organizations to in-role and extra-role Performance. Human performance, 16(4), 327-348.
4) Blakely, G. L., Andrews, M. C., & Moorman, R. H. (2005). The moderating effects of equity sensitivity on the relationship between organizational justice and organizational citizenship behaviors. Journal of Business and Psychology, 20(2), 259-273.
5) Bosilj-Vukšić, V., & Indihar-Štemberger, M. (2008). The impact of business process orientation on financial and non-financial Performance. Business Process Management Journal.
6) Byrne, Z. S., & Hochwarter, W. A. (2008). Perceived organizational support and Performance. Journal of Managerial Psychology.
7) Byrne, Z. S., & Hochwarter, W. A. (2008). Perceived organizational support and Performance. Journal of Managerial Psychology.
8) Caligiuri, P., De Cieri, H., Minbaeva, D., Verbeke, A., & Zimmermann, A. (2020). International HRM insights for navigating the COVID-19 pandemic: Implications for future research and practice. Journal of International Business Studies, 1.
9) Shabbir, T., Mohsin, & Auj E Kamal. (2020). Use of 'Open Data' in Urdu Literature Research and its Effectiveness. Liberal Arts and Social Sciences International Journal (LASSIJ), 4(1), 219-230. Retrieved from http://journals.pu.edu.pk/journals/index.php/jms/article/viewFile/3734/1824
10) Carnevale, J. B., & Hatak, I. (2020). Employee adjustment and well-being in the era of COVID-19: Implications for human resource management. Journal of Business Research.
11) Chegini M (2009) The relationship between organizational justice and organizational citizenship behavior. Am. J. Econ. Business Admin. 1 (2), 171- 174
12) Chegini, M. G. (2009). The relationship between organizational justice and organizational citizenship behavior. American Journal of Economics and Business Administration, 1(2), 173-176.
13) Chen, S. Y., Wu, W. C., Chang, C. S., Lin, C. T., Kung, J. Y., Weng, H. C., ... & Lee, S. I. (2015). Organizational justice, trust, and identification and their effects on organizational commitment in hospital nursing staff. BMC health services research, 15(1), 363.
14) Colakoglu, U., Culha, O., & Atay, H. (2010). The effects of perceived organisational support on employees' affective outcomes: Evidence from the hotel industry. Tourism and hospitality management, 16(2), 125-150.
15) Colquitt, J. A., LePine, J. A., Piccolo, R. F., Zapata, C. P., & Rich, B. L. (2012). Explaining the justice–performance relationship: Trust as exchange deepener or trust as uncertainty reducer?. Journal of applied psychology, 97(1), 1.
16) Dawley, D., Houghton, J. D., & Bucklew, N. S. (2010). Perceived organizational support and turnover intention: The mediating effects of personal sacrifice and job fit. The Journal of social psychology, 150(3), 238-257.
17) Eisenberger, R., Fasolo, P., & Davis-LaMastro, V. (1990). Perceived organizational support and employee diligence, commitment, and innovation. Journal of applied psychology, 75(1), 51.

18) Enoksen, E. (2015). Examining the dimensionality of Colquitt's Organizational Justice Scale in a public health sector context. Psychological reports, 116(3), 723-737.
19) Flint, D., Haley, L. M., & McNally, J. J. (2012). Dimensionality of organizational justice in a call center context. Psychological reports, 110(2), 677-693.
20) Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics.
21) Gilliland, S. W., & Paddock, L. (2005). Organizational justice across human resource management decisions. International review of industrial and organizational psychology, 20, 149-175.
22) Greenberg, J. (1990). Organizational justice: Yesterday, today, and tomorrow. Journal of management, 16(2), 399-432.
23) Shabbir, T., M Nadeemullah. (2020). Impact of 'Open Data' and its Effectiveness for Pakistan Social Issues: Learning from the UK Experience, 25(1), 253-272. Retrieved from https://journal.psc.edu.pk/index.php/pp/article/view/395
24) Greenberg, J. (1990). Organizational justice: Yesterday, today, and tomorrow. Journal of management, 16(2), 399-432.
25) Haines III, V. Y., Patient, D. L., & Marchand, A. (2018). Systemic justice and burnout: A multilevel model. Human Resource Management Journal, 28(1), 92-111.
26) Hair, J. F., Sarstedt, M., Pieper, T. M., & Ringle, C. M. (2012). The use of partial least squares structural equation modeling in strategic management research: a review of past practices and recommendations for future applications. Long range planning, 45(5-6), 320-340.
27) Hofmeyer, A., Taylor, R., & Kennedy, K. (2020). Fostering compassion and reducing burnout: How can health system leaders respond in the Covid-19 pandemic and beyond?. Nurse Education Today.
28) Irefin, P., & Mechanic, M. A. (2014). Effect of employee commitment on organizational Performance in Coca Cola Nigeria Limited Maiduguri, Borno state. Journal of Humanities and Social Science, 19(3), 33-41.
29) Kappagoda, U. W. M. R. (2018). Self-efficacy, task performance and contextual Performance: A Sri Lankan experience. Available at SSRN 3198802.
30) Kappagoda, U. W. M. R. (2018). Self-efficacy, task performance and contextual Performance: A Sri Lankan experience.
31) Konijnenburg, L. (2010). The effect of perceived supervisor support and perceived organizational support on employees' resistance to change. School of Business and Economics, 9(5), 55-71.
32) Shabbir, T., M Nadeemullah, & Saeed Memon. (2020). Uses and Impact of 'Open Data' Technology for Developing Social Sector in Pakistan. Pakistan Journal of Multidisciplinary Research, 1(1), 50-64. Retrieved from https://www.pjmr.org/pjmr/article/view/24
33) Krishnan, J., & Mary, V. S. (2012). Perceived organisational support–an overview on its antecedents and consequences. International Journal of Multidisciplinary Research, 2(4), 2-3.
34) Meyers, M. C., Kooij, D., Kroon, B., de Reuver, R., & van Woerkom, M. (2020). Organizational support for strengths use, work engagement, and contextual Performance: The moderating role of age. Applied Research in Quality of Life, 15(2), 485-502.
35) Miao, R., & Kim, H. G. (2010). Perceived organizational support, job satisfaction and employee performance: An Chinese empirical study. Journal of Service Science and Management, 3(02), 257.
36) Moorman, R. H., Blakely, G. L., & Niehoff, B. P. (1998). Does perceived organizational support mediate the relationship between procedural justice and organizational citizenship behavior?. Academy of Management journal, 41(3), 351-357.
37) Moorman, R. H., Blakely, G. L., & Niehoff, B. P. (1998). Does perceived organizational support mediate the relationship between procedural justice and organizational citizenship behavior?. Academy of Management journal, 41(3), 351-357.
38) Niehoff, B. P., & Moorman, R. H. (1993). Justice as a mediator of the relationship between methods of monitoring and organizational citizenship behavior. Academy of Management journal, 36(3), 527-556.
39) Niehoff, B. P., & Moorman, R. H. (1993). Justice as a mediator of the relationship between methods of monitoring and organizational citizenship behavior. Academy of Management journal, 36(3), 527-556.

40) Omar, F., Halim, F., Zainah, A., & Farhadi, H. (2011). Stress and job satisfaction as antecedents of workplace deviant behavior. Deviant Behavior, 16, 17.
41) Shabbir, T., Abro.M. (2019). Impact of 'Open Data' on 'News Media' and its Effectiveness in Social and Political Development of Pakistan (A Case Study from UK Perspective). Dialogue, 14(3), 161-171. Retrieved from https://ideapublishers.org/index.php/lassij/article/view/163/99
42) Rhoades, L., Eisenberger, R., & Armeli, S. (2001). Affective commitment to the organization: The contribution of perceived organizational support. Journal of applied psychology, 86(5), 825.
43) Rhoades, L., Eisenberger, R., & Armeli, S. (2001). Affective commitment to the organization: The contribution of perceived organizational support. Journal of applied psychology, 86(5), 825.
44) Stamenkovic, S., Njegovan, B. R., & Vukadinovic, M. S. (2018). Intra-national diversity. Cross Cultural & Strategic Management.
45) Vigoda-Gadot, E. (2007). Redrawing the boundaries of OCB? An empirical examination of compulsory extra-role behavior in the workplace. Journal of business and psychology, 21(3), 377-405.
46) Wayne, S. J., Shore, L. M., Bommer, W. H., & Tetrick, L. E. (2002). The role of fair treatment and rewards in perceptions of organizational support and leader-member exchange. Journal of applied psychology, 87(3), 590

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

IMPROVEMENT BY THE METHOD OF SYNTHESIS OF ION-EXCHANGE SORBENTS

H.J. Ismoilova,
Karshi Engineering and Economic Institute

Z.U. Khidirova
Karshi Engineering and Economic Institute

ABSTRACT
Research on improving methods for the synthesis of ion-exchange sorbents with a porous structure based on copolymers is relevant. The aim of this work is to obtain granular ion exchange sorbents based on acrylonitrile copolymers with multifunctional crosslinking agent - hexahydro-1,3,5-triakrililtriazinom by their chemical transformations and the study of their network structure.

Keywords: sorbent, acrylonitrile, network structure, copolymer, granule, monomer, stabilizer, density, swelling, crosslinking agent.

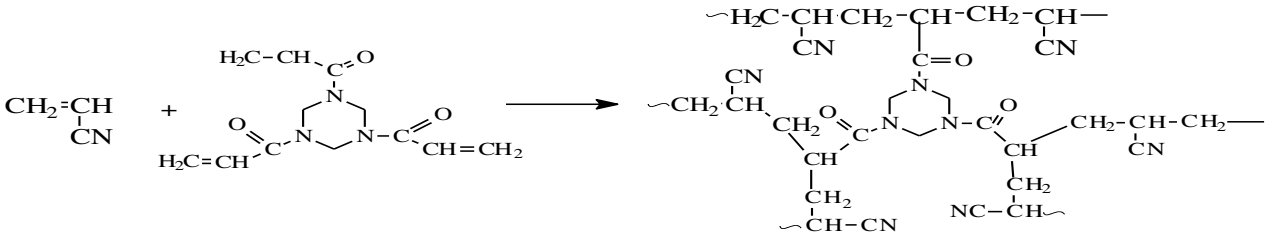
INTRODUCTION
The aim of this work is to obtain ion-exchange granular sorbents based on copolymers of acrylonitrile with a multifunctional crosslinking agent - hexahydro-1, 3,5-triacrylyltriazine by their chemical transformations and to study their network structure. Polymers and materials based on them occupy a very important place in our life, their production is growing rapidly from year to year, new polymers are synthesized, and new materials are invented. In this regard, the most important direction is the synthesis and study of the structure of ion-exchange materials with desired properties, which are widely used in various fields of the national economy and which is important in solving problems of ecology and environmental protection. Therefore, obtaining ion exchangers based on acrylonitrile by granular polymerization in the presence of a crosslinking agent with subsequent chemical modification of functional groups is urgent [1].
Copolymers of acrylonitrile with crosslinking agents of various structures have recently become the most common scaffolds for the synthesis of ion exchangers. They differ from frameworks of other chemical composition in the ability to control the degree of crosslinking and accessibility for various chemical reactions.
Such polymers - ion exchangers have long been used in various sorption technologies that require special mechanical and chemical resistance, when it is necessary to concentrate technological solutions to extract especially valuable components from them, to purify water supply sources, industrial waste water from toxic ions and environmentally hazardous compounds [2].
In this regard, studies on the improvement of methods for the synthesis of ion-exchange sorbents with a porous structure based on the above and other copolymers are relevant.
The purpose of this graduate work is to obtain ion-exchange granular sorbents based on copolymers of acrylonitrile with a multifunctional crosslinking agent - hexahydro-1, 3, 5-triacrylyltriazine by their chemical transformations and the study of their network structure.
The physicochemical characteristics and sorption properties of the obtained copolymers depend on the structure of the macrochain, the nature of the functional groups of the obtained anionites, etc. However, the network structure of copolymers of acrylonitrile with hexahydro-1, 3,5-triacrylyltriazine remained uncharacterized. Therefore, it was interesting to study the process of copolymerization of acrylonitrile with a crosslinking agent hexahydro-1, 3,5-triacrylyltriazine, which contains three vinyl groups in its structure.
Copolymerization was carried out by the suspension method in the presence of dinitrile-azo-isobutyric acid as an initiator (up to 1 mass% of the mass of the mixture of monomers), stabilizer-water-soluble starch, at a temperature of 343 K in a saturated aqueous solution of NaCl (dispersion medium) obtained at room temperature. Temperature, at a rotation speed of 450-500 rpm; reaction time up to 5 hours [3].
The ratio of monomers and blowing agent toluene, in which the initiator was dissolved and the dispersion medium, was 1: 4 (water modulus). To obtain a porous structure, an inert solvent toluene was used in an amount of 30% by weight of the mixture of monomers. A 1% aqueous starch solution was used as a

protective colloid. The required amount of initiator, AN, GTT, stabilizer, blowing agent was introduced into a reactor equipped with a mechanical stirrer, a refrigerator and previously placed in a thermostat with an initial temperature for copolymerization. After the end of the reaction, the reactor was removed from the thermostat and the samples were decanted [4].

As is known, suspension copolymerization takes place under heterophase conditions. Copolymerization takes place in drops of monomer and the resulting copolymer is insoluble in its own monomer and in an aqueous-organic medium.

The granular copolymer does not dissolve in polyacrylonitrile solvents, which indicates the presence of a crosslinked structure.

The structure of the resulting copolymer between the reacting components can be schematically illustrated as follows:



Thus, a copolymer was obtained with the starting components: AN: GTT = 97.5: 2.5; 97: 3; 95: 5 wt%.

The density of the copolymers was determined by the pycnometric method. To determine the density of the copolymer, the density of water at 293K was studied for comparison with the density of the copolymer at the same temperature. After weighing the dry pycnometer with an error of no more than 0.0002 g, it was filled up to the mark with water, closed with a glass stopper, and immersed in a water bath with a temperature of 293 K for 30 min. After that, the water level in the pycnometer was accurately set to the mark.

After closing with a plug and thoroughly wiping the outside of the pycnometer, a second weighing was performed. After that, water was poured out of the pycnometer, dried, cooled in a desiccator, and several pieces of the tested copolymer were placed. Closing the lid, the third weighing was carried out. Then the water level in the pycnometer was brought up to the mark, closed and immersed in a water bath with 293K for 30 min. Then the water level was brought to the mark, the water was carefully taken from the outside, and the fourth weighing was carried out.

The density of the copolymer was determined by the formula:

$$\rho = \frac{m_2 - m_0}{(m_1 - m_0) - (m_3 - m_2)}$$

Where is the mass of the pycnometer, g;
- Mass of the pycnometer with water, g;
- Mass of the pycnometer with copolymer, g;
- Mass of the pycnometer with water and copolymer, g;

SWELLING OF COPOLYMERS

Determined by gravimetric method. A weighed portion of the sample was placed in a weighing bottle containing 5 cm3 of the corresponding liquid. The bottle was sealed, placed in a centrifuge, kept for 5 minutes at a speed of 3000 rpm, then removed from the centrifuge, the bottle was freed from the sample with tweezers, and excess solvent was removed with filter paper and weighed on a balance with an accuracy of the 4th digit.

After weighing, the swollen sample was again placed in a bottle with solvent. The actions were repeated after 5, 10 and 15 minutes. And further excerpts.

The measurements were stopped when the difference in the masses of the last three measurements did not exceed 3 mg.

The degree of swelling for each time value was calculated using the following formula:

$$\alpha_{(\tau)} = \frac{m_{(\tau)} - m_0}{m_0}$$

Where is the degree of swelling of the sample for a fixed time value?
Is the mass of the swollen sample for a fixed time value?
Is the mass of the starting material?
The swelling coefficient q2m was calculated using the following formula:

$$q_{2m} = \frac{g_{2m} - g_2}{g_2} \cdot \frac{\rho_2}{\rho_0} + 1$$

Where, g 2 is a sample of dry cross-linked polymer; g 2m-weight of the swollen cross-linked polymer; (2 and (0 are the density of the polymer and solvent, respectively. The index m indicates that this parameter was measured in the state of equilibrium swelling. The degree of swelling of the samples was studied by the centrifugation method.

Calculation of mesh parameters

The number average molecular weight of chain segments between crosslinking sites (ML) and the concentration of chains in the copolymer (nC), which characterize the crosslinking density, were calculated using the equation proposed in [39]:

$$M_C = \frac{\rho_2 V_1 \left[(q_{2m}+1)^{\frac{-1}{3}} - \frac{1}{2}(q_{2m}+1)^{-1} \right]}{\ln\left(\frac{1}{q_{2m}+1}\right) - (q_{2m}+1)^{-1} - \chi_1 (q_{2m}+1)^{-2}}$$

Where, ρ_2 -is the density of the polymer; q_{2m} - swelling constant; V_1 - the molar volume of the solvent; χ_1 - Huggins parameter (for the polyacryloniril-DMF system it is taken equal to 0.29).

The grid parameters were calculated using the found values of the number average molecular weight (MS) of the active chain and the density of the polymer according to the following formula:

$$n_C = \frac{N_C}{N_A} = \frac{\rho_2}{M_C} = \frac{\nu_C}{\overline{V_C}} = \frac{1}{V_2}$$

where, ν_C -is the number of moles of active chains in the sample, mol; n_C - the number of moles of active chains per unit volume of the crosslinked copolymer, mol / cm^3; N_C - concentration of active chains per unit volume of cross-linked polymer $(cm^3)^{-1}$; N_A - Avogadro's number; $\overline{V_C}$ - effective molar volume of the active chain, cm^3/mol; V_2 - polymer volume, cm^3.

REFRENCES

1) Ion exchangers and ion exchange. Collection of articles, ed. Samsonova G.V., L, Nauka, 1975, p. 5-10.
2) Sidl M., Maminsky J., Dushek K., Ion-exchange frameworks with a porous structure based on styrene-divinylbenzene copolymers. Plastics, 1963, No. 12s. 7.
3) Encyclopedia of Polymers. M, S.E., t 1, s 998.
4) Pat. 96740 SRR, MKI4C 08 F 12/36, C 08 F 20/26. The method of obtaining a cross-linked copolymer with a porous structure (Poinescu P.I. (Czechoslovakia) .- No. 54-10357 (application. 25.12.65 (publ. 4.05.79.
5) Li Ya., Sheng F. Synthesis and study of cross-linked chelated polymers based on acrylonitrile. II. Study of acrylonitrile-based cross-linked polymers using IR spectroscopy. // Astapolym. Sci. 1990. -№5. -S.618-622.
6) Yokota Kazuaki, Tominaga Makoto, Takata Yoshiyuki. Copolymerization of acrylonitrile with (-sodium styrene sulfonate and (-styrene sulfonamide.
7) Trubitsina S.I., Ismailov I., Askarov M.A. Copolymerization of acrylonitrile with a number of monomers under the action of a nitrogen-containing monomer-potassium persulfate initiating system. -1977. -A19. -Number 3. -S.495-499.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

THE EFFECTS OF ADDING RECLAIMED ASPHALT PAVEMENT (RAP) AND CEMENT ON THE PROPERTIES OF PAVEMENT BASE COURSE

Farag Khodary
Civil Engineering Department, Qena Faculty of Engineering, South Valley University, Qena, Egypt
Khodary@svu.edu.eg

ABSTRACT

Reclaimed Asphalt pavement (RAP) is removed using a milling machine which grinds the asphalt into small pieces and it is a useful alternative to virgin materials because it reduces the use of virgin aggregate. Base course is a layer that comes under the surface layer of asphalt pavement and consists of gravel materials with lower specifications than the surface layer. The main aim of this research is to evaluate using reclaimed asphalt pavement and Portland cement as stabilizer to the base course materials. Different amount from RAP materials were added to the base course soil by weight. The RAP percentage added are 5%, 10%, 15%, 20% and 25% with fixed amount of cementing 2% for all mixtures. Different tests were conducted sieve analysis, Los Angelos Abrasion, Modified Proctor and California bearing ratio. The results showed that adding recycled asphalt to the base soil improved all mixtures properties with different rate. After adding recycled asphalt and cement, the sieve size analysis of the mixtures with different proportions of components still falls within the limits of the Egyptian standard. There is a noticeable improvement in the wear value for the mixture, 20% recycled asphalt and 2% cement, with a value of about 15%, and this value is good for improving the wear resistance of the mixture. The dry density value increase by 10% for the mixture, contain 20% recycled asphalt and 2% cement. California bearing ratio test result indicate that adding recycled asphalt to the soil improve the bearing capacity of soil that can be used as base course of pavement. The whole results of the research give good indication for pavement full depth recycling and reuse it as anew base course layer.

Keywords: Asphalt Pavement, Base course, Reclaimed Asphalt pavement, California bearing ratio, Dry density

INTRODUCTION

Population growth and economic development have resulted in an extensive network of asphalt paved roadways. Many thousands of miles (kilometres) were constructed to meet the demands of increased traffic. When the roadway network was rapidly expanding, the initial construction cost was the most importance, with little or no attention being paid to the maintenance costs. However, as the roadway network has expanded, as the traffic volume and gross vehicle weights have increased. In Egypt, there are about 4 million tons per year of reclaimed asphalt materials are not used [1]. Recycled asphalt can be used in different asphalt layers, where it can be inserted with the asphalt mixture or with the base layer in different proportions according to the layer in which it will be used. The use of recycled asphalt is considered a form of optimizing the utilization of resources and supporting sustainable development. Reclaimed asphalt pavement (RAP) saves virgin materials because it reduces the need to use virgin aggregate; it also reduces the amount of costly new asphalt binder required in the production of asphalt paving mixtures [2]. Among the advantages of recycled materials is that it saves the use of new materials as well as saves the energy spent to extract these materials and may result in behaviour almost equal to the behaviour of new materials [3]. Most recycling methods are often less expensive than extracting new materials. The use of recycled asphalt in the asphalt mix saves the use of new bitumen [4]. During the maintenance process, the surface layer needs to be removed, and there are large quantities of recycled asphalt. There are many studies to find out the suitability of using the recycled asphalt materials, whether in asphalt mixtures or the base course layer layers for roads [5].Various materials can be used to improve the properties of the base course layer for asphalt roads, and one of these materials is silica fume, which has proven efficient in improving the bearing capacity of soil [6].

MATERIALS

The soil used in this research is from quarry which is located at Qena Governorate. Many tests were done to evaluate the properties of the soil used and compare them with the standard specifications. Recycled asphalt was obtained as a result of milling a street in the city of Qena Governorate. Recycled asphalt was added in different proportions from the total weight of the sample used and 2% from commercially available Ordinary Portland Cement. The required tests were performed to compare the soil properties before and after the addition of Reclaimed Asphalt. Figure (1) present the materials used in this research

RAP Cement Soil

Figure 1: materials types' soil, RAP and Cement

EXPERIMENTAL LABORATORY PROGRAM

In this research, four tests were done at qena Faculty of Engineering labs. The tests were conducted on the sample taken from the quarry as well as the tests were carried out on the samples after adding recycled asphalt and cement. The sample was prepared by adding different percentages of recycled asphalt, which are 5%, 10%, 15%, 20% and 25%, with the addition of a fixed percentage of cement, which is 2% of the sample weight, for all previous samples according to the following table.

Table 1: percentage of RAP and cement added to the mixtures

Sample	% of (RAP) by weight	% cement by weight
untreated sample	0%	0%
1	5%	2%
2	10%	2%
3	15%	2%
4	20%	2%
5	25%	2%

TESTS TYPE

- Sieve analysis test (AASHTO T 27) is used to classify the soil by its Sieve Analysis using sieves with apertures ranging from 100 mm (4 in) to 0.075 mm (Sieve No. 200). The aim of the Sieve analysis test is determination of the gradient of granulation of aggregates as well as determines the validity of the aggregates and its conformity with the standard specifications [7].
- Los Angelos Abrasion (AASHTO T 96) is to calculate the Abrasion ratio of gravel materials and to measure of aggregate toughness and abrasion resistance. Where it is possible to determine the suitability of aggregates for any type of construction process, and the lower the percentage, the better the aggregate and vice versa [8].

- Modified Proctor Test (AASHTO T99) Soil compaction represents one of the most important requirements in projects related to soil work, the most important of which are roads, earth dams and foundations. Soil compaction is known as the mechanical energy that increases it by expelling the air between its particles. The aim of the test, finding the maximum dry density and optimum moisture

content of the soil after it has been affected by the compaction process according to the Proctor method. As well as determining the energy that the soil is exposed to in the compaction in the laboratory to represent it on nature using various compaction tools and equipment. The pressure theory test is based on evaluating the water content and the dry density relationship of the soil for a specific compressive stress. The mechanical process of condensation by reducing the air voids in the soil mass is called compaction. The amount of mechanical energy applied to a soil mass is the compressed stress [9].

- California bearing ratio (AASHTO T193-99) this method is used to assess the inherent resistance of foundation materials including materials used in pavements and airports. The CBR value extracted in this way is an integral part of many approaches to designing flexible pavements. It is the measurement of the load required to insert a needle of a specific diameter and at a certain speed in the soil sample at specific values of water content and density, and calculating the ratio of this load (pressure) to the standard load (pressure) at needle stitches of (0.1 inch) and (0.2 Inch) and gives the test provides information on the extent of soil swelling and the loss of strength of the soil when the soil is saturated with water, and the tolerance ratio for California gives an idea of the behavior of the soil under the asphalt (base materials) [10].

TEST RESULT

- The sieve analysis test was performed on the untreated sample, as well as the samples to which recycled asphalt and cement were added. The results show that the untreated sample falls within the upper and lower limits of the standard Egyptian specifications for the base layers. Figure 2 present Sieve analysis test result for untreated sample and mixtures

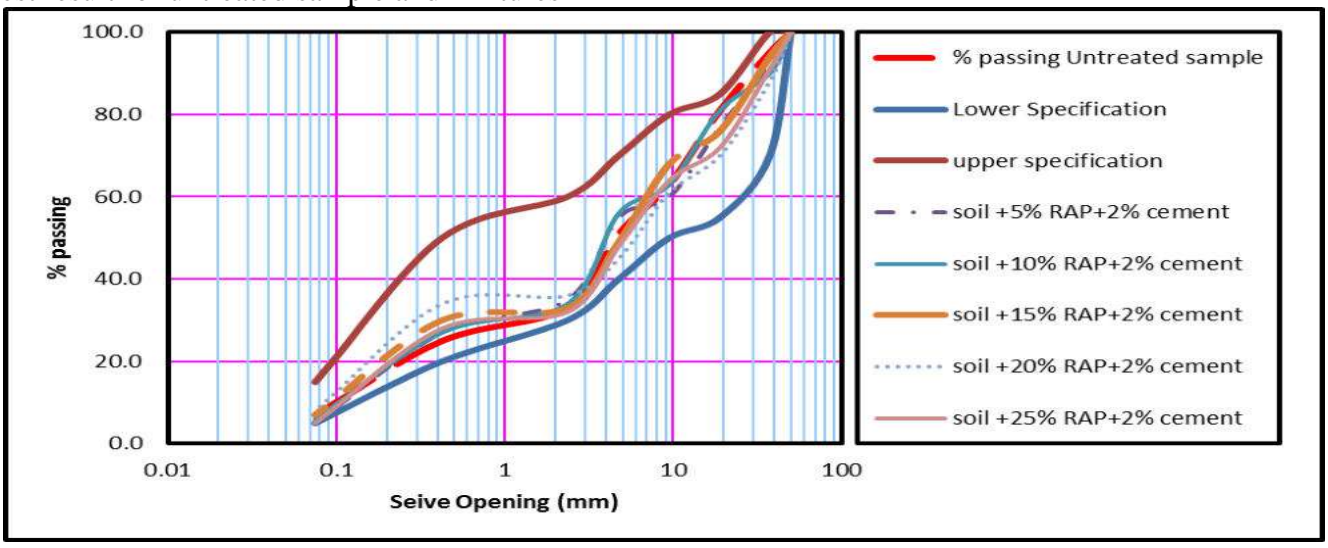


Figure 2 Sieve analysis test result for untreated sample and mixtures

- The Los Angeles Abrasion test is widely used and gives a strong indication of aggregate quality. There is an improvement in the mixture's resistance to Abrasion (soil + 20% RAP + 2% cement) by 15%. These results were acceptable and thus increased the soil resistance to abrasion. Table 2 present the Los Angelos Abrasion test result for untreated sample and mixtures

Table 2 Los Angelos Abrasion test result for untreated sample and mixtures

Sample	Los Angelos Abrasion After 100 revolutions	Los Angelos Abrasion After 500 revolutions
Untreated sample	9.7	39.3
soil +5% RAP+2% cement	8.9	39.0
soil +10% RAP+2% cement	8.6	38.7
soil +15% RAP+2% cement	8.3	36.4
soil +20% RAP+2% cement	8.2	36.2
soil +25% RAP+2% cement	8.2	36.1

- Modified Proctor Test result: The result of the standard proctor test indicated that there is a marked improvement in the dry density value. The resistance of aggregate to the abrasive is considered one of the signs indicating the quality of the aggregate and since the recycled aggregate from asphalt mixtures is originally the product of crushing crushers. Therefore, the higher percentage in the mixture is the higher the dry density value .The dry density of the mixture increased by 20% recycled asphalt and 2% cement to a value of 10%. Therefore, this ratio is considered good for improving the density value of the soil. Figure 3 present Modified Proctor test result and table 3 proctor test result for untreated sample and mixtures.

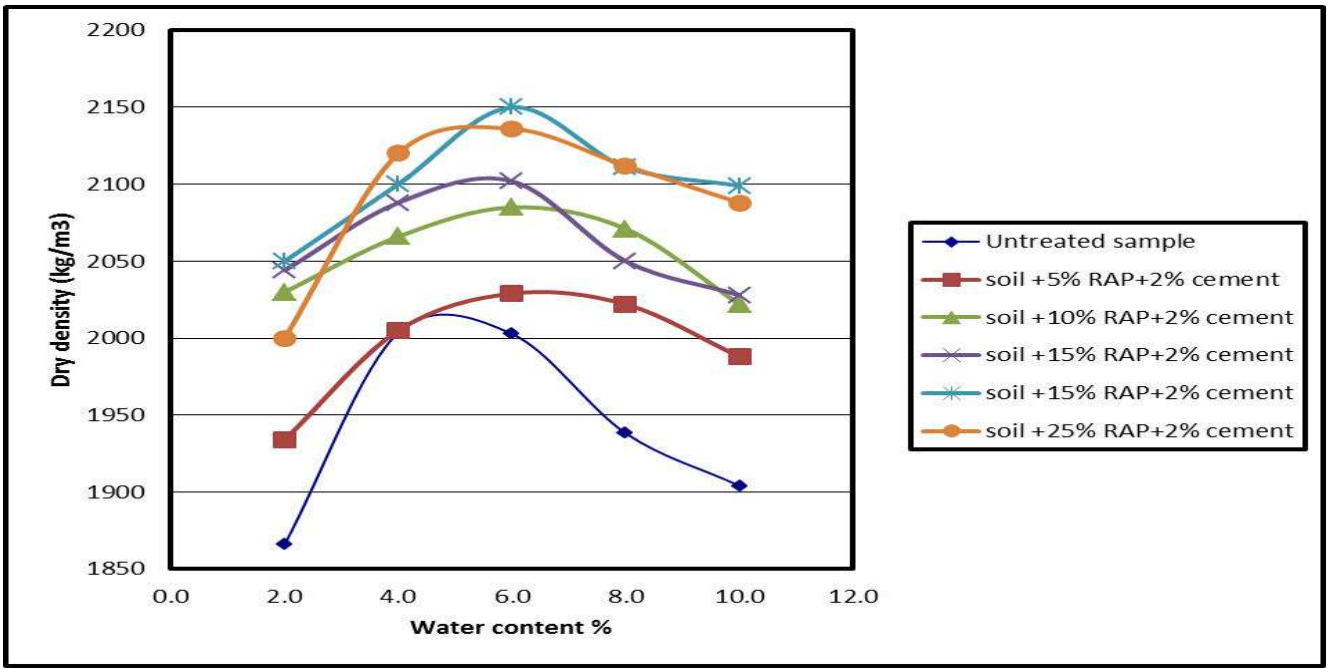


Figure 3 Proctor Compaction Curve for untreated sample and mixtures

Table 3 proctor test result for untreated sample and mixtures.

sample	Maximum Dry density (Kg/m^3)	Optimum water content
Untreated sample	2003	4.5
soil +5% RAP+2% cement	2029	6.0
soil +10% RAP+2% cement	2085	6.1
soil +15% RAP+2% cement	2102	5.8
soil +20% RAP+2% cement	2150	5.0
soil +25% RAP+2% cement	2136	6.1

- California bearing ratio test is considered one of the most important tests in the field of highway, as it determines the soil bearing capacity, and design theories take California bearing ratio as one of the factors involved in the structural design of roads. In this research it was made clear that the addition of recycled asphalt with a percentage of cement to the soil used in the base layers of the roads increased the bearing capacity of the soil to the loads load bearing capacity of the soil by a value of up to 37% for the soil modified with 20% Reclaimed Asphalt pavement and 2% cement.
- The improvement of the CBR value is an indication of the possibility of using recycled asphalt and a percentage of cement in stabilizing and improving the properties of the soil used in the base course layer in asphalt pavement construction. Figure 4 California bearing ratio test result for untreated sample and mixtures and table 4 present the calculated of CBR for untreated sample and mixtures

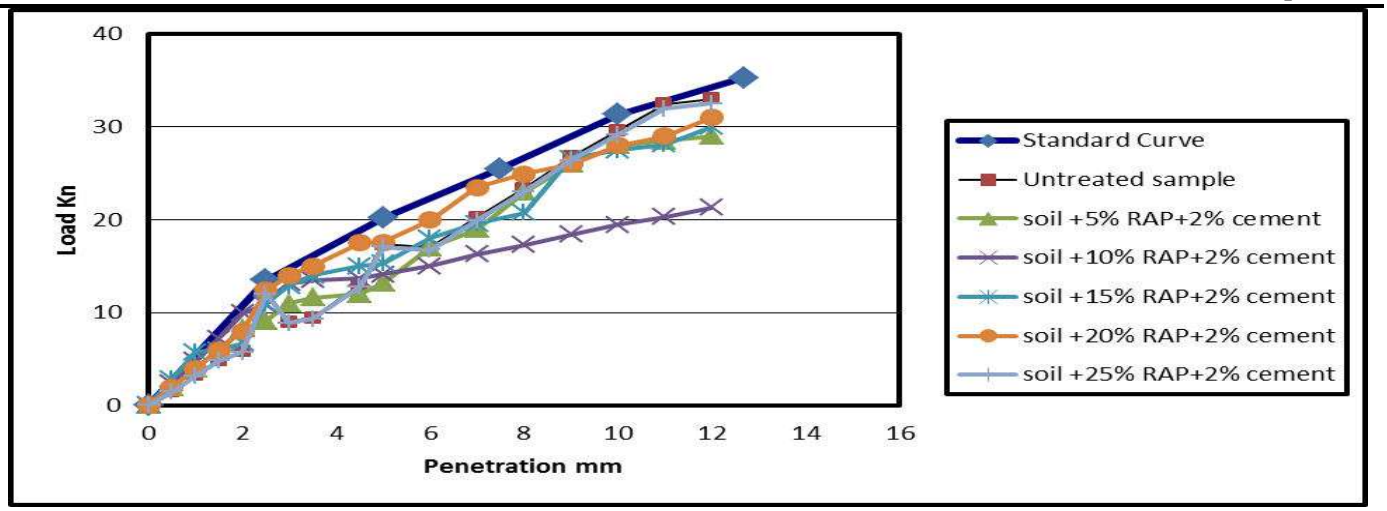


Figure 4 California bearing ratio test result for untreated sample and mixtures

Table 4 shows the calculated CBR results and that this table contains the value of CBR at penetration of 25 mm and also at a penetration value of 50 mm. Also, the table shows the percentage of improvement in the CBR value for the mixtures and there is a variation in the values according to the strength of the interlacing between the soil and Reclaimed Asphalt.

Table 4 calculated of CBR for untreated sample and mixtures.

sample	California bearing ratio (CBR)		Final Result CBR %	% of improvements in CBR ratio
	Penetration 2.5 mm	Penetration 5.0 mm		
Untreated sample	66.7	64.9	66.7	0%
soil +5% RAP+2% cement	67.3	65.4	67.3	0.9%
soil +10% RAP+2% cement	80.7	69.8	80.7	20%
soil +15% RAP+2% cement	81.3	75.8	81.3	21%
soil +20% RAP+2% cement	91.7	87.2	91.7	37%
soil +25% RAP+2% cement	90.3	85.9	90.3	35%

CONCLOSION

From the results of the tests used in this research, there are many points that can be summarized as follows:

- The use of recycled materials saves energy and preserves the natural resources of the materials used in the construction of asphalt roads
- Improved properties of soils containing recycled asphalt and a percentage of cement are evidence of the possibility of using these materials with base course layer for asphalt roads.
- The results promise the possibility of expanding the process of recycling full depth of the roads surface layers, base layer, and using them after their recycling and compacting as a new base layer for asphalt roads in what is known as the technology full depth recycling (FDR).

REFERENCES

1) Locander, Robert. Analysis of using reclaimed asphalt pavement (RAP) as a base course material. No. CDOT-2009-5. Colorado Department of Transportation, DTD Applied Research and Innovation Branch, 2009.
2) Jaspreet Singh, Jashanjot Singh, A.K Duggal, “A Review Paper on Reclaimed Asphalt Pavement (RAP)”, International Journal of Modern Trends in Engineering and Research (IJMTER) Volume 02, Issue 08, [August– 2015].
3) Vakkala Gadda. Anusha, Ch.Praveen Babu , "Recycled Asphalt Pavement Mixtures for Road Construction" , International Journal of Professional Engineering Studies Volume VIII /Issue 3 / FEB 2017
4) Chapter 4. Economics of recycling https://www.fhwa.dot.gov/pavement/recycling/98042/04.cfm

5) Saha, Dulal Chandra, and J. N. Mandal. "Laboratory investigations on Reclaimed Asphalt Pavement (RAP) for using it as base course of flexible pavement." Procedia engineering 189 (2017): 434-439.
6) Khodary, Farag. "Impact of Silica fume on the properties of Asphalt pavement base course." Civil Engineering Department, Qena Faculty of Engineering, South Valley University, Qena, Egypt, International Journal of Engineering Trends and Technology (IJETT) (2016).
7) Titi, Hani H., et al. "Long term performance of gravel base course layers in asphalt pavements." Case Studies in Construction Materials 9 (2018): e00208.
8) Akbulut, Hüseyin, and Cahit Gürer. "Use of aggregates produced from marble quarry waste in asphalt pavements." Building and environment 42.5 (2007): 1921-1930.
9) Arshad, Muhammad, and Muhammad Farooq Ahmed. "Potential use of reclaimed asphalt pavement and recycled concrete aggregate in base/subbase layers of flexible pavements." Construction and Building Materials 151 (2017): 83-97.
10) Bleakley, Albert M., and Paul J. Cosentino. "Improving properties of reclaimed asphalt pavement for roadway base applications through blending and chemical stabilization." Transportation research record 2335.1 (2013): 20-28.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

A COMPARATIVE STUDY OF IMPACT OF OPEN CAST COAL MINING ON AVAILABILITY OF SOIL MICRO-ORGANISMS LIKE BACTERIA, ACTINOMYCETES AND FUNGI IN BOTH MINING AREAS OF JHARIA COALFIELD AND NON-MINING AREAS (BALIAPUR AND SINDRI) OF DHANBAD, JHARKHAND ALONG WITH SIGNIFICANCE OF STRATEGIES NEEDED FOR THE MANAGEMENT OF DEGRADED LAND TO HAVE IDEAL SOIL ENVIRONMENT AND IMPROVED BIODIVERSITY OF SOIL INSECTS

Nilesh Kumar Singh
Assist. Professor, Rajiv Gandhi Mem.T.T.College,
(BBMKU Dhanbad, Jharkhand,India)
email-nileshkumarsinghsindri@yahoo.com

S.K.Sinha
Associate Professor,University Deptt.Of Zoology,
BBMKU, Dhanbad, Jharkhand, India

ABSTRACT
Coal is very important fossil fuel resource which fulfills the ultimate energy requirements. Jharia coalfield is known for its prime coking coal resources in the world. For effective coal extraction open cast mining is done on large scale in JCF. Due to blasting, drilling and excessive use of explosives the top most layer of the soil gets severely damaged. The availability of soil nutrients gets completely disturbed by open cast mining activities due to which presence of soil micro-organisms like bacteria, actinomycetes and fungi also gets affected. Availability of soil micro-organisms like bacteria, actinomycetes and fungi etc. is very significant because such organisms play major roles in promoting effective soil ecosystem. This paper presents the results of the study carried out in both mining and non-mining areas. The availability of soil micro-organisms like bacteria, actinomycetes and fungi etc. in both mining (Lodna and Bastacola) and non-mining areas (Baliapur and Sindri) was assessed and compared. It has been observed that in non-mining areas the stable and effective soil environment have excellent availability of organic matter and all other physico-chemical parameters due to which micro-organisms like bacteria, actinomycetes and fungi are found in good numbers whereas mining areas do not have similar soil environment and hence due to degraded soil ecosystem, poor availability of organic matter the soil micro-organisms remain in lowest number. The present comparative study of soil are very vital to understand that how open cast mining activities are damaging the ideal soil environment. The obtained results are also very beneficial for planning the rehabilitation programmes for Jharia coalfield so that degraded land can have ideal soil environment and improved Biodiversity of soil insects.

Keywords: Fossil fuel, Open cast mining, Top soil, JCF, Environment, Ecosystem, Biodiversity, Rehabilitation

INTRODUCTION
In recent years increasing emphasis on open cast mining has resulted in an unprecedented increase in waste dumps. Prime coking coal in Jharia coalfield is also being extracted by mainly opencast mining. In open cast mining due to heavy blasting and excess use of explosives the most valuable fertile top layer of soil which is the natural resources of feeding zone of plant is spoiled. Several ecological problems like changes in land use pattern, land degradation, modification of topographical features, disturbance to plant and animal communities are being caused by surface mining activity. Surface mining activities increase the soil erosion leading to the formation of depleted topsoil and subsequent loss of wild life, livestock productivity and may create biological deserts. Odum (1971) included soil erosion as a part of soil pollution and Rama Rao (1962) called soil erosion as creeping death of the soil. All such problems are existing in throughout the Jharia coalfield but the eastern side of Jharia coalfield like Lodna and Bastacola are heavily disturbed.
Due to opencast mining the fertile soils get lost which ultimately cause adverse ecological impact. The opencast mining damages the original vegetation due to which the flora as well as fauna population get depleted. Opencast mining disturbs the soil profile sequences very badly. In the abundance sites natural

vegetation succession is much slower than areas where soil layers are in the natural sequence (Bradshaw and Chadwick 1980, Marss et al 1981 and Roberts et al 1981). It has been observed that due to the impact of overburden materials the soil usually have great deficiency of major nutrients. So, all such factors are affecting the presence of soil micro-organisms like bacteria, actinomycetes and fungi etc in mining areas of JCF.

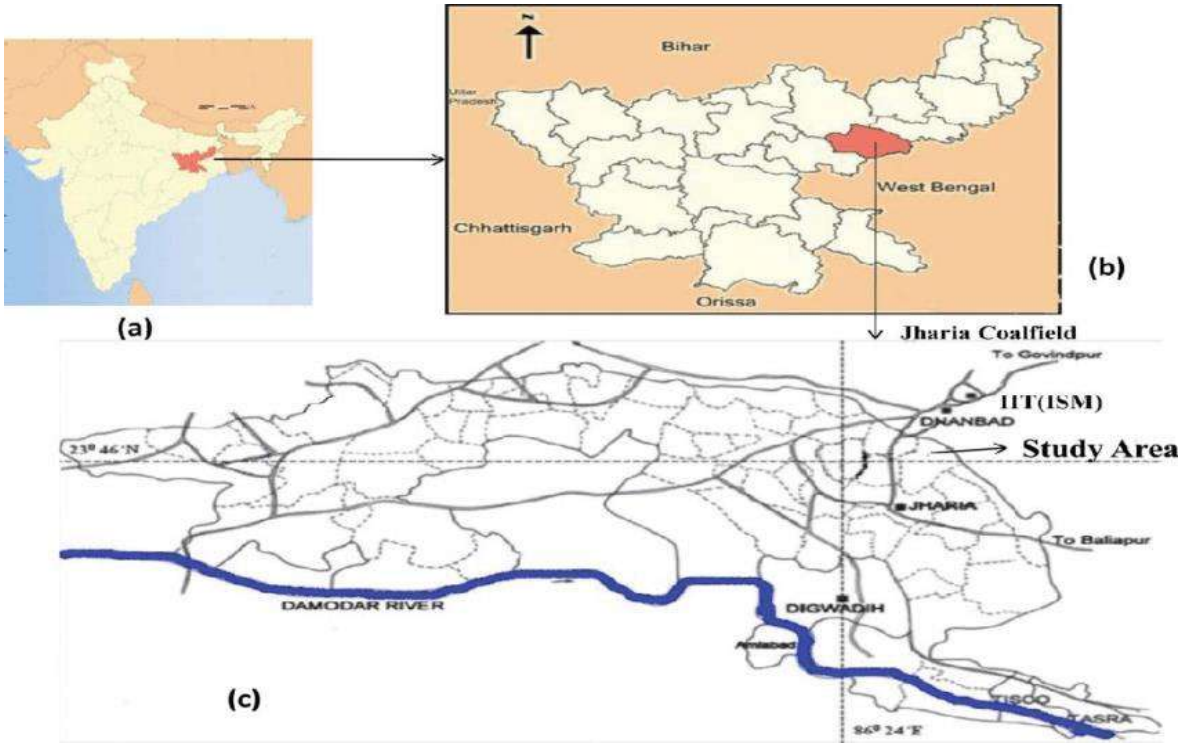
MATERIALS AND METHOD

SAMPLING SITES

To study the impact of open cast coal mining Bastacola and Lodna areas of Jharia coalfield were selected prominently. From Bastacola five different sites i.e Kuiya Open cast, Golakdih Open Cast, Bera Open Cast, Ghanuadih Open Cast, and Kusunda Open Cast of Area No. IX of JCF were selected. Similarly, from Lodna again five sites i.e. Ginagora Open Cast, South Tisra Open Cast, North Tisra Open Cast, Kujama Open Cast and Central Surunga Open Cast of Area No. X of JCF were selected. Bastacola and Lodna are heavily mining affected areas of JCF.

Baliapur and Sindri are non-mining areas. From Baliapur five samples were taken from D.A.V.,School, Rangamati, Baghmara Village, Krishi Vigyan Kendra, Samalapur Village and Hawaipatti Baliapur. Similarly, from Sindri again five sites i.e Rohrabandh F.C.I. Hospital, Manohartand Village, S.P.M. College Domgarh, PDIL Sindri Saharpura Gate and Sindri Basti Sindri were selected to collect the soil samples.

LOCATION OF STUDY AREAS

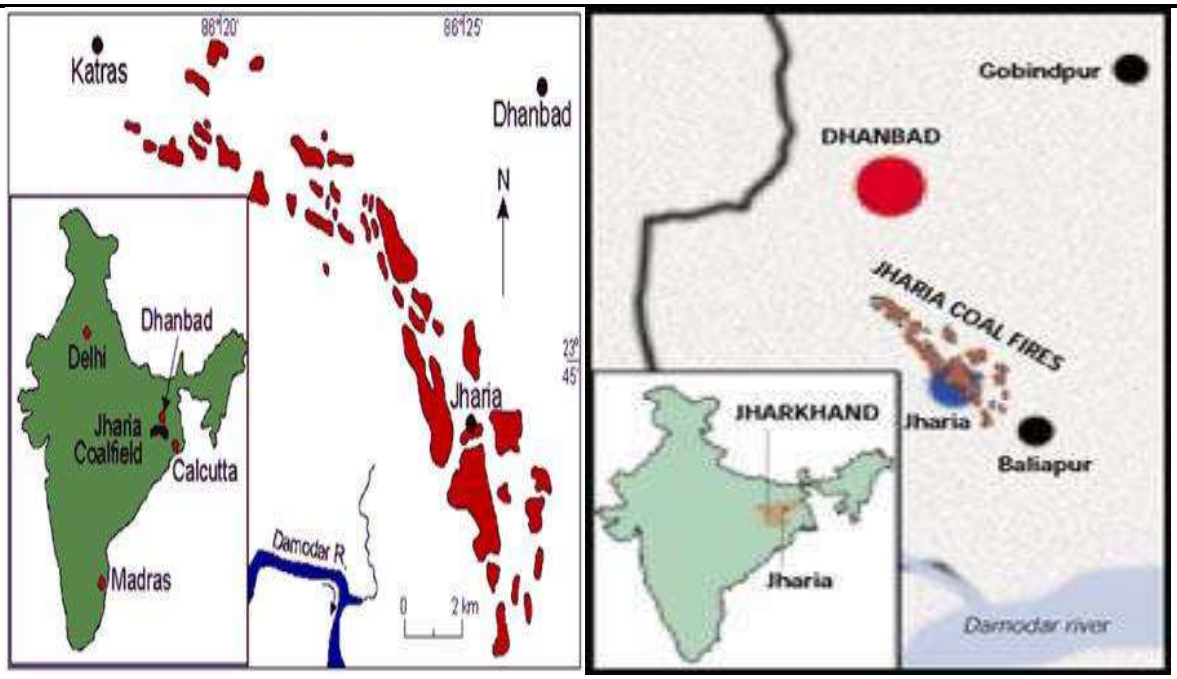


LOCATION MAP OF STUDY AREA

(The Geological Survey of Jharia Coalfield was done in 1930 by C.S. Fox.)

GEOGRAPHY

Jharia is located between the co-ordinates 23.7516^0 North latitude and 86.4203^0 East longitude. This coalfield is located at the heart of the Damodar Valley. The altitude of Jharia is about 77 meters and area about 450 km^2. The field is roughly sickle shaped. The coal basin extends for about 38 km in an east-west direction and a maximum of 18 km in north-south direction. Jharia is known for abundant reserves of coal. Jharia is a major contributor to Jharkhand's economy as it is considered as the only source of coking coal in our country.



GEOGRAPHICAL STATUS OF STUDY AREA

ENUMERATION OF BACTERIA, ACTINOMYCETES AND FUNGI

Soil was collected from the upper or outermost layer usually the top 2 inches (5.1 cm) to 8 inches (20 cm) from both mining and non-mining areas.

ESTIMATION OF BACTERIA AND ACTINOMYCETES

I.SAMPLE COLLECTION

To study the presence of bacteria and actinomycetes samples of soil were collected from the rhizosphere zone from both mining and non-mining areas . To check the presence of these soil micro-organisms 'Plate Count Spread Method' was adopted. Preparation of media for bacteria and Peptone-yeast Agar was done very carefully. Peptone 5 g, yeast extract-3 g, agar-15 g were added in 1 L of deionized water. The process of autoclaving was allowed at 15 mm pressure for a period of 15 minutes and after that it was cooled to 45ºC. 10 ml of 0.1 $CaCl_2$ was added to the hot solution. The pH was adjusted to 7.0 with conc. HCl after the process of autoclaving.

II PREPARATION OF MEDIA FOR ACTINOMYCETES:

These are the gram positive bacteria which form branching hyphae usually 0.5-1 µ diameter. Williams and Wellington Medium was used for the actinomycetes starch-casein agar.

CHEMICAL COMPOSITION OF STARCH CASEIN AGAR

S.NO.	CONSTITUENTS	AMOUNTS
i.	Starch (Soluble)	10.0 g
ii.	Casein (Vitamin free)	0.3 g
iii.	Sodium Chloride (NaCl)	0.2 g
iv.	Potassium Nitrate (KNO_3)	0.2 g
v.	Potassium dihydrogen phosphate (K_2HPO_4)	0.2 g
vi.	Magnesium Sulphate ($MgSO_4,7H_2O$)	0.05 g
vii.	Calcium Carbonate ($CaCO_3$)	0.02 g
viii.	Ferrous Sulphate ($FeSO_4,7H_2O$)	0.01 g
ix.	Agar	18 g
x.	Cyclohexamide (Heat Stable)	50 mg
xi.	Distilled Water	1000 ml

The pH was adjusted to 7 after autoclaving with 0.1 N HCl.

III. PROCEDURE

STEP 1: PREPARATION OF DILUTION SERIES

a. 10 g of soil was dissolved in 95ml of dilution water in a dilution bottle and the bottle was shaken in horizontal position for 10 minutes with the help of mechanical shaker.
b. 1 ml of suspension from the bottle was removed by sterile pipette and it was added to a tube containing 9 ml dilution water. After this the three most diluted suspensions were plated.

STEP 2: PREPARATION OF PLATES : For each dilution three replicates were prepared. Thus total 9 plates were required.

STEP 3: INOCULATION OF THE PLATES

a. Three spread plates were prepared for the bacteria of dilution 10^{-3}, 10^{-4},10^{-5}.
b. Dilution 10^{-2},10^{-3},10^{-4} were used for the actinomycetes.
c. 0.1 ml of each dilution was put for bacteria on three separate lebelled peptone-yeast agar plates and for actinomycetes on starch casein plates.
d. A spreader was taken and dipped into ethanol then a burner was flamed to ignite the ethanol. After cooling of the spreader the drop of inoculum was spread around the surface of the agar until all traces of free liquid got disappeared.
e. The same procedure was repeated with next plate.
f. The bacteria and actinomycetes plates were incubated at room temperature for one week and two weeks respectively.

STEP 4:COUNTING OF BACTERIA AND ACTINOMYCETES

The total number of bacterial colonies and actinomycetes colonies were counted.

CALCULATION

$$\text{No. of microbes of dry soil/g} = \frac{\text{Average no. Of colonies X Dilution Factor}}{\text{Dry Weight of the Soil}}$$

ESTIMATION OF VESICULAR ARBUSCULAR MYCORRHIZA (VAM) FUNGI

VAM Fungi are widespread and significant root symbiants of all mycorrhizal association. About 80 % of all land plants form this type of mycorrhiza. Most families of leguminosae are host of these fungi. Mycorrhiza (Pleural mycorrhiza) means fungus root which is formed by the association between a plant and a fungus. Majority of plants remain involved in these association. Endomycorrhiza are known as VAM fungi which are Zygomicotina and Asomycotina group. They form vesicles and arbuscules within the cell (intracellar) of root cortex. They serve as organ of storage and transfer of carbon compounds and mineral nutrients between the fungal hyphae and host plant.

I. COLLECTION OF FUNGI

Approximately 500 g of rhizosphere soil was taken along with feeder roots and collected in polythene bags from both mining and non-mining areas.

MATERIALS

a). Spade b). Sampling Bottle (filled with 50 ml of fixative solution) for collection of feeder roots c). Plastic Bag and Stickers d). Refrigerator e). Fixative Solution : Formaldehydrade 37%, glacial acetic acid and ethanol in the ratio of 5:5:90 (13 ml formalin was mixed with 5 ml glacial acetic acid in 200 ml 5% ethyl alcohol).

METHOD

a. First few cm of soil surface was removed to eliminate plant debris.
b. 25-30 cm of soil was dig to have plant roots.

c. The feeder roots were kept in sampling bottle.
d. Soil sample was kept together with roots in a plastic bag.
e. The bottles and bags were numbered.
f. The sample was stored in a refrigerator at 4^{o}C until analysis.

II.PROCEDURE FOR ASSESSING THE PRESENCE OF VAM

REQUIRED CHEMICALS AND REAGENTS

a. H_2O_2 Solution (3%)
b. KOH Solution (10 %)
c. Tryphan Blue Solution: 0.5 g of Tryphan Blue was dissolved in 500 ml of glycerol and 450 ml of distilled water along with 50 ml of 1% of HCl solution were added.
d. Destaining Solution: Lactophenol (20g Phenol, 20g Lactic acid, 40 g Glycerine)
e. Mounting Medium: Having acetic acid and glycerol (1:1).

METHOD

a. The feeder roots were washed and immediately put in FAA solution.
b. The root pieces were washed with water and the attached soil particles were removed.
c. The roots were cut into 1 cm pieces.
d. Roots were put in 10% KOH solution and boiled at the temperature of 90^{o}C for 1-2 hours.
e. The roots were allowed to cool and after that washed with water twice or thrice.
f. The roots were acidified with 5 N HCl for a few minutes and then rinsed thoroughly with distilled water for twice or thrice.
g. The root segments were stained with 0.05% trypan blue and excess stain was removed by Lactophenol (20g Phenol 20 g Lactic acid 40 g Glycerin).
h. The root segments were mounted on slides containing acetic acid : Glycerol (1:1).
i. The mounted root segments were examined under microscope at 100 and 400 magnification.

RESULT AND DISCUSSION

ENUMERATION OF MICRO-ORGANISMS (BACTERIA, ACTINOMYCETES AND FUNGI)

SITE	AREA	NO. OF BACTERIA ($X10^5G^{-1}$)	NO. OF ACTINOMYCETES ($X10^5G^{-1}$)	NO. OF FUNGI ($X10^5G^{-1}$)
MS1	MINING AREA	8.2-16.3	5.1-11.4	3.2-9.4
MS2	MINING AREA	8.9-16.8	5.7-11.8	3.6-9.9
MS3	MINING AREA	6.2-13.1	3.3-8.6	2.1-6.6
MS4	MINING AREA	5.1-12.4	3.0-8.1	2.1-6.2
MS5	MINING AREA	6.5-14.4	3.9-9.8	2.4-7.9
MS6	MINING AREA	6.9-14.8	4.0-10.1	2.6-8.1
MS7	MINING AREA	7.3-15.4	4.2-10.3	2.8-8.9
MS8	MINING AREA	7.6-15.7	4.8-10.7	3.0-9.1
MS9	MINING AREA	9.1-17.0	6.2-12.1	4.1-10.3
MS10	MINING AREA	9.8-17.4	6.5-12.6	4.4-10.8
NMS11.	NON-MINING AREA	44.6-69.0	40.3-58.1	36.2-56.3
NMS12.	NON MINING AREA	46.1-70.2	42.9-59.4	37.7-57.6
NMS13.	NON MINING AREA	46.8-70.3	43.2-60.3	38.2-58.3
NMS14.	NON MINING AREA	49.0-72.1	44.7-61.5	39.3-59.8
NMS15.	NON MINING AREA	47.2-71.0	43.5-60.6	38.7-58.6
NMS16.	NON MINING AREA	45.2-69.1	41.6-58.7	36.6-56.9
NMS17.	NON MINING AREA	48.1-72.3	45.1-62.2	40.1-60.2
NMS18.	NON MINING AREA	47.5-71.8	44.1-61.2	39.1-59.2
NMS19.	NON MINING AREA	45.9-69.7	42.2-59.0	37.2-57.3
NMS20.	NON MINING AREA	49.4-73.8	45.9-62.8	40.8-60.7

A) AVAILABILITY OF MICRO-ORGANISMS IN MINING AREAS

In Kuiya Open Cast of Bastacola Area No. IX the number of bacteria, actinomycetes and fungi were found 8.2-16.3, 5.1-11.4 and 3.2-9.4 respectively. In Golakdih Open Cast the number of bacteria, actinomycetes and fungi were found 8.9-16.8, 5.7-11.8 and 3.6-9.9 respectively. In Bera Open Cast the number of bacteria, actinomycetes and fungi were found 6.2-13.1, 3.3-8.6 and 2.1-6.6 respectively. In Ghanuadih Open Cast the number of bacteria, actinomcetes and fungi were found 5.1-12.4, 3.0-8.1 and 2.1-6.2 respectively. In Kusunda Open Cast the number of bacteria, actinomycetes and fungi were found 6.5-14.4, 3.9-9.8 and 2.4-7.9 respectively.

In Ginagora Open Cast of Lodna Area No. X the number of bacteria, actinomycetes and fungi were found 6.9-14.8, 4.0-10.1 and 2.6-8.1 respectively. In South Tisra Open Cast the number of bacteria, actinomycetes and fungi were found 7.3-15.4, 4.2-10.3 and 2.8-8.9 respectively. In North Tisra Open Cast the number of bacteria, actinomycetes and fungi were found 7.6-15.7, 4.8-10.7 and 3.0-9.1 respectively. In Kujama Open Cast the number of bacteria, actinomycetes and fungi were found 9.1-17.0, 6.2-12.1 and 4.1-10.3 respectively. In Central Surunga Open Cast the number of bacteria, actinomycetes and fungi were found 9.8-17.4, 6.5-12.6 and 4.4-10.8 respectively.

B). AVAILABILITY OF MICRO-ORGANISMS IN NON-MINING AREAS

In D.A.V. School, Rangamati of Baliapur Area the number of bacteria, actinomycetes and fungi were found 44.6-69.0, 40.3-58.1 and 36.2-56.3 respectively. In Baghmara Village the number of bacteria, actinomycetes and fungi were found 46.1-70.2, 42.9-59.4 and 37.7-57.6 respectively. In Krishi Vigyan Kendra the number of bacteria, actinomycetes and fungi were found 46.8-70.3, 43.2-60.3 and 38.2-58.3 respectively. In Samlapur Village the number of bacteria, actinomycetes and fungi were found 48.0-72.1, 44.7-61.5 and 39.3-59.8 respectively. In Hawaipatti of Baliapur Area the number of bacteria, actinomycetes and fungi were found 47.2-71.0, 43.5-60.6 and 38.7-58.6 respectively. In Rohrabandh Near F.C.I. Hosp. of Sindri Area the number of bacteria, actinomycetes and fungi were found 45.2-69.1, 41.6-58.7 and 36.6-56.9 respectively. In Manohartand Village the number of bacteria, actinomycetes and fungi were found 48.1-72.3, 45.1-62.2 and 40.1-60.2 respectively. In S.P.M. College, Domgarh of Sindri Area the number of bacteria, actinomycetes and fungi were found 47.5-71.8, 44.1-61.2 and 39.1-59.2 respectively. In P.D.I.L., Saharpura of Sindri Area the number of bacteria, actinomycetes and fungi were found 45.9-69.7,42.2-59.0 and 37.2-57.3 respectively. In Sindri Basti of Sindri the number of bacteria, actinomycetes and fungi were found 49.4-73.8,45.9-62.8 and 40.8-60.7 respectively.

The highest number of soil micro-organisms like bacteria, actinomycetes and fungi was found in Sindri Basti of Sindri 49.4-73.8, 45.9-62.8 and 40.8-60.7 respectively which is a non-mining site whereas the lowest number 5.1-12.4, 3.0-8.1 and 2.1-6.2 respectively was found in Ghanuadih Open Cast of Bastacola Area No. IX which is a mining affected area **.**

In non-mining areas the stable and effective soil environment have excellent availability of Nitrogen, organic matter and all other physico-chemical parameters due to which micro-organisms like bacteria, actinomycetes and fungi are found in good numbers whereas mining areas do not have similar soil environment and hence due to degraded soil ecosystem, poor availability of Nitrogen and organic matter the soil micro-organisms remain in lowest number. The present study shows that the availability of total nitrogen in mining areas was less as compared to non-mining areas due to excellent growth of some medicinal and leguminous plants like Dalbergia sissoo, Melia azedarach, Polyalthia longifolia, Tectona grandis, Alstonia scholaris in non-mining areas as these plants have strong association with VAM fungi which help the soil to maintain ideal quantity of Nitrogen. The Nitrogen activity in the root nodules have been reported by Pokhriyal et. al (2003) . The ideal quantity of Nitrogen and other nutrients available in the soil positively affect the growth of plants which promote the ideal survival of micro-organisms like bacteria, actinmycetes, fungi and several soil insects as well. Fassi et.al (1972) have also reported that high humified organic matter is beneficial for the establishment of bacteria, actinomycetes, mycorrhiza and several other soil organisms. The plants like Neem, Babool, Ashoka, Eucalyptus, Sisum, Teak etc. in abundance have efficient colonization of VAM (Habte and Manjunath, 1991) due to which absorption of nutrients become very effective. So such factors contribute a lot in maintaining excellent vegetational condition for the ideal growth and survival of soil micro-organisms like bacteria, actinomycetes, fungi and

soil insects in non-mining areas. The micro-organisms like bacteria, actinomycetes and fungi along with several soil organisms are playing very significant roles in maintaining the soil ecosystem and ideal microbial activities as they are making the soil nutrients easily available to the plants for ideal vegetation**.** According to Brown and Lugo (1994) degraded ecosystem returned to productivity with the help of bacteria, fungi mycorrhiza and they improve the soil fertility. The interaction of microbes with various other soil animals like beetles and different soil insects were studied by microbial ecologist (Davidson et.al 2002), which showed the importance of food web interaction in determining the structure and activity of soil microbial communities. It proved that soil microbial communities have great significance in ecosystem.

SIGNIFICANCE OF STRATEGIES NEEDED FOR THE MANAGEMENT OF DEGRADED LAND CREATED DUE TO OPENCAST MINING TO HAVE IDEAL SOIL ENVIRONMENT & IMPROVED BIO-DIVERSITY OF SOIL INSECTS

As opencast mining activities are responsible for damaging the topmost layer of the soil therefore, the soil insects and various micro-organisms are bound to live in acute stressed conditions. Hence, to check harmful effects and sustainable development of mining affected regions environmental management plan is of great significance (Jha, A. K. & J. S. Singh. 1993).

In the barren overburden dump soil temperature and other physical factors do not allow growth of soil insects and other soil organisms in the absence of grasses and biomass. Therefore, efforts need to be done so that grasses can be grown to have biomass. Thus, the soil organisms will appear and sustainable development of a disturbed site would take place. As it is clearly known that biodiversity leads to stability of ecosystem . Higher the level of biodiversity lesser is the time required for reaching the stability of the ecosystem.

In mining areas land degradation and the formation of overburden dumps are important environmental concerns. In transforming a disturbed mined land into economically usable land form, time, money and good geological fortune are required. The degraded land of mining areas must be restored to productive and aesthetic uses.

The overburden dump rock mass must be used in reclamation of mined out areas for developing effective post mining land uses. The available dumps in mining areas must be scientifically made reclaimed and rehabilitated. To accelerate the process of natural recolonization of restored mined land suitable species of plantation is needed .

For effective reclamation of mining affected areas all the efforts should be made to have ideal vegetation. Soil insects and several micro-organisms play significant roles in keeping the natural soil ecosystem in excellent condition naturally but to have ideal population of these soil insects in mining areas efforts should be made to provide favourable growing conditions hence, herbs, shrubs and trees should be allowed to grow in mining affected areas in large numbers. This will modify the physico-chemical properties of the mining soils through constant litter production which will also increase the microbial activity of the soil. With such efforts the soil environment which was very harsh just after mining will improve and change gradually to hospitable condition through natural succession.

Soil insects need to be promoted in mining areas because these insects enhance the productivity of overburden dumps by increasing draught tolerance of plant and Phosphorus availability which are limiting factor for plant establishment.

The soil insects along with several other micro-organisms are very essential for our ecosystem but they are dependent on effective vegetation directly or indirectly for their natural growth and survival. Therefore, plantation of variety of plants for example babool, neem , eucalyptus, teak, sisum etc. need to be promoted with great sincerity in mining affected areas. This will lead to the formation of a diverse and stable ecosystem.

For effective biological reclamation of degraded mine site grasses & bamboo species must be planted on slopes and the ideal pattern of herbs, shrubs and tree species plantation should also be followed.

NEED TO GROW CERTAIN SPECIES OF PLANTS ON DEGRADED LAND OF MINING AREAS TO IMPROVE SOIL ENVIRONMENT AND BIO-DIVERSITY OF SOIL INSECTS

To have ideal soil environment, improved biodiversity of soil insects and effective rehabilitation in open cast mining affected areas mixed species of following plants must be selected to grow on degraded land as such plants remain colonized with VAM fungi which facilitate them to survive even in stressed soil environment (Singh, A. N., A. S. Raghubanshi & J. S. Singh. 2002) :

S.N.	COMMON NAME	SCIENTIFIC NAME	GENERAL USE
01	Babool	Cassoa seamea	Medicinal
02	Ashoka	Polyalthia Longifolia	Medicinal
03	Neem	Azadirachta indica	Medicinal
04	Acacia	Acacia auriculoris	Medicinal
05	Aakash Neem	Melia azedarach	Medicinal
06	Teak	Tectonia grandis	Wood
07	Siris	Albijja lebbek	Medicinal & Timber
08	Shisham	Dalberjia sissoo	Timber
09	Sal	Shorea robusta	Timber
10	Arjun	Terminalia arjuna	Medicinal & Timber
11	Imli	Tamarinuds indica	Medicinal & adible fruit
12	Palas	Butea monssperma	Fuel wood & erosion
13	Gulmohar	Delonox regia	Aesthetic
14	Eucalyptus	Eucalyptus tereticornis	Timber
15	Katha	Acacia catechu	Erosion mestigatory

CONCLUSION

The availability of organic matter was excellent in non-mining areas due to higher accumulation of leaf litter and their rapid decomposition to form humus. The availability of total Nitrogen in mining areas was found lesser as compared to non-mining areas because organic matters get accumulated in the soil of non-mining areas by roots and leaching of Nitrogen from heavy vegetation. In non-mining areas the growth of medicinal and leguminous plants like Dalbergia sissoo, Melia azedarch, Polyalthia longifolia, Tectona grandis , Alstonia scholaris takes place very ideally. These plants have great association with Vesicular Arbuscular Mycorrhiza (VAM) due to which total Nitrogen get accumulated in ideal quantity so due to the presence of higher amount of mineralizable matter growing plants get essential amount of Nitrogen which ultimately influences the soil fertility. The lack of ideal plantation in mining areas results lesser accumulation of total Nitrogen.

The ideal quantity of Nitrogen and other nutrients along with high humified organic matter available in the soil of non-mining areas positively promote the survival of micro-organisms like bacteria, actinmycetes, fungi in large number whereas due to less availability of Nitrogen and organic matter in the soil, mining areas have poor availability of such micro-organisms. The present study reveals that soil micro-organisms like bacteria, actinomycetes and fungi etc. are found in maximum number in non-mining area (Sindri Basti, Sindri 49.4-73.8,45.9-62.8 and 40.8-60.7 respectively) whereas these soil micro-organisms are found in least number in mining area (Ghanuadih Open Cast of Bastacola Area No. IX 5.1-12.4, 3.0-8.1 and 2.1-6.2 respectively). Availability of soil micro-organisms like bacteria, actinomycetes and fungi etc. is very significant because such organisms play major roles in making the soil nutrients easily available to the growing plants for effective vegetation. Thus the availability of soil micro-organisms in large number promote ideal habitat for soil insects as such insects are directly or indirectly dependent on effective vegetation of the concerned area. The availability of soil insects and other micro-organisms in large population in non-mining areas have improved the structure, nutrient cycling and biological process of the soil so well whereas the poor availability of these soil fauna in mining areas have resulted the degraded soil ecosystem so the excellent availability of all such micro-organisms supported natural habitat as well as ideal growing conditions for the soil insects.

The soil insects along with micro-organisms living in mining areas are the most suffering organisms. As open cast mining activities involve heavy blasting, drilling and excessive use of explosives due to which removal of earth crust of several feet depths takes place and thus the top soil vegetation, nutrient quality and fertility of the soil all get severely damaged in mining affected areas.. The top most layer of the soil is not only responsible for providing shelter to soil organisms but it is also responsible for the establishment of ideal biological circumstances for effective growth and survival of soil insects. So, the environmental impacts of open cast coal mining must be assessed periodically and to have improved environmental conditions the available overburden dumps must be levelled to make a plan area and the selected plant species should be planted to make it a green land suitable for the growth of soil insects which play vital role in food chain. By doing this the mining area will turn into a green field vegetation with ideal bio-diversity which is the need of the time for the life of the earth.

Generally, the plants growing over barren land of mining areas are under severe stress due to poor availability of essential soil nutrients and moisture contents which hamper the ultimate vegetation of the mining affected areas but when the above mentioned plant species will be allowed to grow in large number then due to constant litter production organic matter of the soil will be improved which will promote microbial activites of the soil and thus the physico-chemical characteristics of mining soil will also get improved.

Thus, the improved vegetation condition will allow the soil insects and several other soil micro-organisms to appear in large number which would be very beneficial to maintain the natural soil environment and ideal bio- diversity status of the soil insects in open cast mining affected areas.

ACKNOWLEDGEMENT

The authors are highly grateful to the Director, B.I.T., Sindri, Dhanbad, Jharkhand for providing laboratory facility to carry out the research study. The authors also thank to General Manager, BCCL who allowed to visit the study areas at regular interval of time. The Deptt. Of Zoology, P.K.Roy, College, Dhanbad, Jharkhand , also provided all the facilities so authors are also very thankful to the Honorable Principal and the faculty members.

REFERENCES

1) Bradshaw, A.D. and M.J. Chadwick (1980). The restoration of derelict and degraded land , Black Well Scientific Publications, Oxford, 317 pp.
2) Brown, S and Lugo , A.E. (1994). Restoration Ecology, 2; 97-111.
3) Davidson D.A., Bruneau P.M.C., Grieve I.C. Young (2002). Impacts of fauna on an upland, grassland soil as determined by micromorphological analysis, Applied Soil Ecology – 20;133-143.
4) Fox, CS.,(1930).The Jharia Coalfield, Geological Survey of India, Bangalore, India.
5) Jha, A. K. & J. S. Singh. (1993). Rehabilitation of mine Ltd., Bhubaneswar, India.
6) Odum, E.P. (1971). Fundamentals of Ecology W.B., Saunders, Philadelphia.
7) Pokhryal, R.C. , K.C. Himmat Singh, Vijay Rawat, A.K.Parandiyal and Pankaj Kumar (2003). Introduction of Nitrogen Fixing Plants a sustainable approach for the plantation forestry programme IInd International Congress of plant Physiology on sustainable plant productivity under changing environment, Jan. 8-13, I.A.R.I., New Delhi.
8) Rao, A.V. and Tarafdar, JH.C. (1962). Soil Restoration Rehabilitation , 7; 275-280.
9) Singh, A. N., A. S. Raghubanshi & J. S. Singh.(2002). Plantations as a tool for mine spoil restoration. Current Science 82: 1436-1441.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

WHAT IS GLOBALIZATION AND ITS IMPACT ON LANGUAGE AND EDUCATION?

Rahimova Charos Odiljonovna
Student of UzSWLU

ABSTRACT
In the context of globalization, which occurs due to its different levels of possibilities, first of all, it is directed against the existence of a truly free human being, regardless of language, religion, beliefs, to destroy his or her spiritual world. Manifesting itself in the form of ideological, ideological and informational attacks aimed at the goal. Identify the role and place of the population, especially the youth, in protecting national culture and values from the effects of globalization.

Keywords: Globalization, language, education, spirituality, culture, ideology.

INTRODUCTION
Globalization is a natural process. Elements of globalization have been evident since ancient times, when different ethnic groups sought economic, socio-political, cultural and ideological rapprochement. From ancient times the people did not want to live alone, in the process of development of human thinking they wanted to live in cooperation with others, to help each other, to be friendly.
In globalization, not only the sense of mutual cooperation, but also the spirit of self-interest and domination of others has become more pronounced.
The concept, content and essence of “globalization”. As a society develops at a high level, so do its needs. He strives for a better life today, a better tomorrow, a better life, and a better life. But the natural-geographical factors that ensure the high level of well-being of mankind are not their own desires, but their own. These factors are an essential condition for a prosperous life, and since the establishment of states and kingdoms on earth, the struggle for supremacy and for the attainment of specific conveniences has been going on. In fact, this is the essence of human development, its laws and philosophy of life. At first glance, such an aspiration is natural. Globalization usually means the widespread popularization of the political, economic, cultural and spiritual achievements of developed nations, and its reflection is directed at the more developed, less developed nations. Someone is interested in its occurrence, someone .... It is clear that not everyone sees globalization as a problem or a tragedy. There are a lot of people who are interested in her celebration. As noted, globalization is the "expansion" of developed countries into the socio-political system, economy, spiritual and cultural life of developing, underdeveloped, backward countries.
As mentioned above, globalization has led to a sharp increase in interaction in the field of culture. Diversity in human culture is being replaced by universality. The perspectives and consequences of globalization in the field of culture are also the focus of many scholars. It is true that no culture has developed independently in the history of mankind. They have been interacting with each other for a long time, interacting with each other and enriching each other. Any national culture can actively develop and develop through other contacts and influences. But today the changes and processes in national cultures are under the influence of technological revolution, globalization in economic, political, social life, in this sense, globalization serves the purpose of consistently alienating peoples from local interests, national traditions, values and moral norms. is doing.Young people should contribute according to the scale and nature of the system of ideas, values, knowledge and moral qualities that society has instilled in them. Education, training and upbringing are the main components of the future spiritual and, ultimately, socio-economic development of the Republic of Uzbekistan. The role of education in the formation of social institutions in any country is very high, because social consciousness is, in fact, largely formed by educational institutions, because social norms and standards are in the process of secondary socialization, which are the main institutions of education. are combined. The formation of a spiritually rich, morally pure, harmoniously developed person is inextricably linked with the general process of democratic change in the country, the establishment of the ideology of national independence in the minds of the people, new progressive values. Globalization usually means the widespread popularization of the political, economic, cultural and spiritual achievements of

developed nations, and its reflection is directed at the more developed, less developed nations. Someone is interested in its occurrence, someone .... It is clear that not everyone sees globalization as a problem or a tragedy. There are a lot of people who are interested in her celebration. As noted, globalization is the "expansion" of developed countries into the socio-political system, economy, spiritual and cultural life of developing, underdeveloped, backward countries.

As mentioned above, globalization has led to a sharp increase in interaction in the field of culture. Diversity in human culture is being replaced by universality. The perspectives and consequences of globalization in the field of culture are also the focus of many scholars. It is true that no culture has developed independently in the history of mankind. They have been interacting with each other for a long time, interacting with each other and enriching each other. Any national culture can actively develop and develop through other contacts and influences. But today the changes and processes in national cultures are under the influence of technological revolution, globalization in economic, political, social life, in this sense, globalization serves the purpose of consistently alienating peoples from local interests, national traditions, values and moral norms. is doing.Young people should contribute according to the scale and nature of the system of ideas, values, knowledge and moral qualities that society has instilled in them. Education, training and upbringing are the main components of the future spiritual and, ultimately, socio-economic development of the Republic of Uzbekistan.

The role of education in the formation of social institutions in any country is very high, because social consciousness is, in fact, largely formed by educational institutions, because social norms and standards are in the process of secondary socialization, which are the main institutions of education. are combined. The formation of a spiritually rich, morally pure, harmoniously developed person is inextricably linked with the general process of democratic change in the country, the establishment of the ideology of national independence in the minds of the people, new progressive values.

In short, in order to prevent the deformation of our national culture and values in the context of globalization, at least to a certain extent reduce their impact, first of all, our people, especially our youth, not only preserve the essence of our national culture and values, but also preserve them. - have a clear idea of the role and importance of care and preservation in national development and preservation of the original image of our nation; secondly, to make the ideas embodied in our national spiritual heritage and values an integral part of the consciousness, thinking and worldview of our youth; thirdly, to reveal the importance of the struggle for the purity of our national language, which is the most important element of our national culture; fourthly, to instill in the minds of our people, especially our youth, a sense of pride in the cultural riches and spiritual heritage created by our ancestors, the contribution of our ancestors to world civilization; relying on our national idea, created by our ancestors in the formation of ideological immunity to combat aggression, and which allows us to use them effectively today; sixth, to pay special attention to national education, to organize it in accordance with the requirements of the changes taking place in the world today; seventh, to study in depth our spiritual and material cultural heritage, which has not yet reached the hands of our people, to convey them to our people, and on their basis to improve our national culture in accordance with today's development; eighth, to increase the activity of our intellectuals in protecting our national culture from the negative effects of globalization; ninth, the gradual improvement of the idea of national development, the effective use of propaganda tools in the consciousness and practice of the people of our country; tenth, it is important to increase the activity of the media and the Internet and other means available throughout the country in protecting our national culture from external ideological aggression.

REFRENCES

1) M. Karshiboyev, S. Nishonova, O. Musurmonova, R. Kochkarova. The idea of national independence and the foundations of spirituality: 7th grade: textbook. Tashkent: Spirituality, 2015.-62-65-p.
2) KarimovI.A. The ideology of national independence is the belief of the people and confidence in the great future. T., "Uzbekistan", 2000
3) Karimov I.A. Uzbekistan is on the verge of independence.-T.: "Uzbekistan", 2011.
4) Spiritual and religious maturity - the need of the hour. - T.: “Tashkent Islamic University Publishing and Printing Association, 2009. - 381-p.
5) Erkayev A. Spirituality and development. - Tashkent. - Spirituality, 2009.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

OVERVIEW OF MV DRIVE TECHNOLOGIES IN MINES AND FUTURE SCOPE

Ashok Wankhede
HBNI,BARC Trombay Mumbai, India
* washokk@gmail.com

Dr. Archana Sharma
BTDG, BARC Trombay, Mumbai, India
*arsharma@barc.gov.in

Prof B.G. Fernandis
Department of Electrical Engineering, IIT Bombay, India
* bgf@iitb.nic.in

ABSTRACT
Typical mine has ore processing units at site for grinding of ore. This operation is done at site for making product cost effective. After grinding and processing, only useful material is transported for further processing. Grinding of ore is one of the most power intensive operation in mining. For grinding of ore, various mills are used operating at various speeds like ball mills, Auto-geneous mills, Non-Autogeneous mills and Gearless mills. Bigger the size of mill, more is the power requirement. Presently Synchronous motors are used for geared mills upto the power 9MW, while gearless mill use Synchronous motors upto 38 MW. The power converters in both the cases used are cyclo-converters because of certain advantages. This paper focuses on overview of Medium Voltage Drive (MV) systems for grinding of ores including motors and converters presently reported and alternate options available with latest developments in motors and power converters.

Index Terms: Cyclo-converter, multilevel Inverter, and Gearless Mill Drive

INTRODUCTION
For ore grinding operation in Mines, large Grinding mills are used driven by Induction and synchronous motors of max of 38 MW but for low speed. The reliable operation of the drive is essential to prevent business interruption loss which can be huge. Presently Gearless and Geared Grinding mills are used for the purpose. Geared mills use Induction motors and Synchronous motors but there is a limitation on gears for power greater than 9 MW. Moreover gears encounter maintenance problems. Gearless drives are being used where motors are coupled directly to Mill cylinder. Synchronous motors upto 38 MW and cyclo-converters are reported to be used. Cyclo-converters are inherently efficient and reliable but has problems related to harmonics. This calls for huge passive filter banks which not only consumes power but also occupies space. Though synchronous motors are ideal for operation because of unity power factor and good efficiency, it suffers few problems like effective starting and complex construction. There are other option like induction motor and PM motor which do not have these kind of issues. For power converter, modular multilevel converters are becoming viable option due to availability of power devices like IGBT and upcoming SiC devices.

GRINDING SYSTEMS IN MINES
Fig.1 shows the cross section of typical grinding mill having internal steel liners with lifters for lifting the load. The cylinder is filled with ore and set under rotation at low speed (0-10 RPM) decided by cylinder diameter and type of ore. While under rotation, the load builds a kidney form as shown. When charge climbs upwards, it tends to fall down under gravity resulting into crushing operation. The weight and speed of rotation decides the centrifugal force and various trajectories. The trajectory is set by adjusting speed of the cylinder to optimum value so that mill operates without any direct impact between charge, liners and lifters thereby avoiding damage. The trajectory impacting at the load toe gives optimum resulting into most effective grinding by steel balls inside the mill while in operation.

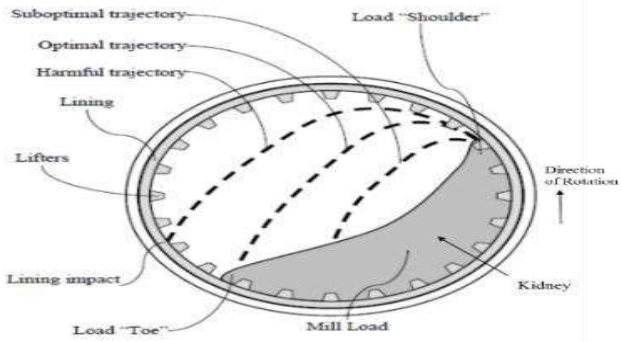


Fig. 1 Operation of Grinding mill [12]

For higher throughput, large diameter mills are being employed to use this impacting effect. The movement of the charge depends on several variables like geometry, viscosity, ore size-distribution and speed. In addition, the wearing of the lifters also plays a role because its geometry changes with time. There are also harmful effects because of the ball trajectories impacting in the lifters such as energy loss and accelerated steel ball wear etc. jeopardizing the life of lifters and affecting the availability of the mill. That is why variable speed is needed for high power mills so that perfect trajectories are manipulated. The useful range of operation speed is around 75% and 80% of the critical speed. The critical speed is defined as the speed at which a steel ball remains at the shell of the mill without falling when the centrifugal force equals its weight and is given by:

$$w = \sqrt{\frac{2g}{(D-d)}}$$

where, g=9.81 m/s^2 ,
D= internal mill diameter
d=diameter of steel balls
w=critical speed

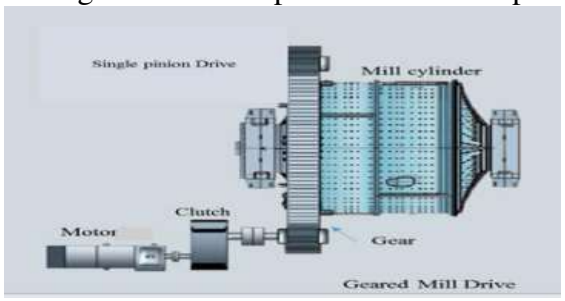
Practically, D>>d hence , d can be ignored. If D in meters, Critical Speed N_c in RPM as:

$$N_c = \frac{42.2}{\sqrt{D}}[rpm] \quad , \qquad (1)$$

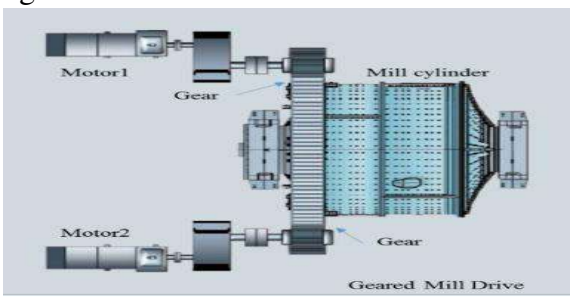
A typical mill with D, 12 meters will have a critical speed of 12.2 RPM and operating speed 77% of the critical speed which is 9.3 RPM.

GEARED MILLS (SINGLE AND DUAL PINION MILLS)

A schematic of Geared drive is shown in Fig. 2. System shows single and dual pinion gear coupling to Mill drum with single and double parallel motors respectively. Single



a) Single pinion drive schematic



b) Double pinion drive schematic

Fig 2. Schematic of Typical Geared Mill Drive system [6]

And dual pinion configurations can be powered by low speed synchronous motors (approx.60 - 200rpm) connected directly to the pinions driving the ring gear or by high speed asynchronous motors (approx. 750 - 1500 rpm) that require a reducer between the pinions and the motors.

Today, the maximum power capacity per pinion is less than 9 MW because of limitations on gearboxes. Proper alignment and regular service are important for operation of gearboxes. Misalignment between motor and pinion is a major reason for wear in a clutch. However, the drive train not only has to be aligned statically but it also must be checked dynamically when running with a loaded mill.

GEARLESS MILLS (GMDS)

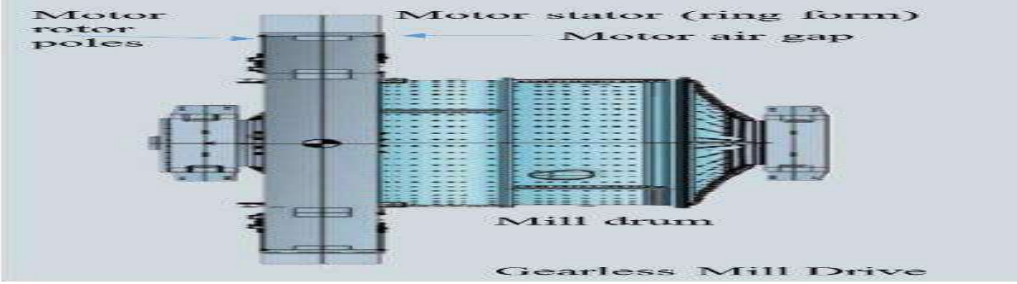


Fig 3 Schematic of Typical Gearless Mill Drive system [6]

The principle idea behind a gearless drive system is to reduce the number of components and diversity of parts. Fig.3 shows the general scheme of a mill with gearless motor drive and the rotor poles of the machine are bolted to the mill. The stator has a ring form, giving wrapped-around the mill drum. Typical value of the air gap between the stator and the rotor is in the range of 15-20 mm, +/- 3 mm. The motor is run with low speed (0-10 RPM) with variable voltage variable frequency converter to regulate the torque and operating speed of the mill. Nowadays GMDs up to 38MW for 42' ball mills are reported to be in production.

ADVANTAGES OF GMD

1) About 4% higher energy efficiency can be achieved with gearless drive technology.
2) No mechanical limits so high power is available at the driven component.
3) Smaller footprint of complete drive train.
4) The air gap of a GMD is large (15-20 mm). Therefore, the system is not sensitive to small misalignments between the stator and the rotor.

DISADVANTAGES OF GMD

1) Because of physical size, motor cannot be manufactured in one piece and made of many segments and hence calls for special design and assembly requirement.
2) Have drawback of being a bottleneck when one unit goes out of service, huge production loss is feared. Hence reliability and availability is a major concern.

TECHNICAL REQUIREMENTS FOR DRIVES IN A GRINDING MILL [13]

Modern grinding mill drives used in copper, gold, and cement industries employ Medium voltage motors with power electronic drives. The main requirements are as follows:

1) Drive with at least 120% starting torque without affecting the power network.
2) Operation of full system in harsh concentrator environment with wet grinding and high altitudes, commonly higher than >6000 feet above mean sea level.
3) Variable low supply frequency because of large diameter for speed 0-10 RPM.
4) High reliability and availability to keep business interruption loss (BIL) low.
5) Full output frequency and voltage control with four-quadrant operation capability.
6) Frozen Charge detection and management: At standstill, the material inside the mill tends to solidify and to stick to the mill shell. This is called frozen charge and could happen even within minutes.

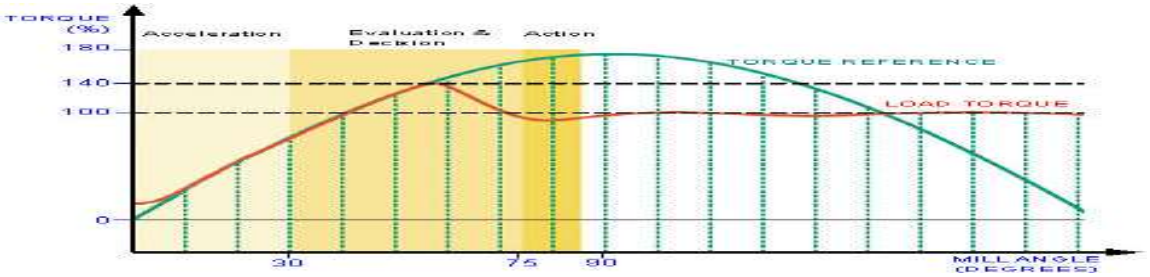


Fig. 4 Frozen Charge Detection [17]

Control system detect torque from 30°-75° by current measurement. If the load torque drops within 140 % , the system known to be behaving as per requirement otherwise a frozen charge is detected and fast shutdown is initiated as shown in Fig, 4.

7) Inching, Creeping and Positioning is often used to avoid the occurrence of frozen charges and also used to position the mill for maintenance work.

8) Ensuring power sharing between drives and gears in case of pinion drives is essential for trouble free operation in case of geared mill.

9) Taking care of Network Voltage Problems is important and accordingly drive system is used. It must actively support network in case of voltage dips by reducing the power drawn. The drive behavior must enable the network to fast recovery.

10) Mechanical system design requirements.

In case of short circuit fault, circulation of very large currents through the stator winding of the machine originates huge forces. The structure of the stator, its winding design, fittings and foundation must be designed to resist the forces.

Isolation failure of stator windings due to wet moisture could be one of the issues. By wet grinding, water splashing may contaminate the windings if seals are imperfect. Intelligent isolation surveillance may be considered to solve this issue.

Vibrations and deflections due to asymmetrical air gap between the motor stator and the rotor to be monitored. Electromagnetic linear and non-linear excitation forces may be produced under failure conditions. Deformation modes and force distribution along the poles of the rotor should be carefully analyzed during design stage, in order to ensure global system compatibility without dangerous air gap fluctuations.

DRIVE SYSTEM FOR GEARED MILLS.

Because of limitations on power upto 9MW, AC induction motor a high speed solution, or a brushless synchronous motor for low speed solution fed by VSI drive is commonly used.The mills are typically single quadrant operation but some are designed for running in both directions.

THE HIGH SPEED MOTOR SOLUTION FOR GEARED MILLS

Squirrel cage induction motors:

These are the most common motors used in the industry due to their versatility, reliability and simplicity and also minimum maintenance. Typically 6- 8 pole induction machine driven by 50 Hz is used to turn the mill. The motors are generally forced cooled which allows running the motor at very low speed (approx. 5-10% of nominal speed) for service mode. Automatic positioning for liner changes and creeping for visual inspection can be performed with the main drive without the need of additional equipment.

Depending on the environment, air cooled motors or water cooled motors which are totally enclosed are used for powers up to 9MW. The advantage of a totally enclosed motor is that the cooling air inside the motor is not affected by the external dusty environment. These motors are equipped with flange mounted bearings installed on the end shields of the motors. To prevent bearing damage from circulating currents, both bearings and case are electrically insulated. The shaft is grounded to avoid static charges of the stator.

Slip Ring Motors

Slip ring motors are high speed fixed speed drives (typically 6 or 8 pole motors) that are usually used for smaller mills. They offer a low capital expenditure solution compared with other drive systems. These motors are started with a starting resistor (oil starters with stepping resistors or liquid starters). Based on the resistor characteristics a relatively smooth start is possible. This drive system is rather robust against voltage dips. However, the power factor is typically not very high and gets worse at part load conditions. Thus, often power factor compensation is installed individually for each slip ring motor. Furthermore, a separate device is required for inching and creeping.

Dual high speed slip ring motors can be used to drive through gearboxes to dual pinions. Load sharing is inherently possible but not very accurate. This can lead to load swings between the two motors and result in accelerated gear wear. To overcome these conditions, a permanent slip resistor may be installed between the two rotors. This will improve the load share capability, but at the expense of the drive efficiency (up to 1.5 % reduction).

LOW SPEED MOTOR SOLUTION FOR GEARED MILLS

Due to the high torque required by the mill, low speed motors are generally synchronous machines. The mill is a low dynamic system therefore a brushless synchronous machine is best suited for this application. Brushless synchronous motors have no wearing parts, and the AC/ AC excitation power is kept small. The drive provides the supply and the excitation control as well as the necessary protection. The brushless exciter is a separate AC generator mounted on the motor shaft. For these high torque low speed motors, efficient cooling is required. The choice is between water cooled totally enclosed motors or open machines weather protected type II enclosure and filter air inlet. In addition to their high torque capability, synchronous motors offer a wide field weakening range. This allows the design of motors with nominal frequency below the network frequency. The low speed solution motor used with the drive has a nominal frequency varying from 10 – 20 Hz. This means a machine with 8- 12 poles can be used instead of the big 30- 40 pole machine required by a fixed speed solution having the same torque output.

The main benefits of the low speed motor solution with only 8- 12 poles, beside the lower capital cost compared to the traditional low speed motors with 30 to 40 poles, is the compactness. Less weight, smaller dimensions and therefore easier installation create less demand in the foundation design and less issue for the transportation of the equipment on site. Depending on the power, flange mounted sleeve bearings mounted on the end shields of the motor, or pedestal mounted sleeve bearings, are provided. The motors with integral pedestal bearings are as easy to mount and align as motors with flange mounted bearings; no further assembly is required on site. Also for the low speed solution the bearings are both electrically insulated and the shaft is grounded.

Slip Energy Recovery Drives.

These drive systems use slip ring motors and are started similarly using starting resistors, thereby limiting the inrush current. To adjust the speed, the slip resistance needs to be changed accordingly. This can be achieved by inserting resistance in the rotor circuit and dissipating this energy into the starting resistors. This solution is very inefficient, so rather than using the starting resistor, the slip energy is converted to direct current, inverted to the frequency of the power system feeding the motor, and then fed back into the power system through a step-up transformer. The switch over to the slip energy recovery system can be done between 50 and 100 % of nominal speed.

Here the speed range is smaller than of frequency converter drives, frozen charge protection is not possible and a separate inching drive is required. In reducing the speed of the slip ring motor, the slip energy recovery equipment will generate frequencies at multiples of 6 times the slip frequency, depending on the number of pulses built into the equipment. Because of these excitation frequencies there is a high probability that certain speeds in the operating range of the mill (possible resonance frequencies) will need to be blocked and it is not possible to operate within this particular speed range.

The main reason in the past for using slip energy recovery drives was capital expenditure. However, the use of these drive systems has very much decreased during the last decade because frequency converters have become more and more cost effective. Operational limitations and significant higher maintenance compared with frequency converter drives also made them unattractive.

DRIVE SYSTEM FOR GEARLESS MILLS (GMD)

Because of great throughput requirements, nowdays GMD are preffered. It has ring motor shown in Fig. 3, which is wrapped to the outside body of mill cylinder. The cylinder being large diameter (42 feet), motor has to be designed and manufactured for assembly in sections and assembled at site. Large diameter motors have advantage of very large torque as it is proportional to square of diameter. Because of huge power requirements (> 32 MW) motor needs to be very efficient in order to minimise power loss and cooling requirements. Keeping this in mind motor should have good power factor and good efficiency. Since motor is a part of rotating mill cylinder which works at low speed (0-10 RPM) it is of direct drive type without any gear working at very low speed. So the desired torque is required at low speed and at the time of starting also. In the category of fulfilling requirements, qualified candidates are Induction motor, Synchronous motor and PM motor which are under development at various places.

INDUCTION MOTORS VS SYNCHRONOUS MOTORS

Induction motors have higher currents for the same power levels due to lower efficiency and lower power factor (PF) than Synchronous Motors (SMs). This gap becomes wider with increased pole-pair construction and lower base speeds. SMs operate with higher efficiency, lower currents due to high PF, and have usable low-speed torque characteristics with a VFD. When operated direct on line, the leading PFs provided by SMs offer reactive power that compensates for the reactive power used in other parts of a plant.

The induction motor PF depends largely on the base speed or the number of poles in the motor design. For example, in a 5,000-hp, 20-pole SM design, the current can be 585 A while an induction motor at the same base speed and power requires 820 A, a 40% increase due to extra reactive power used with a lower PF in the induction motor. This reduces the efficiency of Induction motor and increases the cooling requirements as copper losses gets increased significantly.

In induction motors the stator constantly supplies a certain amount of magnetizing current to maintain the magnetic flux, resulting in a lagging motor power factor (PF) at all operating conditions. On the other side, synchronous motor offers an extra freedom of motor field current control and hence its operating PF can be adjusted by the drive to leading, unity or lagging as the system operation prefers.

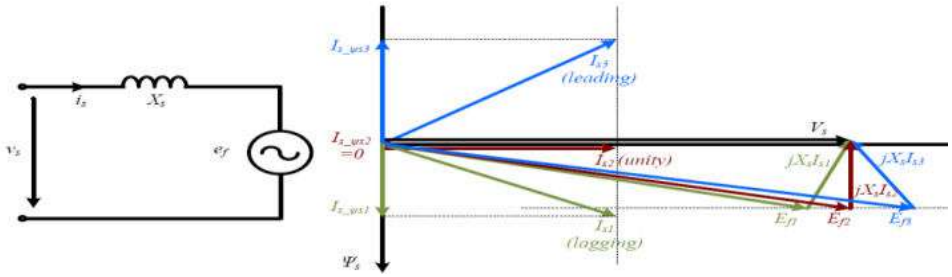
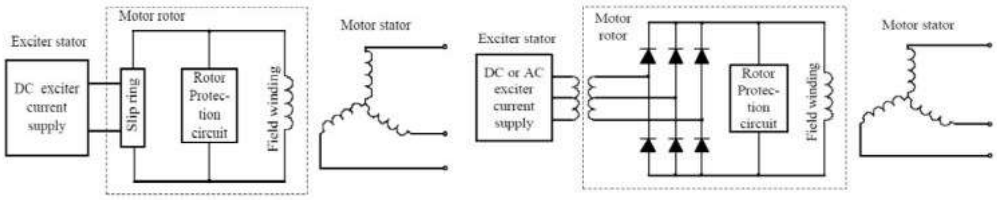


Fig. 5 Power factor in case of Synchronous Motor [16]

Fig.5 shows the motor PF control through variation of field excitation current and magnetizing current while keeping the torque producing current constant for the same load condition. Note that the stator resistance and rotor saliency are neglected in Fig. 5 for the simplicity of comparison. Unity PF is achieved when the flux is fully supported by the field current and stator magnetizing current averages around zero (Is_ψs2=0) in steady state. Under-excited motor field winding demands positive stator magnetizing current (Is_ψs1 in the same direction of stator flux Ψs) and thus lagging PF. Similarly, over-excited motor field winding requires negative stator magnetizing current to maintain the same flux level and lead to leading PF. Unity PF is often seen in VFD control because it minimizes the motor current under the same load condition.

Exciter types in Synchronous Motor.

Synchronous motors (SMs) require an external DC supply to power the rotor field winding, and can be classified into brush-type or brushless-type based on the exciter structure. Both circuits are shown in fig. 6.



(a) Brush-type exciter (b) DC or AC brushless exciter

Fig. 6 Synchronous motor with brush or brushless exciter [5]

A brush-type synchronous motor is fitted with a static exciter where the current is provided to the rotor through slip rings and brushes. A brushless-type synchronous motor is supplied by a rotating exciter. The exciter stator current, either in AC or DC form, is transferred to the rotor through the rotating transformer. The AC current induced in the rotor is then rectified to a DC current to supply the field winding. In a DC-brushless synchronous motor, the induced voltage in the rotor is proportional to the rotor speed, assuming a constant DC supply in the exciter stator. When the rotor is at standstill, there is no field current supplied to the rotor and therefore, the starting torque capability is limited as compared to brush-type or AC-brushless-type of

synchronous motor where constant torque load can be supported with position sensor feedback. As the motor speeds up, the voltage induced in the exciter rotor winding increases and thus the DC-brushless motor can support high load torque in the medium to high speed range.

The ring-motor is a low speed synchronous motor fed by a cyclo-converter. Depending upon the mill speed, the number of rotor poles will be selected. In general, the bigger the mill diameter is, the lower are the mill operating and critical speeds and the higher are the number of rotor poles. It has to be noted that the number of pole units will impact, like with any motor, the motor efficiency. Since the gearless mill drive is typically by far the largest power consumer in a concentrator plant, the number of pole units should be kept to the minimum. The pole number varies typically from 48 for very small ball mills to 76 poles for the largest GMD motors. Broad comparison of Induction and Synchronous motors is given in Table 1.

Table 1

S.N.	Characteristics	Induction Motors	Synchronous Motors
1	Complexity	Simple design	Complex
2	Self-starting	Generally yes	Generally no
3	Power-Density	Average	High
4	Efficiency	Average	High
5	Power-Factor control	No (always lagging)	Yes (can lead and lag)
6	Cost	Low	High

PM MOTORS

PM motors are the latest and popular synchronous motors and are considered best because of good power density. It has very good power factor and various control strategy could be applied so as to track torque requirements. It has got magnets embedded on rotor eliminating slip-rings and brush for field. Good amount of work is reported in PM motors and also strong magnets like NdFeB and SmCO are available with reasonable cost. However it has practical difficulties in terms of manufacturing and assembly. This is because for such a huge torque requirements of 100s of KNm, and requirements of motor manufactured in segments, assembling at site, is a difficult task. It needs huge fixtures and extremely skilled approach for safe assembly. Also with variation of air gap while assembly, may introduce huge unbalance forces on the bearings, which may reduce life of bearings and increase maintenance. Considering advantages like compact, efficient and ease of control for Mill operation, PM motors are still being considered and research is being carried out worldwide for overcoming various difficulties for implementation of these machines.

POWER CONVERTERS TECHNOLOGIES FOR MILLS [17,24]

In early 90, eighty percent of the variable speed solutions were accomplished with DC drives and the rest were based on the slip energy recovery system with a wound rotor motor or AC drives. Developments in the power electronic components, availability of efficient DSP controllers and the extensive reductions in costs and dimensions of the hardware has revolutionized the way of drives. Nowadays, the efficient and reliable technology of AC drives has overtaken the DC solutions. This evolution from fixed speed through DC to AC variable speed brought additional benefits from the electrical, mechanical and operational point of view. Due to the high power requirement, medium voltage (MV) drives are the best solution on mill drives.

BASIC REQUIREMENTS FOR POWER CONVERTER DRIVES FOR GMD MILLS ARE AS FOLLOWS

1) Very good efficiency >98 %
2) Line Harmonics control to comply with IEEE-519-2014.
3) Modular design with minimum component count to ensure reliability.
4) Fine speed control capability to take care of optimisation of Mill operation.
5) Low speed operation for creeping, inching operation for start-up and maintenance.
6) High dynamic performance, regenerative braking and four quadrant operation.

Mill drives require high power and very low speed about 0-10 RPM. Presently cyclo-converter is being used as an effective and acceptable drive solution.

CYCLO-CONVERTER [24]

The cyclo-converter is a frequency changer which converts a three phase voltage with the frequency f_1 into a poly-phase voltage with a lower frequency f_2. In the case of mill drives the operational output frequency is from 0.3 Hz to 10 Hz. The cyclo-converter is classified in the group of line-commutated converters. The output current of a converter is controlled to obtain a sinusoidal shape with a given frequency, as shown on Fig. 7.

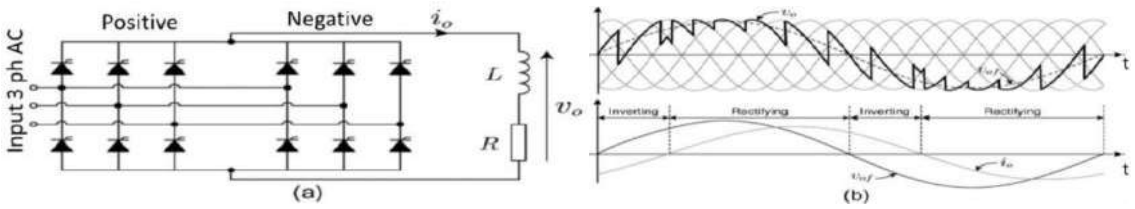


Fig. 7 Six-pulse Cycloconverter (a) power circuit (b) output waveforms

The basic unit is generally a three-phase bridge where a three-phase voltage is converted into a direct voltage, positive side by positive bridge and negative side by negative bridge as shown. By means of phase-angle control this voltage can be continuously varied from zero to roughly the maximum. The reactive power of commutation required for the transfer of current between the individual legs of each bridge is obtained from the power system. A complete 3-phase cyclo-converter circuit for SM with excitation control is shown in Fig. 8.

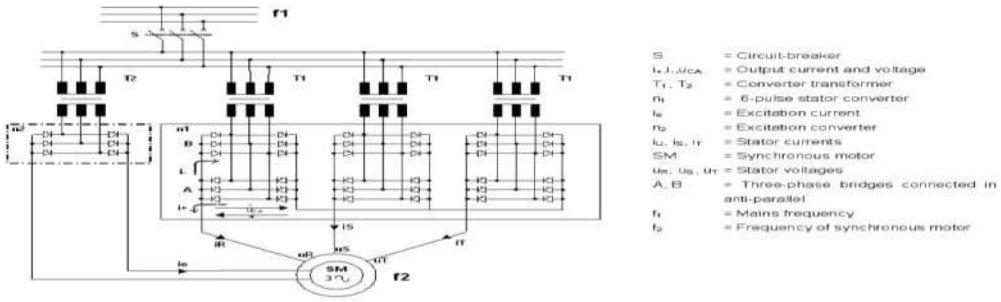


Fig. 8. Six-pulse cyclo-converter circuit [17]

ADVANTAGES OF CYCLO-CONVERTERS

1) The drive has an inherent 4-quadrant operation capability which allows reversible rotation and the controlled roll back by feeding energy back to the network.
2) The high efficiency of a direct drive since no intermediate conversion stage.
3) The flexibility of selecting the optimal motor voltage
4) Very Compact construction.
5) Good performance at low speeds, like overloading capability during starting.

DIS-ADVANTAGES OF CYCLO-CONVERTERS

1) The power factor is relative low and not constant over the entire speed range. The reactive power is supplied by Supply Network and may affect other loads.
2) The drive generates harmonics and inter-harmonics. The total harmonic distortion depends also on the number of pulses of the cyclo-converter.

ISSUES WITH CYCLO-CONVERTERS

RELIABILITY ASPECTS

Cyclo-converters are built with twelve 6-pulse bridges in dual converter connection using thyristors without circulating current operation. To switch off the thyristors during normal operation, the network voltage is needed for reference. When a power disturbance occurs and the cyclo-converter is operating in the inverter mode, a short circuit may happen because thyristors cannot commutate. Under this circumstances, pulsating torque produced can reach upto 700% of rated value. Proper mechanical design needs to ensure that the thyristors, machine and foundation can withstand such situation. The control and protection system should

recognize the abnormal conditions in order to switch off the thyristors at the right time before such a short circuit is produced.

POWER QUALITY ISSUES

Power quality directly affects the reliability of operation because electrical equipment may be damaged or tripped under abnormal power conditions. Harmonic currents and voltages are frequency components superimposed to the fundamental component of currents and voltages, respectively, which produces additional losses in equipment and can trip electrical protection systems. Voltage regulation and energy efficiency is affected by reactive power and also by starting of a big machinery. Operation of equipment with or without load also gives rise to transients as shown in fig.9.

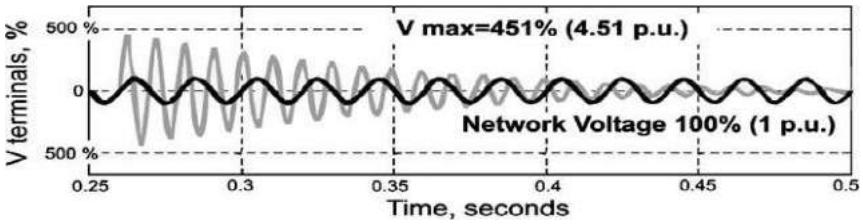


Fig. 9 Overvoltage by off switching of a transformer under no-load condition [11]

Power quality is a major concern in the application of mill drives, mainly due to the following reasons:

1) A failure in this equipment originates a large loss of production and
2) The high power of this equipment (MW) has an important impact on the operation of the power distribution system. The power factor and the current harmonics generated by the converter, has detrimental effect on other loads on the network.

HARMONICS AND INTERHARMONICS

Cyclo-converter has no DC-Link with energy storage components like inductors or capacitors between the network and load. That is why it injects not only harmonics but also inter-harmonics into the network. Inter-harmonics are components like lateral bands with non-integer frequencies. The frequency of theses inter-harmonics is not constant but depends on the output frequency. Cyclo-converters inject a distortion current I_D into the network with superposition of harmonic and inter-harmonics currents components. For a 6- pulse configuration the harmonic components are given by [1]:

$$I_D = \sum \{f_1 \pm 6kf_0\} + \{11f_1 \pm 6kf_0\} + \{13f_1 \pm 6kf_0\} + \{f_2\} + \{f_3\} + \{f_4\} \quad , \qquad (2)$$

where $\{f_h +/- 6kf_0\}$ is a term comprising the characteristic frequency component f_h and its lateral sidebands, f_1 is the fundamental current component of the network side (50 Hz), f_0 is the output frequency of the cyclo-converter, and k is an integer value k = 0, 1, 2, 3, . In addition, non-characteristics harmonics components f_2, f_3, f_4 should also be considered, especially when parallel resonances may happen, (Fig.10).

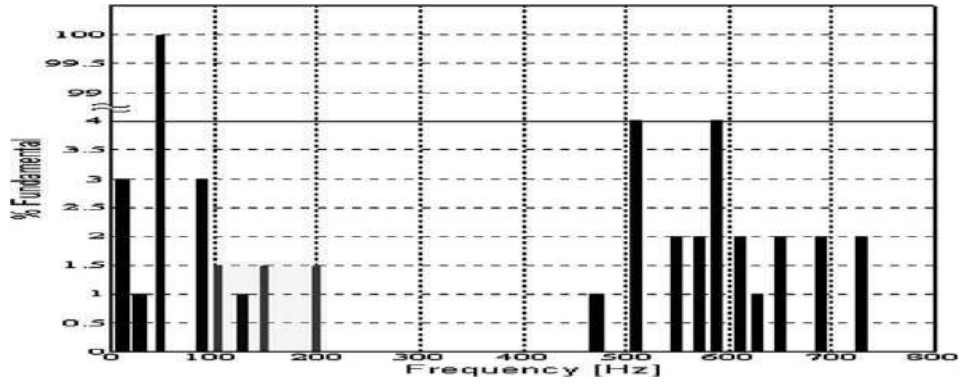


Fig. 10 Harmonics and inter-harmonics injected by a cyclo-converter for a given speed

FILTER DESIGN CONSIDERATIONS

Harmonic filters are employed to improve power factor and reduce harmonic distortion to comply with IEEE-519 guidelines. The total compensation power must be calculated using the expected active and reactive power demand of the plant under different operating conditions. Compensation power is distributed into different filter modules. To reduce harmonic voltage distortion produced by cyclo-converter, the tuning of filter branches should be carefully calculated for attenuating the characteristic harmonics and inter-harmonics.
Proper design and placing of the parallel resonances at convenient frequencies is not an easy task, requiring many trade-offs between system configuration and modularity of filters with more flexibility. Variable speed operation of GMDs injects inter-harmonics with changing frequency over a broad range, increasing the chance for exciting resonances. That is why, high-pass filters with damping resistors are applied. In order to reduce the losses in the resistors, a C-Filter structure is used, especially for branches with tuning to lower frequency values. The mitigation of the lower parallel frequencies is complex and a trade-off must be designed among the reduction of voltage distortion, installation cost losses, together with maintenance and operation.

VOLTAGE & CURRENT SOURCE INVERTER (VSI&CSI) [17, 24]

The Voltage Source Inverters (VSI) are the most common topology today and is being used with induction and synchronous motors. As shown in fig. 11, it consist mainly of a phase shifting transformer with input filter, rectifier followed by L-C filter for smoothening the DC voltage and an inverter which converts DC to AC with a variable frequency and voltage and again filter at the output to achieve desired THD to reduce heating and reduction of dv/dt at motor terminals. The capacitor bank located in the DC link smoothens the voltage and supplies reactive power to the motor while uncoupling at the same time the motor from the supply network and protecting it from network transients and faults.

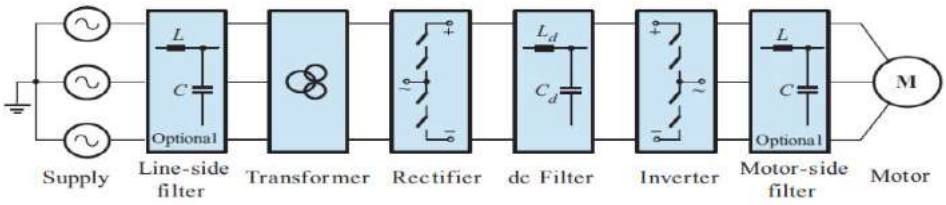


Fig. 11 General block diagram of the VSI drive [23].

Technical Requirements and Challenges

The technical requirements and challenges for the VSI & CSI are generally divided into four groups: the requirements related to the power quality of line-side converters, the challenges associated with the design of motor-side converters, the constraints of the switching devices, and the drive system requirements.

LINE-SIDE CHALLENGES

LINE CURRENT DISTORTION

The rectifier normally draws distorted line current from the utility supply, and it also causes notches in voltage waveforms. This can cause numerous problems such as nuisance tripping of computer-controlled industrial processes, overheating of transformers, equipment failure, computer data loss, and malfunction of communications equipment. The drive should comply with the guidelines specified by standards such as IEEE 519-2014 for harmonic regulation [4].

INPUT POWER FACTOR

High input power factor is a general requirement for all electric equipment. Most of the electric utility companies require their customers to have a power factor of 0.9 or above to avoid penalties.

LC RESONANCE SUPPRESSION

For the MV drives using line-side capacitors for current THD reduction or power factor compensation, the capacitors form LC resonant circuits and resonates with the line inductance of the system. The LC resonant modes may be excited by the harmonic voltages in the utility supply or harmonic currents produced by the rectifier. Since the utility supply at the medium voltage level normally has very low line resistance, the lightly

damped LC resonances may cause severe oscillations or over voltages that may destroy the switching devices and other components in the rectifier circuits.

MOTOR-SIDE CHALLENGES

Dv/dt and Wave Reflections. Fast switching speed of the semiconductor devices results in high dv/dt at the rising and falling edges of the inverter output voltage waveform. Depending on the magnitude of the inverter dc bus voltage and speed of the switching device, the dv/dt can well exceed 10,000 V/µs. The high dv/dt in the inverter output voltage can cause premature failure of the motor winding insulation due to partial discharges. It induces rotor shaft voltages through stray capacitances between the stator and rotor producing current through shaft bearing, leading to early bearing failure.

The high dv/dt may cause a voltage doubling effect at the rising and falling edges of the motor voltage waveform due to wave reflections in long cables. The reflections are caused by the mismatch between the wave impedance of the cable and the impedances at its inverter and motor ends, and they can double the voltage on the motor terminals at each switching transient if the cable length exceeds a certain limit. The critical cable length for 500 V/µs is in the 100-m range, for 1000 V/µs in the 50-m range, and for 10,000 V/µs in the 5-m range.

COMMON-MODE VOLTAGE STRESS.

The switching action of the rectifier and inverter normally generates common-mode voltages. The common-mode voltages are essentially zero-sequence voltages superimposed with switching noise. If not mitigated, they will appear on the neutral of the stator winding with respect to ground, which should be zero when the motor is powered by a three-phase balanced utility supply. Furthermore, the motor line-to-ground voltage, which should be equal to the motor line-to-neutral (phase) voltage, can be substantially increased. Due to the common-mode voltages, the premature failure of the motor winding insulation system may occur shortening life expectancy of the motor.

MOTOR DE-RATING.

High-power inverters may generate a large amount of current and voltage harmonics. These harmonics cause additional power losses in the motor winding and magnetic core. As a consequence, the motor is de-rated and cannot operate at its full capacity.

LC RESONANCES.

For the VSI/CSI drives with a motor-side filter capacitor, the capacitor forms an LC resonant circuit with the motor inductances. The resonant mode of the LC circuit may be excited by the harmonic voltages or currents produced by the inverter. Although the motor winding resistances may provide some damping, the problem should be addressed at the design stage of the drive.

SWITCHING DEVICE CONSTRAINTS

DEVICE SWITCHING FREQUENCY.

The device switching loss accounts for a significant amount of the total power loss in the VSI/CSI drive. The switching loss minimization can lead to a reduction in the operating cost and cooling requirements. In practice, the device switching frequency is normally around 200 Hz for GTOs and 500 Hz for IGBTs and GCTs. The reduction of switching frequency generally causes an increase in harmonic distortion of the line and motor side waveforms of the drive.

SERIES CONNECTION.

Switching devices in the VSI/CSI drive are often connected in series for medium-voltage operation. Since the series connected devices and their gate drivers may not have identical static and dynamic characteristics, they may not equally share the total voltage in the blocking mode or during switching transients. A reliable voltage equalization scheme should be implemented to protect the switching devices and enhance the system reliability.

RECTIFIERS [23]

In an effort to comply with the stringent harmonic requirements set by guidelines such as IEEE standard 519-2014, major high-power drive use multipulse diode rectifiers lke 12,18,24 pulse rectifier with phase shifting transformer with a number of secondary windings. The dc output of the six-pulse rectifiers is connected to a voltage source inverter.

The main feature of the multipulse rectifier lies in its ability to reduce the line current harmonic distortion. This is achieved by the phase shifting transformer, through which some of the low-order harmonic currents generated by the six-pulse rectifiers are canceled. In general, the higher the number of rectifier pulses, the lower the line current distortion is.

The multipulse rectifier has a number of other features. It normally does not require any LC filters or power factor compensators, which leads to the elimination of possible LC resonances. The use of the phase-shifting transformer provides an effective means to block common-mode voltages generated by the rectifier and inverter in medium voltage drives, which would otherwise appear on motor terminals, leading to a premature failure of winding insulation.

PULSE DIODE RECTIFIER

There are two identical six-pulse diode rectifiers powered by a phase-shifting transformer with two secondary windings [1,23]. The dc outputs of the six-pulse rectifiers are connected in series. It can be seen in fig.13, that this circuit reduces THD below 10% for 50% load and power factor better than 0.95. this is without any additional filters.

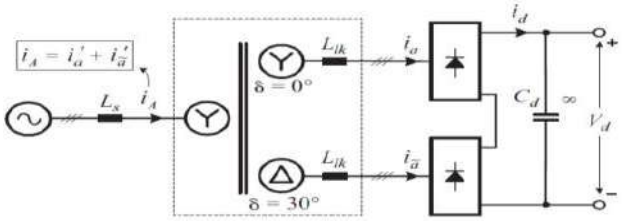


Fig.12 **The** 12-pulse series-type rectifier

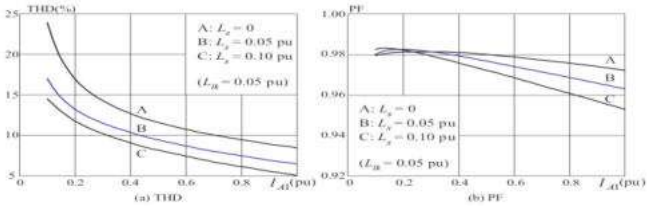


Fig.13 Line current THD and PF of the 12-pulse Series-type rectifier...

PULSE DIODE RECTIFIER

The block diagram of an 18-pulse series-type diode rectifier is shown in Fig.14. The rectifier has three units of identical six pulse diode rectifiers fed by a phase shifting transformer. The sign "Z" enclosed by a circle represents a three-phase zigzag connected winding, which provides a required phase displacement δ between the primary and secondary line-to-line voltages. The 18-pulse rectifier is able to eliminate four dominant harmonics (the 5^{th}, 7^{th}, 11^{th}, and 13^{th}). This can be achieved by employing a phase-shifting transformer with a 20° phase displacement between any two adjacent secondary windings. This circuit reduces THD below 4% for 50% load and power factor better than 0.96 shown in fig. 15.

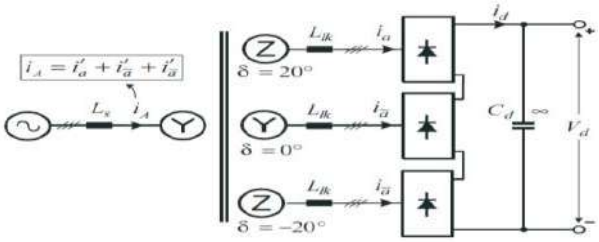


Fig. 14 The 18-pulse rectifier

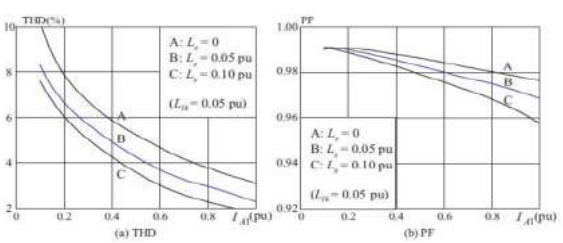


Fig. 15 THD and PF of the 18-pulse rectifier.

PULSE DIODE RECTIFIER

The configuration of a 24-pulse series-type diode rectifier is shown in Figure 16, where a phase-shifting transformer is used to power four sets of six-pulse diode rectifiers. To eliminate six dominant current

harmonics (the 5th, 7th, 11th, 13th, 17th, and 19th), the transformer should be arranged such that there is a 15° phase displacement between the voltages of any two adjacent secondary windings. This circuit reduces THD below 2% and power factor better than 0.96 without filters as shown in Fig. 17.

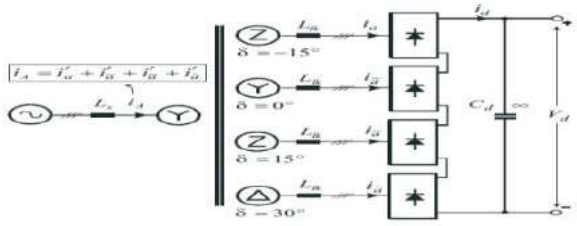


Fig. 16 The 18-pulse rectifier.

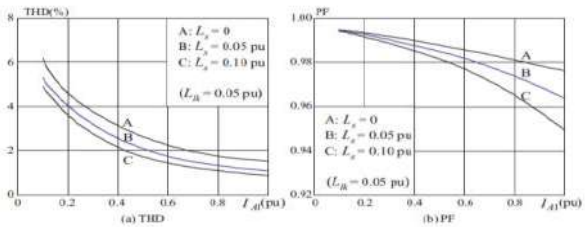


Fig. 17 THD and PF of the 24-pulse rectifier.

VOLTAGE SOURCE INVERTERS (VSI)

The self-commutated inverter use High Voltage Insulated Gate Bipolar Transistor (IGBTs) or Integrated Gate Commutated Thyristor (IGCTs), with higher level topologies are suitable for MV drives.

H-BRIDGE INVERTERS [25]

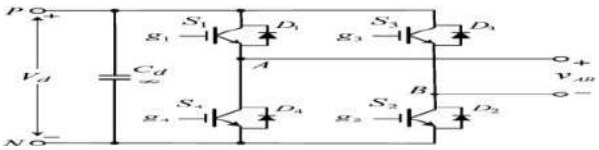


Fig. 18 Single-phase H-bridge inverter.

H-bridge is a power cell consisting of single phase bridge Inverter structure as shown in Fig.18. It has Input as DC terminals and Output as AC terminals. This bridge is considered as independent module and no. of them are used to construct single leg of three phase Inverter. This topology is called as Cascaded H-bridge (CHB) multilevel inverter and it is one of the popular converter topologies used in high-power medium-voltage (MV) drives [14, 23, 25]. It is composed of a multiple units of single-phase H-bridge power cells. The H-bridge cells are normally connected in cascade on their ac side to achieve medium-voltage operation and low harmonic distortion.

In practice, the number of power cells in a CHB inverter is mainly determined by its operating voltage and manufacturing cost. For instance, in the MV drives with a rated line-to-line voltage of 3300 V, a nine-level inverter can be used, where the CHB inverter has a total of 12 power cells using 600 V class components. The use of identical power cells leads to a modular structure, which is an effective means for cost reduction. The CHB multilevel inverter requires a number of isolated dc supplies, each of which feeds an H-bridge power cell.

CASCADED H-BRIDGE INVERTER WITH EQUAL DC VOLTAGE

The cascaded H-bridge multilevel inverter uses multiple units of H-bridge power cells connected in a series chain to produce high ac voltages. A typical configuration of a five-level CHB inverter is shown in Fig.19, where each phase leg consists of two H-bridge cells powered by two isolated dc supplies of equal voltage E.

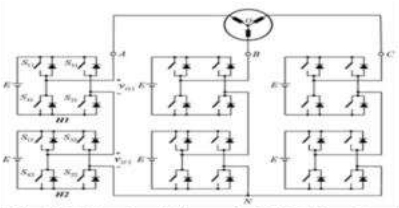


Fig 19. Five level Cascaded H-Bridge Inverter

Table 2, Voltage Level & Switching State of 5-Level CHB Inverter

Output Voltage	Switching State					
2E	1	0	1	0	E	E
E	1	0	0	0	E	0
	1	1	1	0	0	E
	1	0	1	1	0	-E
0	0	0	0	0	0	0
	0	0	1	1	0	0
	1	1	0	0	0	0
	1	0	1	0	E	-E
-E	0	1	0	1	-E	E
	0	1	0	0	-E	0
	0	1	1	0	0	-E
-2E	0	1	0	1	-E	-E

The CHB inverter in Fig 19 can produce a phase voltage with five voltage levels. When switches S_{11}, S_{21}, S_{12}, and S_{22} conduct, the output voltage of the H bridge cells H1 and H2 is $v_{H1} = v_{H2} = E$, and the resultant inverter

phase voltage is $v_{AN} = v_{H1} + v_{H2} = 2E$, which is the voltage at the inverter terminal A with respect to the inverter neutral N. Similarly, with S_{31}, S_{41}, S_{32}, and S_{42} switched on, $v_{AN} = -2E$. The other three voltage levels are E, 0, and –E, which correspond to various switching states summarized in Table 2. It can be observed from Table 2, that some voltage levels can be obtained by more than one switching state. The voltage level E, for instance, can be produced by four sets of different (redundant) switching states. The switching state redundancy is a common phenomenon in multilevel converters & provides a great flexibility for switching pattern design, especially for space vector modulation schemes. The number of voltage levels in a CHB inverter is given as:

$$m = (2H + 1), \quad (3)$$

Where H is the number of H-bridge cells per phase leg. The voltage level m is always an odd number for the CHB inverter while in other multilevel topologies such as diode-clamped inverters, it can be either an even or odd number. The CHB inverter introduced above can be extended to any number of voltage levels. The per-phase diagram of seven and nine level inverter is shown in Fig. 20, where the seven level inverter has three H-bridge cells in cascade while the nine level has four cells in series. The total number of active switches (IGBTs) used in the CHB inverters can be calculated by

$$N_{sw} = 6(m - 1), \quad (4)$$

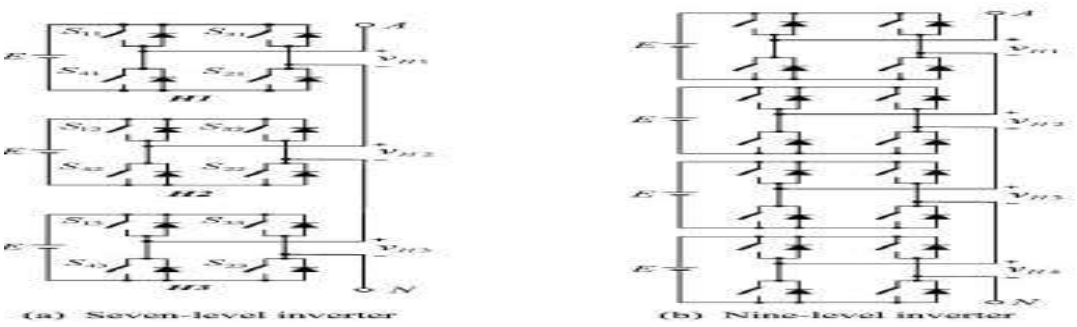


Fig. 20 Per-phase diagram of seven- and nine-level CHB inverters.

The dc supply voltages of the H-bridge power cells chosen above is E and same for all the cells. Alternatively, different dc voltages may be selected for the power cells. With unequal dc voltages, the number of voltage levels can be increased without adding H-bridge cells in cascade.

Fig. 21 shows two inverter topologies, where the dc voltages for the H bridge cells are not equal. In the seven-level topology, the dc voltages for H1 and H2 are E and 2E, respectively. The two-cell inverter leg is able to produce seven voltage levels: 3E, 2E, E, 0, –E, –2E, and –3E. The relationship between the voltage levels and their corresponding switching states is summarized in Table 3.

In the nine-level topology, the dc voltage of H2 is three times that of H1. All the nine voltage levels can be obtained by replacing the H2 output voltage of vH2 = ±2E in Table 3 with vH2 = ±3E and then calculating the inverter phase voltage vAN.

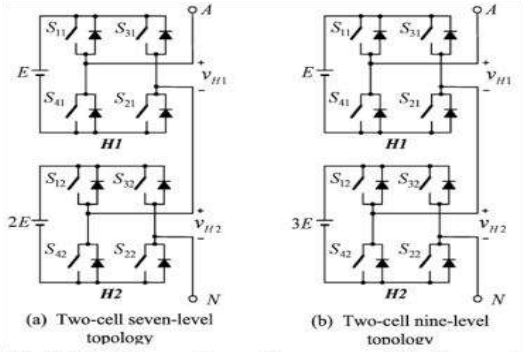


Fig 21 CHB Inverter with unequal Voltages

Table 3 Voltage Level and Switching States

Output Voltage	Switching State					
v_{AN}	S_{11}	S_{31}	S_{12}	S_{32}	v_{H1}	v_{H2}
3E	1	0	1	0	E	2E
2E	1	1	1	0	0	2E
	0	0	1	0	0	2E
E	1	0	1	1	E	0
	1	0	0	0	E	0
	0	1	1	0	–E	2E
0	0	0	0	0	0	0
	0	0	1	1	0	0
	1	1	0	0	0	0
	1	1	1	1	0	0
–E	1	0	0	1	E	–2E
	0	1	1	1	–E	0
	0	1	0	0	–E	0
–2E	1	1	0	1	0	–2E
	0	0	0	1	0	–2E
–3E	0	1	0	1	–E	–2E

ADVANTAGES OF CHB

Multilevel inverter: Modular structure**.** The multilevel inverter is composed of multiple units of identical H-bridge power cells, which leads to a reduction in manufacturing cost.

1) Lower voltage THD and dv/dt**.** The inverter output voltage waveform is formed by several voltage levels with small voltage steps. Compared with a two-level inverter, the CHB multilevel inverter can produce an output voltage with much lower THD and dv/dt;
2) High-voltage operation without switching devices in series**.** The H-bridge power cells are connected in cascade to produce high ac voltages. The problems of equal voltage sharing for series-connected devices are eliminated;

DISADVANTAGES

1) Large number of isolated dc supplies**.** The dc supplies for the CHB inverter are usually obtained from a multi-pulse diode rectifier employing an expensive phase shifting transformer;
2) High component count**.** The CHB inverter uses a large number of IGBT modules. A nine-level CHB inverter requires 64 IGBTs with the same number of gate drivers.

DIODE CLAMPED MULTILEVEL INVERTERS

The diode-clamped multilevel inverter employs clamping diodes and cascaded dc capacitors to produce ac waveforms with multiple levels. The inverter can be generally configured as a three, four, or five level topology, but only the three-level inverter, often known as neutral-point clamped (NPC) inverter, has found wide application in high-power medium voltage (MV) drives.

The main features of the NPC inverter include reduced dv/dt and THD in its ac output voltages in comparison to the two-level inverter discussed earlier. More importantly, the inverter can be used in the MV drive to reach a certain voltage level without switching devices in series. For instance, the NPC inverter using 6000 V devices is suitable for the drives rated at 4160 V.

DIODE CLAMPED THREE-LEVEL INVERTER:

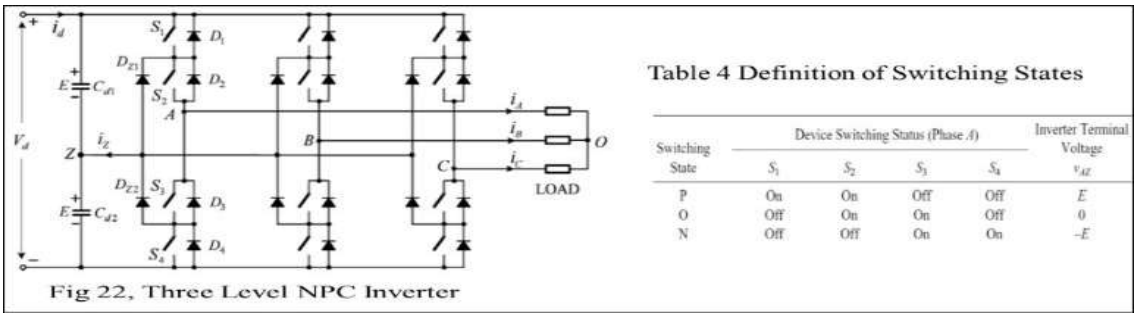


Fig 22, Three Level NPC Inverter

Table 4 Definition of Switching States

Switching State	Device Switching Status (Phase A)				Inverter Terminal Voltage
	S_1	S_2	S_3	S_4	v_{AZ}
P	On	On	Off	Off	E
O	Off	On	On	Off	0
N	Off	Off	On	On	$-E$

As shown in fig.22, the dc bus capacitor is split into two, providing a neutral point Z. The diodes connected to the neutral point, D_{Z1} and D_{Z2}, are the clamping diodes. When switches S_2 and S_3 are turned on, the inverter output terminal A is connected to the neutral point through one of the clamping diodes. The voltage across each of the dc capacitors is E, which is normally equal to half of the total dc voltage V_d. With a finite value for C_{d1} and C_{d2}, the capacitors can be charged or discharged by neutral current i_Z, causing neutral-point voltage deviation.

SWITCHING STATES

The operating status of the switches in the NPC inverter can be represented by switching states shown in Table 4. Switching state 'P' denotes that the upper two switches in leg A are on and the inverter terminal voltage v_{AZ}, which is the voltage at terminal A with respect to the neutral point Z, is +E, whereas 'N' indicates that the lower two switches conduct, leading to $v_{AZ} = –E$.

Switching state 'O' signifies that the inner two switches S_2 and S_3 are ON and v_{AZ} is clamped to zero through the clamping diodes. Depending on the direction of load current i_A, one of the two clamping diodes is turned

on. For instance, a positive load current ($i_A > 0$) forces D_{Z1} to turn on, and the terminal A is connected to the neutral point Z through the conduction of D_{Z1} and S_2. It can be observed from Table 4, that switches S_1 and S_3 operate in a complementary manner.

Fig 23 and 24 shows how the line-to-line voltage waveform is obtained. The inverter terminal voltages v_{AZ}, v_{BZ}, and v_{CZ} are three-phase balanced with a phase shift of 120 degree between each other. The line-to-line voltage v_{AB} can be found from $v_{AB} = v_{AZ} - v_{BZ}$, which contains five voltage levels (+2E, +E, 0, –E, and –2E).

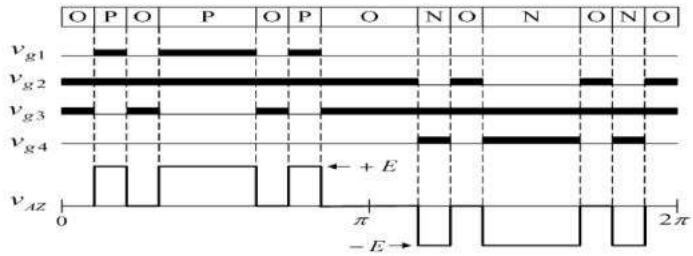


Fig.23 Switching states, gate signals & v_{AZ}

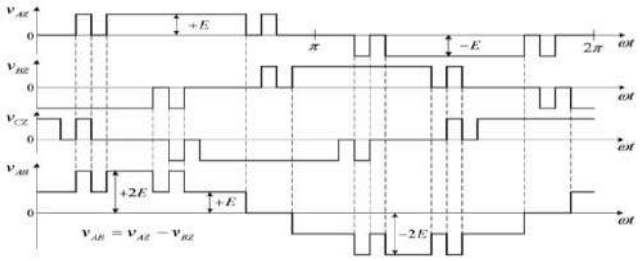


Fig.24 Inverter terminal and line voltage waveforms

ADVANTAGES

1) No dynamic voltage sharing problem in devices. Each of the switches in the NPC inverter withstands only half of the total dc voltage during commutation.
2) Static voltage equalization without using additional components**.** The static voltage equalization can be achieved when the leakage current of the top and bottom switches in an inverter leg is selected, lower than that of the inner switches.
3) Low THD and dv/dt. The line-to-line voltages is composed of five voltage levels, which leads to lower THD and dv/dt in comparison to the two-level inverter operating at the same voltage rating and device switching frequency.

DISADVANTAGES

1) Needs additional clamping diodes
2) Complicated PWM switching pattern design is required
3) Possibility of deviation of neutral point voltage.

NEUTRAL-POINT VOLTAGE CONTROL

The neutral-point voltage v_Z varies with the operating condition of the NPC inverter. If the neutral-point voltage deviates too far, an uneven voltage distribution takes place, which may lead to premature failure of the switching devices and cause an increase in the THD of the output voltage.

Causes of Neutral-Point Voltage Deviation

In addition to the influence of switching voltage, the neutral-point voltage may also be affected by a number of following factors,

1) Unbalanced dc capacitors due to manufacturing tolerances
2) Inconsistency in switching device characteristics
3) Unbalanced three-phase operation

To minimize the neutral-point voltage shift, a feedback control scheme can be implemented, where the neutral-point voltage is detected and then controlled.

NPC / H-Bridge Inverter

The NPC/H-bridge inverter is developed from the three-level NPC inverter topology and shown in Fig.25. This inverter has some unique features that have promoted its application in the MV drive applications.

The output voltage and power of a three-level NPC inverter can be doubled by using 24 active switches, every two of which are connected in series. The NPC/H-bridge inverter also uses 24 active switches to achieve the same voltage and power ratings as the 24-switch NPC inverter. Each of the inverter phases is composed of two NPC legs in an H-bridge form. The NPC/H-bridge inverter has some advantages over the three-level NPC

inverter. The distinct advantage is the inverter phase voltages, v_{AN}, v_{BN} and v_{CN}, contain five voltage levels instead of three levels for the NPC inverter, leading to a lower dv/dt and THD.

The inverter does not have any switching devices in series, which eliminates the device dynamic and static voltage sharing problems. However, the inverter requires three isolated dc supplies, which increases the complexity and cost of the dc supply system.

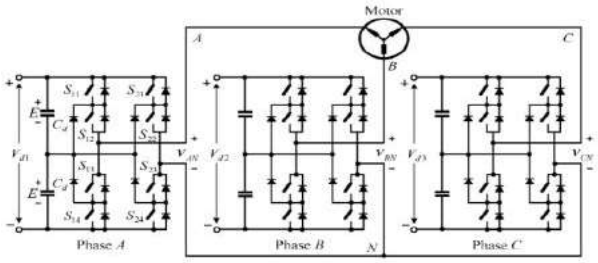


Fig 25 Five-level NPC/H-bridge inverter.

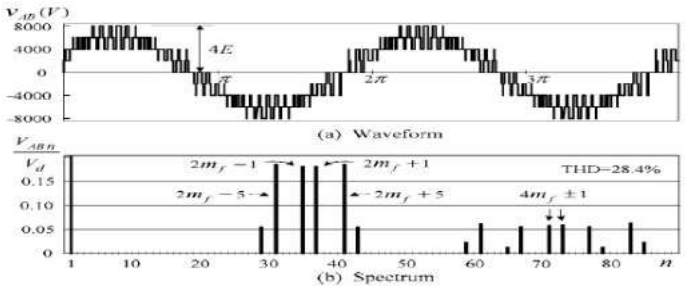


Fig. 26 **S**pectrum of the inverter line voltage

Waveforms and Harmonics of NPC/H-bridge Inverter

The waveform for the inverter line-to-line voltage v_{AB} is illustrated in Fig. 26. It contains nine voltage levels. The triplen harmonics in v_{AN} do not appear in v_{AB} due to the three-phase balanced system, resulting in a reduction of THD from 33.1% to 28.4%.

MULTILEVEL FLYING-CAPACITOR INVERTERS [7, 22]

Fig. 27, shows a typical configuration of a five-level flying-capacitor inverter. It is evolved from the two-level inverter by adding dc capacitors to the cascaded switches. There are four complementary switch pairs in each of the inverter legs. For example, the switch pairs in leg A are (S_1,S'_1), (S_2,S'_2), (S_3, S'_3), and (S_4,S'_4). Therefore, only four independent gate signals are required for each inverter phase.

The flying-capacitor inverter can produce an inverter phase voltage with five voltage levels. When switches S_1, S_2, S_3, and S_4 conduct, the inverter phase voltage v_{AN} is 4E, which is the voltage at the inverter terminal A with respect to the negative dc bus N. Similarly, with S_1, S_2, and S_3 switched on, v_{AN} = 3E. Table 5 lists all the voltage levels and switching states.

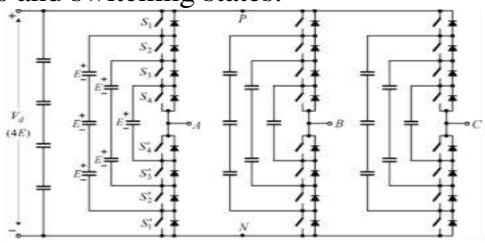


Fig 27, Five level flying capacitor Inverter

Table 5, Switching States

Inverter Phase Voltage v_{AN}	Switching State S_1	S_2	S_3	S_4
4E	1	1	1	1
3E	1	1	1	0
	0	1	1	1
	1	0	1	1
	1	1	0	1
2E	1	1	0	0
	0	0	1	1
	1	0	0	1
	0	1	1	0
	1	0	1	0
	0	1	0	1
1E	1	0	0	0
	0	1	0	0
	0	0	1	0
	0	0	0	1
0	0	0	0	0

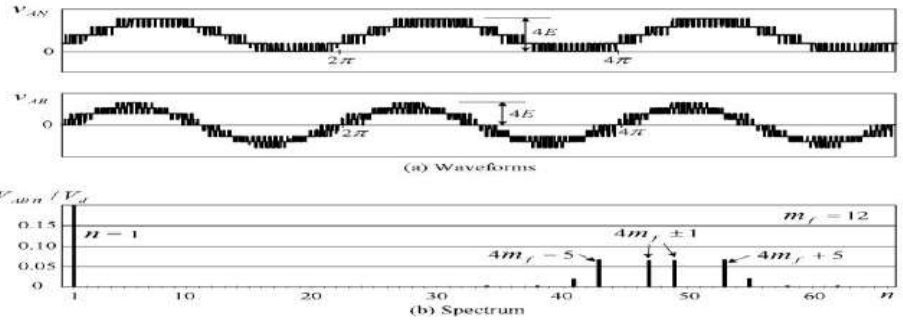


Fig. 28 **S**pectrum of the five-level flying-capacitor inverter.

Flying-capacitor inverter topology is derived from the two-level inverter hence it carries the same features as the two-level inverter such as modular structure for the switching devices. It is also a multilevel inverter, producing the voltage waveforms with reduced dv/dt and THD. However, the flying-capacitor inverter has following limitations:

1) The inverter requires several banks of bulky dc capacitors, each needs a separate pre-charge circuit.
2) The dc capacitor voltages in the inverter normally vary with the inverter operating conditions. To avoid the problems caused by the dc voltage deviation, the voltages on the dc flying capacitors should be tightly controlled, which increases the complexity of the control scheme.

Due to the above-mentioned drawbacks, the use of the flying-capacitor inverter in the drive system is limited.

CURRENT SOURCE INVERTER (CSI) [24]

CSI is similar to VSI but here current regulating choke is used in DC link unlike capacitors in VSI. It utilizes active switching devices on the motor side, and thus can adopt suitable PWM together with advanced control strategies to improve motor dynamic performance and reduce torque ripples. Motor PF is controllable with these drives. At the line side, LCI and CSI drives have inherent regenerating capability. In contrast, a large percentage of the industrial VSI drives employ single or multi-pulse diode rectifier at the line side that prevents power to be regenerated back to the line.

CSI or VSI drives with an active front end are also capable of line PF correction. For high-power medium-voltage applications, traditional two-level VSI supplies the motor with chopped voltage waveforms and thus generates high dv/dt at the motor terminals. Multi-level VSIs are therefore used to reduce the voltage steps and stress in the motor. CSIs, on the other side, provide the motor load with sinusoidal output voltage and current waveforms with low harmonics because of the filter capacitor at the output. Devices can be connected in series to achieve higher voltage rating, making the structure relative simple and robust for high voltage and power ratings.

LOAD COMMUTATED INVERTER (LCI) [16]

LCI drives employ thyristors as switching devices. Thyristors do not have self-turn-off capability but can be naturally commutated by the load voltage with a leading PF. The LCI features low cost and high efficiency and the lack of pulse width modulation. It is a popular solution for very large drives where the initial investment and operating efficiency are important. However, the LCI itself is not a grid and motor friendly topology. It normally generates low-frequency current harmonics, and the grid-side PF is not controllable. Active filters of high power ratings are employed for the LCI to improve the grid performance.

Other concerns include the difficulty of device commutation at low speed due to the low motor back EMF to commutate the inverter. A method named dc-link pulsing is commonly used to assist device commutation through intentionally created zero-current intervals. A side effect of the method is increased torque pulsation. Often these pulsations are not acceptable and a separate inching device is needed. The dynamic performance of the LCI drive is the poorest among all three due to its naturally commutated operation.

COMPARISON OF MULTILEVEL TOPOLOGIES

The two-level inverter has the lowest cost and weight in comparison with the other topologies. But this inverter has a very high THD and high dv/dt because of level switching between positive and negative DC link voltage. It needs series connection of devices because they are available with low voltage ratings.

The cost and the weight of the 5-level multilevel inverters seem better than the 9-level multilevel inverters. By increasing the number of levels, the cost and weight of the multilevel inverter will be increased. The advantage that the 9-level multilevel inverters have over the 5-level multilevel inverters is their THD without filters. Using the 5-level inverter and a filter is a better design in terms of component count, power loss and reliability.

The Flying capacitor clamped inverter has the lowest power losses among all the topologies. Because of bulky capacitors it is heavier than the other topologies. Practically it is not used in applications that are going to be used has restriction on space.

The cascaded H-bridge has the lowest weight and cost between the multilevel inverters, but its power losses are marginally higher than all other topologies because of more number of devices conducting at a time. But this topology scores over all because of modular power cells built with low voltage switching devices. Modular structure gives easy maintenance possibility hence low downtime. This topology is most suited for high power applications like GMD mills.

The diode clamped multilevel inverter power losses are lower than cascaded H-bridge. Diode clamped inverter topology have THD, cost and power losses between other types of inverters. Only problem is increased number of components as number of levels go up.

DRIVE COMPARISON FOR MILLS. [2]

In the Table 6, the main criteria for selecting drive systems are given. For specific projects process requirements, equipment cost, system efficiency and the related energy savings and maintenance aspects and the related costs need to be evaluated. The efficiency of the ring gear and the gearbox depends also on other factors, e.g. alignment, and can be significantly lower than the assumed values used for the comparison.

Table 6

	Fixed Speed	Variable Speed	Ring Gear	Gearbox	Additional Inching Drive	Maintenance	Starting Behavior	Total System Efficiency (%)
Slip-ring motor	x		x	x	x	— —	o	93
Synchronous motor								
(low speed)	x		x		x	—	— —	95
(high speed)	x		x	x	x	— —	— —	93
LCI drives								
(low speed motor)		x	x		(x)	o	++	93
(high speed motor)		x	x	x	(x)	—	++	91
Cycloconverter drives (low speed motor)		x	x			o	++	93
Slip energy recovery drives		x	x	x	x	— —	o	91
Voltage source inverter drives								
(low speed motor)		x	x			o	++	93
(high speed motor)		x	x	x		—	++	91
GMD		x				++	++	95

ENERGY AND COST SAVINGS

Process optimization can lead to a much more efficient use of grinding power and thus to significant energy savings. Furthermore, significant energy savings can be achieved with drive systems that have high efficiency.

EFFICIENCY COMPARISON

The evaluation of the overall system efficiency is an important factor during the selection of the most appropriate drive system when considering the life cycle costs. Table 7, shows the typical efficiencies for a 16 MW ball mill with different drive configurations. It compares dual pinion variable speed ring-geared alternatives and GMD solution. The efficiency of the ring-gear and the gear reducer are affected by other factors, e.g. alignment, and can be significantly lower than the sprecified values used. Motor and transformer efficiencies can be improved by modifying their design (impact on costs) and can slightly vary depending on the application.

The main observation is that, the lower are the components present on the system, the higher is the overall efficiency. Variable speed grinding mill drives equipped with high speed squirrel cage induction motors, require a gear reducer and a ring-gear. If a two stage gear reducer is used, efficiency drops to about 97%. On the other hand, the variable speed alternative using low speed synchronous motor eliminates the gear reducer, improving the overall efficiency. The GMD is able to provide unmatched efficiency.

Table 7

-	VSD High speed	VSD Low speed	VSD GMD
Transformer	99.1%	99.1 %	99.1 %
Converter	98.6%	98.6%	99.2%
Motor	97.2%	97.2%	96.8%
Gear reducer	98.5%	n/a	n/a
Ring-gear	98.0%	98.0%	n/a
Overall efficiency	**91.7%**	**93.1%**	**95.2%**

COST COMPARISON

Several factors and cost considerations must be taken into account in the drive system evaluation. A proper evaluation and the right selection of the drive system impacts the total cost of ownership (TCO) of the mill. The TCO analysis must include direct and indirect costs. As an example of indirect costs can be cited the loss of production related to the non-availability of the system. The GMD, by having fewer components, has the highest availability. It is followed by the low speed VSD solution and by the high speed VSD.

Also as direct costs, the efficiency and the use (including disposal costs) of lubricants on the ring-geared mills shall be considered. Plant layout is a factor for evaluation when comparing geared and gearless drives. Obviously, the footprint for gearless, single pinion and dual pinion drives is different. Single pinion drives require the smallest amount of space, but only marginally less than gearless drives. Dual pinion drives have the maximum space requirement.

The capital expenditure for gearless mill drives is typically higher than for other drive systems. However, energy savings due to higher efficiency and reduced maintenance costs usually leads to smaller lifecycle cost compared with other drive system solutions. The lowest capital expenditure is given by the high speed (VSD) solution, where the electrical equipment cost less and the mechanical part more, as a result of the inclusion of the ring-gear and gear reducer.

MAINTENANCE AND REDUCED SHUT DOWNS

Beside the cost savings related to energy savings additional cost savings can be achieved with reduced maintenance. GMD systems show excellent low speed characteristics without the need for any speed encoder. Cycloconverters are ideally suited for low speed applications and deliver precise and strong torque control during start up and during cascading of the material. The drive control has modes for inching and creeping. This allows fast, easy and accurate positioning of the mill and thus reduces the maintenance time needed for changing liners.

Service and maintenance for a drive system is mainly needed because there are parts that have wear such as gearboxes, bearings and carbon brushes or may get dirty or clogged such as heat exchanger tubes or air filters. These components need to be checked and replaced before the functionality cannot be guaranteed anymore, the behavior is degraded too much or the replacement would require an unplanned shutdown. It is clear that the maintenance work increases with the number of wearing components.

In case of component failures spare parts are needed on site to reduce downtime of the plant. However, proper design, operation of the equipment within safe limits and the use of supervision systems eliminate the risk of severe failures as far as possible.

Often routine maintenance of drive systems can be done during normal planned mill outages. However, the maintenance work that needs to be done for bearings, ring gears, gearboxes and other wearing parts leads to higher maintenance costs, tends to increase shutdown times and thus reduces system availability.GMD systems have only very few wearing parts, i.e. the brushes and the greaseless motor dust sealing, and therefore need relative little service and maintenance. This ultimately results in very high availability of GMD systems and lower maintenance costs compared with other drive systems.

CONCLUSIONS

Grinding of ores in mine demands advanced technologies that improve overall efficiency and reliability. Grinding has now been driven by large diameter mills for increased throughput for cost competitive processing of ores. Sizes of mills have gone upto 42 feet diameters and power about 38 MW. At such power levels the geared mills has got limitations and only solution is Gearless mills (GMD).

The technology for GMD calls for low speed (0-10 RPM) ring motor wrapped around mill cylinder and manufactured in multiple segments for ease of assembly at site. The motor options are Induction motor, synchronous motor and PM motor. Presently synchronous motors are being used because it can be operated with unity or leading power factor, reduced motor current and hence reduced loss. It also offers good starting torque without affecting power system. Induction motors have operating power factor always lagging drawing more current compared to synchronous motors but it has simple and rugged construction which can improve availability. PM motors are most promising because of its very high power density, unity power

factor and ease of operation but has issues in assembly, unbalance forces on bearings etc. which need to be addressed.

Presently for driving GMD, cyclo-converters are used because of compact construction, direct drive and regenerating capability. But it has disadvantage of harmonics and inter-harmonics injected into supply network. Moreover GMD needs variable speed operation for process optimisation which is tricky in case of cyclo-converter to generate very fine frequency steps. Also filter requirement is huge at line side to take care of weak power supply network.

With development of IGBT and IGCT devices and upcoming SiC, voltage source and current source Inverter offer good alternative to cyclo-converters. The multilevel and H-bridge Inverters with multi pulse 12, 18, 24 rectifiers with phase shifting transformer at input presents good input THD performance without filters. Also Inverter stage is built with modular construction for low dv/dt and better maintenance. This configuration can be built with both VSI and CSI as per design requirements. Comparison with cyclo-converter shows that modern VSI/CSI Inverter are promising alternative to cyclo-converters. With use of various function in GMD like stop sequences to protect the mechanical system from dangerous torque kicks and reduce the wearing of mechanical elements, operation and maintenance requirement like inching can be implemented easily. Variable speed operation which offers important benefits in process operation is possible with VSI/CSI drive with very precision speed control without compromising THD limits. It can be concluded that the modern VSI/CSI drives shows a great potential for GMD application.

REFERENCES

1) Adam G.P, Olimpo Anaya Lara and Mcdonald J. R., “Comparison between Flying Capacitor and Modular Multilevel Inverter”.
2) Ahrens M, Gonser J, “Technical and Commercial Benefits of Gearless Mill Drives for Grinding Applications”, SME Annual Meeting Feb. 25-Feb. 28, 2007,
3) Ajami Ali, Oskuee M.R, Mokhberdoran A, Khosroshahi M. T. “Advanced Cascade Multilevel Converter with Reduction in Number of Components,” J Electr Eng Technol” Vol. 9, No. 1, Jan.2014.
4) Babaei Ebrahim, Hosseini Seyed Hossein, “New Cascaded Multilevel Inverter Topology with Minimum Number of Switches,” Energy Conversion and Management, Vol.50, Issue11, Nov. 2009.
5) Babaei E, Gowgani S.S,"Hybrid Multilevel Inverter Using switched capacitor units," IEEE Trans. Ind. Electronics, Vol.61, No.9, Pp.4614- 4621, Sept. 2014.
6) Combes M, Dirscher C, Rosch T,”Increasing availability through advanced Gearless Drive Technology”, Siemens.
7) Das Jhuma, Mishra Ashutosh, “Reduction of Harmonics By Using Active and Passive Harmonics Filters”, IJRASET, January 2018.
8) Kangarlu Farhadi, Babaei E, "Cross-Switched Multilevel Inverter: An Innovative Topology,” IET Power Electro, Vol.6, No.4, Pp.642-651, and April 2013.
9) Kangarlu M.F, Babaei E, Sabahi M, "Cascaded Cross-Switched Multilevel Inverter In Symmetric and Asymmetric Conditions," IET Power Electron. , Vol.6, No.6, Pp.1041-1050, July 2013.
10) Li Czarkowski D, Liu Y, Pillay P, "Multilevel Selective Harmonic Elimination PWM Technique In Series-Connected Voltage Inverters," In Conf.Rec 1998 IEEE Industry Applications Conference, Vol.2, Pp.1454-1461.
11) Pontt J, Rodrı´Guez B, Valderrama W, Sepu Lveda G, Alzamora G, Minera Chile C “Resonance Effects, Power Quality and Reliability Issues of High-Power Converters-Fed Drives Employed In Modern SAG Circuits”, 29 April 2004.
12) Pontt J, Rodriguez J, Valderrama W, Sepúlveda G, Chavez P, Cuitino P, Gonzalez P, Alzamora G, “Current Issues on High-Power Cycloconverter- Fed Gearless Motor Drives for Grinding Mills”, July 2003.
13) Rodríguez Jose R, Pontt J, Patricio Newman, Rodrigo Musalem, Miranda Hernan, Moran Luis, and Gerardo Alzamora, “Technical Evaluation and Practical Experience of High-Power Grinding Mill Drives In Mining Applications”, IEEE Transactions on Industry Applications, Vol. 41, No. 3, May/June 2005.

14) Ramani K, Krishnan K,"High Performance of Sinusoidal Pulse Width Modulation Based Flying Capacitor Multilevel Inverter Fed Induction Motor Drive," International Journal of Computer Applications., Vol.1, No.24,Pp.116-121, Aug.2010.
15) Ramani K, Rathinam A, Krishnan K, "An Enhanced Flying Capacitor Multilevel Inverter Fed Induction Motor Drive," ACEEE International Journal on Electrical and Power Eng.,Vol.1,No.2,Pp.22-26,July 2010.
16) Seggewiss George, Dai Jingya , Peng Mark Fanslow, "Evaluation of Synchronous Motors on Grinding Mills."
17) Tatiana Ravani Von Ow, Leandro Bomvisinho, "Use of the Latest Technology to Overcome the Demands of Mill Operation."
18) Sudhoff S.D., . Zivi E. L, Collins T. D., "Start Up Perf'ormance of Load-Commutated Inverter Fed S Ynchrounous Machine Drives" , IEEE Transactions on Energy Conversion, Vol. 10, NO. 2, June 1995.
19) Seggewiss George, Dai Jingya, & Fanslow Mark,"Synchronous Motors on Grinding Mills" IEEE Industry Applications Magazine Nov-Dec 2015.
20) Sathik M. Jagabar, Ramani K, "A Novel Approach of Multilevel Inverter With Reduced Power Electronics Devices", International Journal of Electronics and Communication Engineering, Vol:8, No:11, 2014.
21) Suresh K. Surya and M. Prasad Vishnu, "Analysis and Simulation of New Seven Level Inverter Topology".
22) Shukla Ghosh, Joshi,, "Hysteresis Modulation of Multilevel Inverters," IEEE Trans.Power Electron., Vol.26, No.5, Pp.1396-1409, May 2011.
23) Wu Bin, "High-Power Converters and AC Drives", IEEE Press, 2006 Edition.
24) Wu Bin, Pontt Jorge, Rodríguez Jose, Bernet Steffen, and Kouro Samir, "Current-Source Converter and Cycloconverter Topologies for Industrial Medium-Voltage Drives".
25) Ye,Yuanmao Cheng, Liu Junfeng, Ding Kai, "A Step-Up Switched-Capacitor Multilevel Inverter with self-voltage balancing," IEEE Trans.Ind. Electron, Vol.61, No.12, Pp.6672-6680, Dec. 2014.
26) Zhang Xiaohu,"Control Strategy of Cascaded H-Bridge, Multilevel Inverter With PV System as Separate DC Source" 2011.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

A REVIEW ON THREE PHASE GRID CONNECTED PV SYSTEM USING THREE LEVEL CASCADED H BRIDGE MULTILEVEL INVERTER

Karishma Patel
M.E Student, Electrical Department
Mahatma Gandhi Institute of Technical education and Research center/GTU
Navsari-396450, Gujarat, India

Gaurang Patel
Assistant Professor, Electrical Department
Mahatma Gandhi Institute of Technical education and Research center/ GTU
Navsari-396450, Gujarat, India

ABSTRACT
In the recent trend of using green energy, grid connected Photovoltaic (PV) systems are getting more popular. This paper aim to review on, multilevel inverter based single-stage grid connected photovoltaic system based on cascaded three-level inverter is carried out using MATLAB/Simulink. The inverters are controlled using hysteresis current controller for which the synchronizing reference currents are generated using d-q theory. The maximum power is extracted from the PV array under varying environmental condition. The cascaded three-level inverter based grid connected PV system is simulated for injecting active power produced by the PV array under varying solar insolation.

Keywords: Photovoltaic (PV) system; multilevel inverter; cascaded three-level inverter, Individual maximum power point tracking.

INTRODUCTION
Nowadays, the major worldwide problem is of pollution control and energy crisis. The grid connected Photovoltaic (PV) system is one of the promising alternative for sustainable and independent energy resource. The power electronic technology plays an important role in distributed generation and in integration of renewable energy sources to the electrical grid, and it is widely used and rapidly expanding [5]. Single-stage and two-stage grid-connected systems are commonly used topologies in PV applications [6], [8]. Two-stage system, has some disadvantages what are less efficient, being larger and more costly disadvantage. Therefore single-stage structure is widely used today due to small size, low cost, high efficiency and high reliability. Higher power equipments require higher voltages, which limit the maximum DC voltage level. Therefore a new family of multilevel inverters has emerged as the solution for solar applications, as the PV array is directly connected to each level of the DC link.The Cascaded three level inverter based grid connected PV system is a single-stage system in which the MPP tracking is achieved by the control of inverter. The Cascaded three level inverter based grid connected PV system uses only one power processing stage and hence reduces the components and cost.

MULTI-LEVEL TOPOLOGY
A. General Description
In this paper operation of three-phase, three-level cascade H bridge inverter for the grid-connected PV system. Conventional diagram of the proposed system is shown in figure 1. DQ control technique has been used for PV system active power injection as well as harmonics free current injection the grid. Hysteresis PWM technique has been used for switching of the inverter.

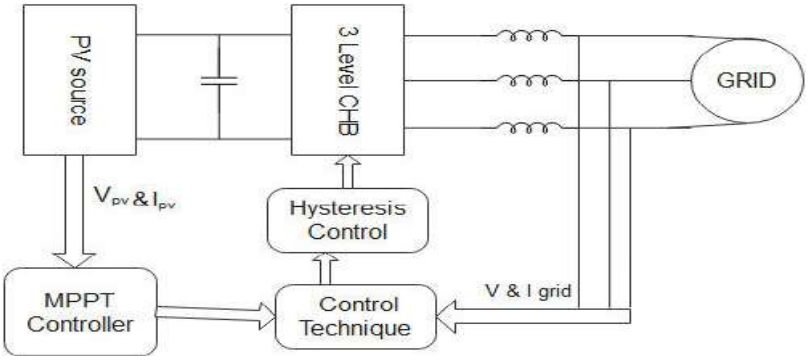


Fig. 1. Block diagram of proposed Scheme

Perturb & Observe method is used for MPPT. Model is simulated for both equal and unequal irradiance values.

B. CASCADED H-BRIDGE MULTILEVEL INVERTER

The multilevel inverter using with separate DC source, that DC source may be obtain from batteries, fuel cell and solar cell. Nowadays this topology becomes very popular in high power supply and adjustable speed drive application. When two or more H-Bridge connecting in series their output voltage can be combine to form different output levels, increasing total output voltage and its rated power also increases. In general term when n number of H-Bridge connected in series 2n+1 different voltage level is obtained. If we connect one H-Bridge in series then three level output voltage is obtain.

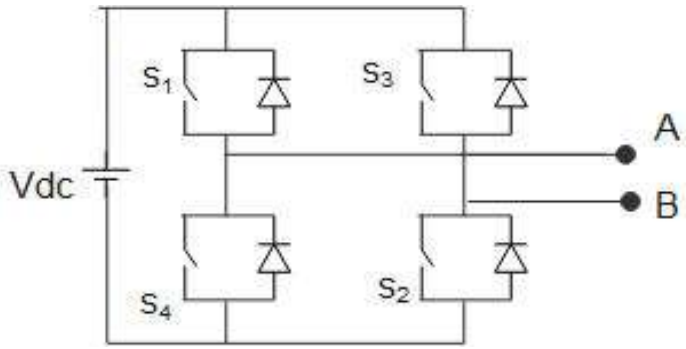


Fig.2 H-bridge cell of CHB Multilevel Inverter

C.PV Array

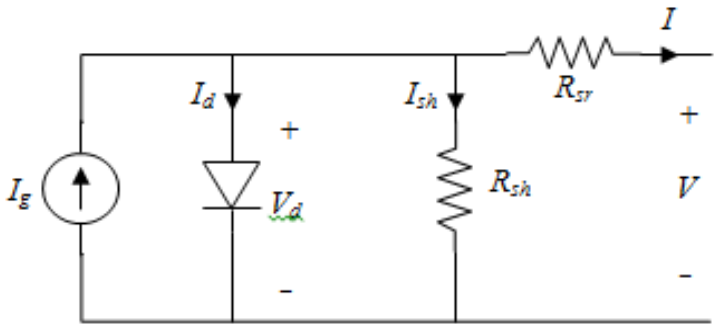


Fig.3 Single Diode model of PV cell[5]

$$I_0 = I_0 R \left(\frac{T_c^3}{T_{CR}^3}\right) exp\left[\left(\frac{1}{T_{CR}} - \frac{1}{T_c}\right)\frac{q e_g}{nk}\right] \ldots(1)$$

I_{oR} is the reference dark current. The other parameters are the electron charge q, the Boltzman constant k, the band-gap energy of the PV cell e_g, and the diode Ideality factor n which is used to adjust the characteristic I − V curves.

Perturb & Observe Method

The Proposed P&O method for single stage multilevel inverter topology is used to produce reference output power.In this method the sign of the last perturbation and the sign of the last increment in the power are used to decide what the next perturbation should be. the core idea of the MPPT technique is to automatically adjust its output voltage and current in terms of $V_{MP\,P}$ and $I_{MP\,P}$ under which the PV array can output the maximum power. A flowchart of this method is shown in fig.4

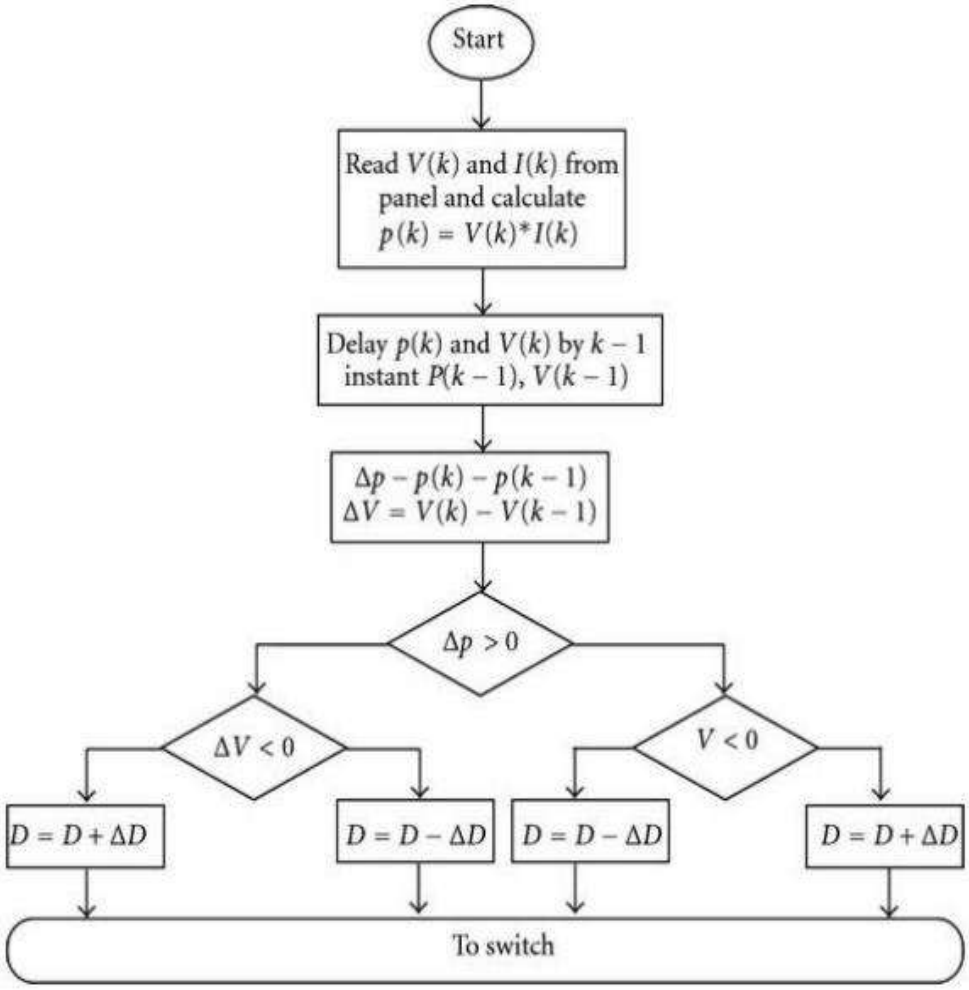


Fig.4 Flow chart of Perturb & Observe Methhod[4]

CONTROL SCHEME OF CASCADED THREE-LEVEL INVERTER

The control scheme of cascaded three-level inverter based single-stage grid connected PV system consists of three parts:

(i) The maximum power point tracking (P&O) technique to extract maximum power from each of the PV array under varying environmental conditions and generate active power reference for the control of inverter.

(ii) The control of the cascaded three level inverter is based on (d-q) theory [6] that generates the reference current to be injected in the grid.

(iii) The switching pulses for the inverter are generated based on comparison of reference current with the sensed inverter current using hysteresis current controller.

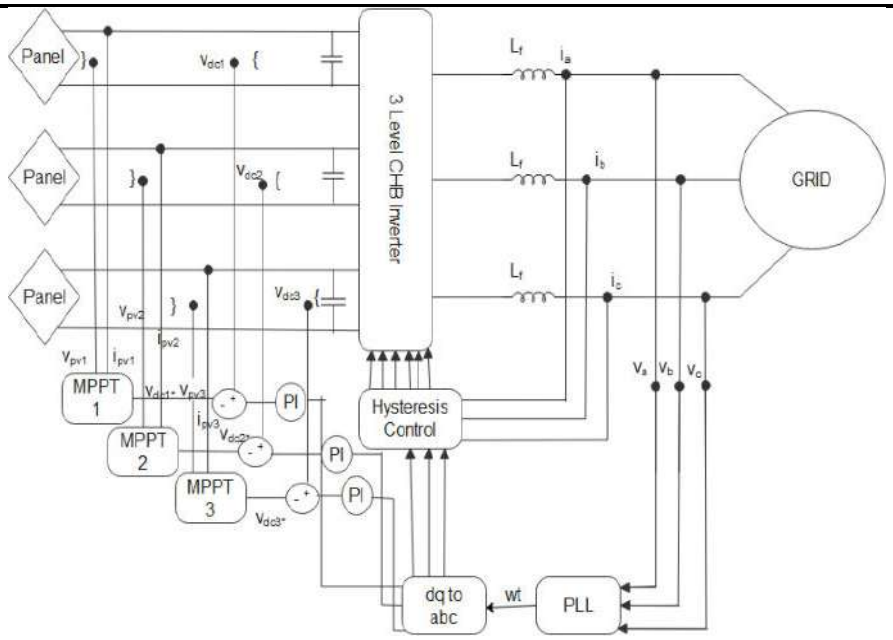


Fig. 5. Control Scheme Block Diagram of single stage grid connected PV system[6]

The grid-connected PV system and its topology and control strategy. The system can supply active power as well as current harmonics when irradiation is enough. In this study, the MPPT system is integrated with the DC-link controller so that a DC–DC converter is not needed and the output shows accurate and fast response. Fig. 5 shows the control block diagram of the single-stage grid-connected PV system.In the control structure of the combined system one of active current reference components id_vdc* is provided for active power injection, the dc-link voltage is set by a PI controller that compares the actual dc-link voltage and the reference generated by the P&O MPPT method

Individual MPPT Control

In order to eliminate the adverse effect of the mismatches and increase the efficiency of the PV system, the PV modules need to operate at different voltages to improve the utilization per PV module. The separate DC links in the cascaded H-bridge multilevel inverter make independent voltage control possible. To realize individual MPPT control in each PV module, the control scheme proposed in [7] is updated for this application. The distributed MPPT control of the three-phase cascaded H-bridge inverter is shown in Fig. 3. In each H bridge module, an MPPT controller is added to generate the dc-link voltage reference. Each dc-link voltage is compared to the corresponding voltage reference, and the sum of all the errors is controlled through a total voltage controller that determines. the current reference Idref. The reactive current reference Iqref can be set to zero. The Synchronous Reference Frame Phase-locked Loop (SRF-PLL) has been used to find the phase angle of the grid voltage. As the classic control scheme in three-phase systems, the grid currents in abc coordinates are converted to dq coordinates, and regulated through PI controllers. which is dq coordinates converted back to three-phase.

Table I Simulation Parameters

PV array Parameters	**Value**
Nominal Maximum Power (P_m)	150 Watt
Open Circuit Voltage (V_{oc})	44.30 Volt
Short Circuit Current (I_{sc})	4.51 Amp
Voltage at Maximum Power (V_{mp})	36.10 Volt
Current at Maximum Power (I_{mp})	4.16Amp
Grid Parameter	**Value**
Voltage	400Vrms(L-N)
Frequency	50Hz
DC link Voltage	350 Volt

Simulations Results

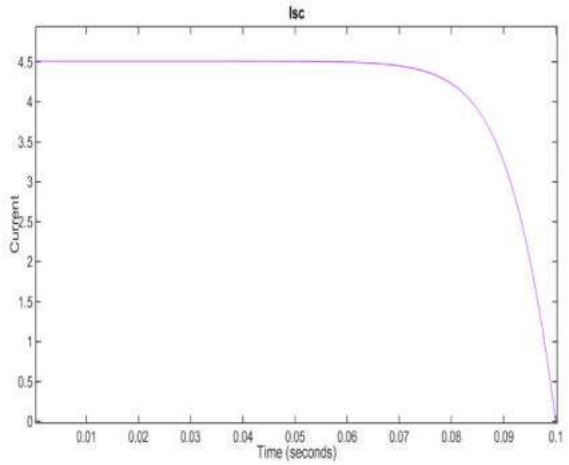


Fig.6 Current of PV Panel

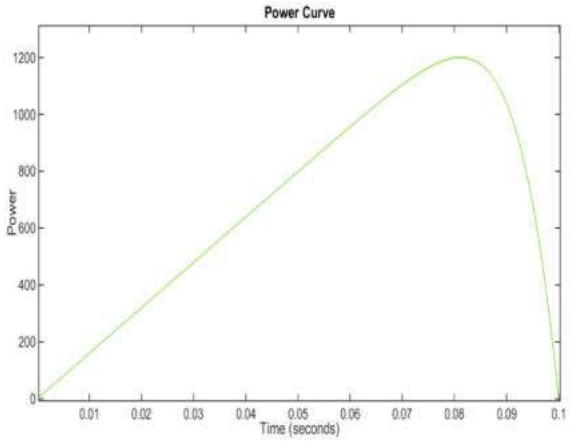
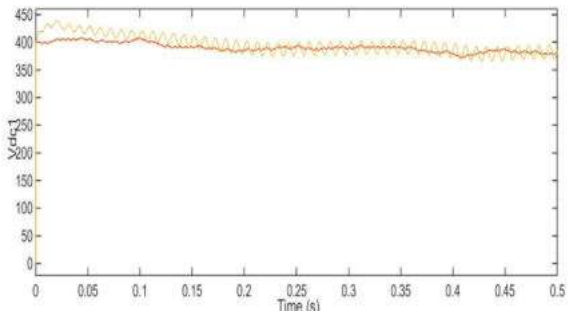
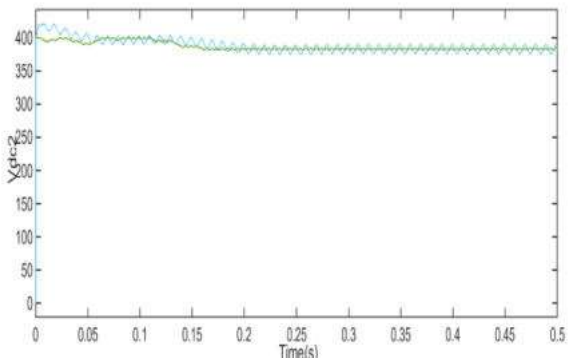


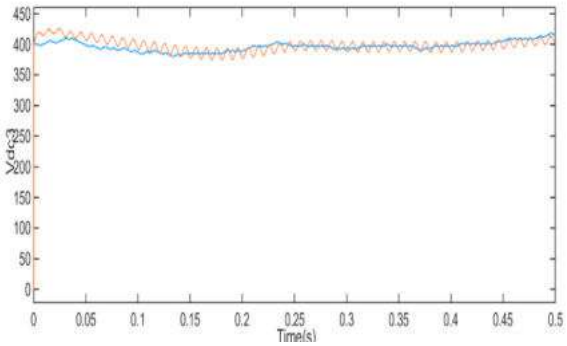
Fig.7 Power extracted from PV panels



(a)



(b)



(c)

Fig.8 DC Link Voltage (a) Phase A (b) Phase B (c) Phase C

To verify the proposed control scheme, the three-phase grid-connected PV inverter is simulated in two different conditions. First, all PV panels are operated under the same irradiance S=1000 W/m2 and temperature T=25 ˚C. the solar irradiance on the panels of phase a 1000 W/m2 , and that for the phase b panels decreases to 600 W/m2 phase c panel 750W/m2 The dc-link voltages of phase a are shown in Fig. 8(a). At the beginning, all PV panels are operated at the MPP voltage 350 V. As the irradiance changes, the dc-link voltages decrease and track the new MPP voltage of 350V, while the third panel is still operated at 350.4 V. The PV current waveforms are shown in Fig.12.The currents of the first and second PV panels are much smaller due to the low irradiance, and the lower ripple of the dc-link voltage can be found in Fig. 8(a). The dc-link voltages of phase b are shown in Fig.8(b). The dc-link voltages of phase c are shown in Fig.8(c). All phase b panels track the MPP voltage of 350 V, which shows that they are not influenced by other phases. With the distributed MPPT control, the dc-link voltage of each H bridge can be controlled independently. In the other words, the connected PV panel of each H-bridge can be operated at its own MPP voltage and will not be influenced by the panels connected to other H- bridges. Thus, more solar energy can be extracted, and the efficiency of the overall PV system will be increased.

The grid current has the same phase as the grid voltage and has unity power factor. The THD of the grid current is 4.38%, as shown in Fig. 13, which is less than 5% and meets the power quality standards.

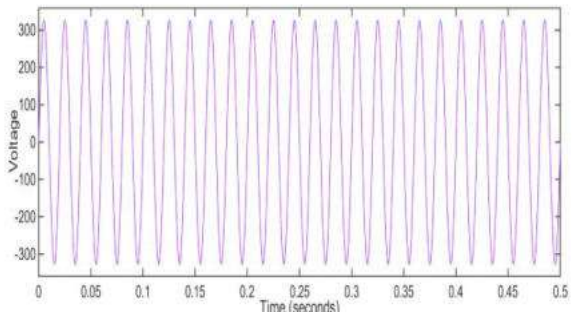


Fig.9 Grid Voltage Waveform

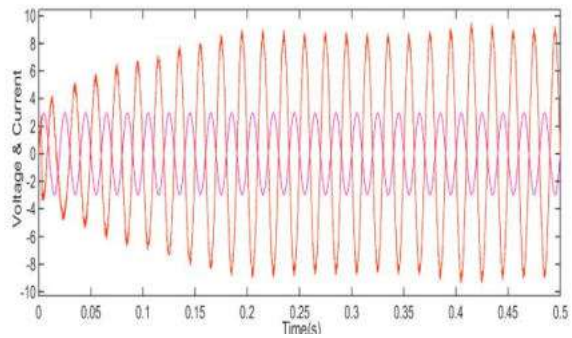


Fig.10 Voltage and current waveforms of grid

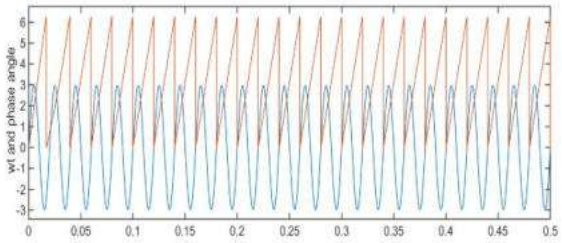


Fig.11 Phase angle of grid Voltage

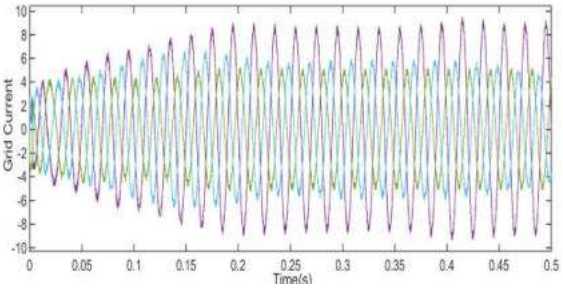


Fig.12 Grid current of different irradiance

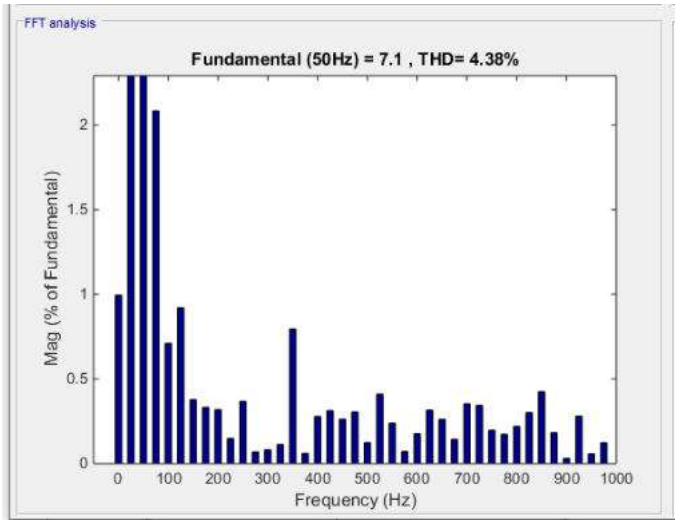


Fig.13 THD of the grid current

CONCLUSION

In this paper, a cascaded H-bridge multilevel inverter for grid-connected PV applications has been presented. The multilevel inverter topology will help to improve the utilization of connected PV modules if the voltages of the separate DC links are controlled independently. Thus, a Individual MPPT control scheme for three-phase PV systems has been applied to increase the overall efficiency of PV systems.

REFERENCES

1) Muhammad H. Rashid, "Power electronic circuits, devices and applications", 3rd edition, Pearson Education Inc.,chapter 9, pp 406-422 2003.
2) Mr.Darshan Patel, Dr.R.Saravanakumar, Dr.K.K.Ray, Mr.RameshR,Power "A Review of Various Carrier based PWM Methods for Multilevel Inverter" IEEE Conference publications Page(s): 1 – 6, 2011.
3) F. Filho, Y. Cao, and L. M. Tolbert, "11-level cascaded H-bridge grid-tied inverter interface with solar panels," in Proc. IEEE Applied Power Electronics Conference and Exposition (APEC), Feb. 2010, pp. 968-972.
4) T. Esram and P. L. Chapman, "Comparison of photovoltaic array maximum power point tracking techniques," IEEE Trans. Energy Convers., vol. 22, no. 2, pp. 439-449, Jun. 2007
5) J Sreedevi , Ashwin N, M Naini Raju "A Study on Grid Connected PV system "2016 IEEE

6) Serkan Sezen, Ahmet Aktas, Mehmet Ucar, Engin Ozdemir "A Three-Phase Three-Level NPC Inverter Based Grid-Connected Photovoltaic System With Active Power Filtering" 2014 16th International Power Electronics and Motion Control Conference and Exposition
7) Bailu Xiao1 , Ke Shen2 , Jun Mei3 , Faete Filho1 , Leon M. Tolbert "Control of Cascaded H-Bridge Multilevel Inverter with Individual MPPT for Grid-Connected Photovoltaic Generators" ©2012 IEEE
8) Tsai-Fu Wu, Chih-Hao Chang, Chia-Ling Kuo "Power Loss Comparison of Single- and Two-Stage Grid-Connected Photovoltaic System." IEEE TRANSACTIONS ON ENERGY CONVERSION, VOL. 26, NO. 2, JUNE 2011
9) Jose Rodriguez, Jih-sheng Lai and Fang ZhengPeng. "Multilevel inverters : A survey of topologies, controls, and applications". IEEE Trans.Ind.Electronics. Vol-49 no.4 pp 724-738,Aug.2002.
10) X. Yun, Y. Zou, X. Liu, and Y. He, "A novel composite cascade multilevelconverter," in Proc.. 33rd IEEE IECON, pp. 1799-1804, 2007.
11) K.Srinivas, K. Ramesh babu, CH. Rambabu3, "A New Multilevel Topology For Induction Motor Drive". Volume 2, Issue 12, December, IJETAE 2012.
12) Ville Naumanen "Multilevel converter modulation: implementation and analysis" Lappeenranta,,ISBN 978-952-214-933-6, ISBN 978-952-214-934-3 , ISSN 1456-4491,2010.
13) Ehsan Najafi, and Abdul Halim Mohamed Yatim, Senior Member, IEEE "Design and Implementation of a New Multilevel Inverter Topology" IEEE Trans .Indl. Electron, vol. 59, no. 11, Nov 2012.
14) E.Najafi, A.H.M.Yatim and A.S. Samosir. "A new Topology-reversing voltage (RV) for multi-level inverters." 2nd International conference on power and energy (PECon 08),pp 604-608, Dec.2008.
15) Zhengping Xi, "Control Strategies of STATCOM during System Faults" 2013.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

UZBEK FOLK DANCES FROM DIFFERENT REGIONS OF THE COUNTRY

Khulkar Khamraeva
Ph. D., Senior Lecturer Department of "Theory and History of Art "State Choreographic Academy of Uzbekistan

Etibor Jurakulova
Uzbek State Academy of Choreography Majoring in Art History

ANNOTATION:
The article analyzes a series of Uzbek folk dances in which, although objects are not directly involved, they are indicated by dance movements in order to reveal their essence through plastic movements.

Keywords: Nation, element, object, movement, plastic, people, region, labor, harmony, process, emotion, method, pattern, dance, activity, object, artistic thinking, discussion, level.

INTRODUCTION

The art of dance is older than all kinds of arts, because its primary source is the gesture used by the first-born man. As it was said, in the Decree of the President of the Republic of Uzbekistan, “the development of this art in accordance with the cardinal changes taking place today in all spheres of life of our society, restoration and holistic transmission to future generations of various directions and samples of national dance, classical dance schools formed in different regions of the country, as well as strengthening educational, propaganda work in this direction.” [One.]

Especially in themed dances, objects such as bowls, teapots, spoons, sharp stones and knives are an integral part of the dance. There is another series of dances in which, although objects are not directly involved, they are indicated by dance movements in order to reveal their essence through plastic movements. For example, folk dances from different regions of the country, labor dances "Cotton", "Grapes", "Fisherman and Fish", "Shepherd" which depict the pleasure of the labor process and the harmony of human experiences and emotions, through peculiar actions associated with a certain work activity, directing artistic thinking to reality e in order to cause aesthetic pleasure in the viewer. The Pilla dance uses both methods, a combination of live use of objects and the method of pointing to specific objects.

The solo dance "Pilla", created by folk artists Usta Olim Kamilov and Tamara Khanum, is performed to the accompaniment of doira. The dance depicts the process of labor, from feeding the silkworm to collecting cocoons, spinning on a loom, weaving fabric and patterned scarves. Later, this dance was staged, under the direction of the People's Artist of Uzbekistan Mukarram Turgunbaeva, as a mass dance for the "Bakhor" ensemble. The Pilla (Cocoon) dance is performed to the accompaniment of doira.

The dance is a performance with several plots:

1. With the help of the "ufori" movement, a branch of a mulberry tree is drawn.
2. When you move your arms and shake your head to the side, the situation is like “throwing, feeding”.
3. The tip of the right leg takes a tense step backward, as if a basket is being lifted.
4. The knees are bent, the right arm is bent, and the fingers are turned inward, as if they had taken a branch of a mulberry from a basket, as if it had inserted branches into a silkworm.
5. Display of a cut of leaves from a mulberry tree branch.
6. Hand throws leaves to mulberry worms.
7. Pulls the thread out of the cocoon.
8. The drying effect of the threads is characterized by a slight movement of the fingers.
9. As if the dancer is holding a bundle of yarn.
10. The hanging of the thread is described.
11. Describes the process of working on the machine.
12. "Durra" (durra "square white scarf") is removed from the edge of the "nimchi" (nimcha is the name of the Uzbek jacket).
13. Hands hold the edge of the dhurra, the dhurra is in front of the face, the face is closed, the edge of the dhurra is held.
14. The dancer throws a dhurra over her head and carefully holds the edge, gives a gentle greeting (greeting the bride).
15. After greeting the body straightens and slowly rotates completely.
16. Durru is brought to the left, the head is tilted to the right.
17. Holding the edge of the dhurra in front of the face, the viewer looks in the face, the dhurra stumbles and sits on the left knee, the dhurra is placed on the right knee.
18. All these movements are performed on the knees.
19. The palm is brought to the head and the scarf is straightened ("durra")
20. The waist is pulled up with both arms.
21. “Chevar” movements are performed (“dressmaker” imaginary threading into a needle, inserting the needle into the hand, holding the finger with the other hand to get rid of pain).
22. The dancer twists the fingers of her right hand over the fingers of her left hand, mentally completes the thread, completes the embroidery and pulls the thread.
23. She takes the dhurra and gets up, shakes the dhurra, looks at the doyrist (musician), the body is slightly forward, her arms are outstretched, as if he is passing the dhurra to the doyrist.
24. Doyrist goes to her, at this moment she turns the durra and holds the ends with her fingers. Turning to look at the doyrist, she walks from right to left and finishes sewing the durra.
25. Hand movements are performed in front of the doira, the left hand strikes the doira in the palm of the hand.

The textbook by Kh.Khamidova, D. Saifullaev, S. Zokirova "Masterpieces of the legacy of dance" tells about the dance "Cocoon", describes the process. In this textbook, the word “durra” is used instead of the word “scarf” in the following places: “The doyrist walks towards her as she turns the durra and holds the ends with her fingers. Turning around in a circle, she walked from right to left and finished the process of sewing the dhurra. “The "Music Dictionary" by the famous Uzbek musicologist I. Akbarov says that "at the end of the dance you will dance with a silk scarf."

Researcher Sh. Khudoinazarova, speaking about the aesthetic significance of the Pilla dance, noted that “the dancer's scarf fluttering over his head is kiyih”.

From the texts it can be seen that instead of the word "qiyi", "durra", "scarf" was used. In our opinion, the opinion of the researcher Sh.Khudoynazarova corresponds to our national values and the logic of dance. This is because Uzbek guys do not wear scarves, shawls or scarves around their waist. Until recently, girls in our villages sewed "kiyikcha" (men's scarf for a belt) with their own hands; in the valley they decorated the walls of the "kiyikcha" house, created by the bride's hands, for their future spouses. When the groom first entered the bride's house after the wedding, the groom gave bread and sweets packed in "kiyikcha". Even now, the "groom's belts" are sewn separately. The explanatory dictionary of the Uzbek language defines “kiyik” as follows: “Kiyik is a rectangular fabric around which flowers are usually sewn to tie a“ chorsi-belt-belt ”.

According to the famous linguist R. Sayfullaeva, “The history of education and the name of each nation is a very complex issue, often causing various discussions. This difficulty in studying the history of all peoples applies to the history of the Uzbek people. This is due to the fact that in the history of its formation, each

nation has long-standing and close relations with different peoples, languages and cultures and goes through a long historical development until it rises to the level of a nation, a people. " [3.15.]

Thus, the centuries-old history of the development of the Uzbek national dance, the process of its formation and the designation of dance movements have their own confusion and ambiguity. Therefore, the names of Uzbek dances and dance movements are, first of all, the priceless wealth of our native language. This is an extremely urgent question awaiting its researchers.

The Decree of the President of the Republic of Uzbekistan dated October 20, 2020 "On measures to further develop the Uzbek language and improve the language policy in our country" states that "it is necessary to radically strengthen the Uzbek language in the public life of our people and international, patriotic, national traditions and values, education in the spirit of devotion, ensuring the full implementation of the state language in our country. " [2]

It should be noted that the art of dance arises as a result of a combination of various movements in accordance with the tone and rhythm that are characteristic of a particular ethnocultural group and carry certain paralinguistic meanings for the members of this group.

Dancing movements are filled not only with work, a person's lifestyle, but also with gestures that are an expression of inner experiences, subtle feelings, and even through facial expressions and eyebrow gestures. These movements and gestures have long been artistically honed and polished.

Therefore, along with many other values of the intangible cultural heritage, it is necessary to pass on to future generations the rich experience accumulated in the art of Uzbek national dance. "Preservation of the art of dance, embodying national values, customs and traditions, as an ancient source of our spirituality and culture, restoration of its disappearing forms and movements, terms, dance character, its structure, performance features, objects, clothing and jewelry." ... [4.92.]

The scientific study of the role of performance in complementing, improving and polishing is one of the pressing challenges facing the performing choreographer, organizer and researcher working in the field of dance. In this regard, we can say that one of the important tasks facing the scientific community is the improvement of the system of text and video recording of dance performances, as well as the creation of special terminology.

REFERENCES

1) "On measures for the further development of the art of national dance." Resolution of the President of the Republic of Uzbekistan. "Pravda Vostoka" February 5, 2020
2) "On measures for further development of the Uzbek language and improvement of language policy in our country" .gas. "Pravda Vostoka", October 21, 2020
3) Avdeeva L. From the history of the Uzbek national dance. National dance association "Uzbekraks" named after M. Turgunbaeva. T. 2014.
4) Karimova R. Bukhara dance. T., 1977
5) Matekubova G. Lazgi. T., 2020
6) Mukhamedova O. Practice of staging Uzbek dance. T., 2018
7) Mahmud S. The Uzbek language is interesting. "FAN", T. 1994, 157-p.
8) Murodova M. Folk art. (Toolkit). T., 2015
9) https://www.kultura.uz
10) Sayfullaeva R.R.Modern Uzbek literary language. Toolkit. - Tashkent, 2007.
11) Aniev S. Kamroeva Ҳ. Integration of Values: National Dance Art of Uzbeks of Kazakhstan, Collection, Tashkent, 2020.

NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 8, ISSUE 4, Apr.-2021

CALCULATION OF A SOLAR POWER STATION FOR LOW-POWER ENTERPRISES

Jurayeva K. K.
Tashkent state transport university, Tashkent, Uzbekistan

Khalilova I. F.
Tashkent state transport university, Tashkent, Uzbekistan

Yokubov M.T.
Tashkent state transport university, Tashkent, Uzbekistan

ABSTRACT
In the article discusses the advantages of solar energy and its method of use by direct conversion of solar radiation and electrical energy using solar modules. The formula for determining the rated power of solar modules is given. Depending on the material, design and production method, there are three generations of photovoltaic converters. The calculated formula of the power generated by the solar power plant is given. It is shown that for high-quality power supply of low-power enterprises, it is necessary to use hybrid power systems that use the energy of wind, solar and water flow of small rivers as primary energy.

Keywords: Solar energy, conversion, electric energy, advantages, disadvantages, power, calculation formula, quality of electric energy, hybrid power systems, use for low-power enterprises.

INTRODUCTION

Solar energy is a renewable energy source. Now scientists around the world are developing systems that use solar energy.

The amount of solar energy entering the Earth is simply huge and significantly exceeds the energy of all the world's carbon fuel reserves. Simple calculations show that only 0.0125% of its volume could meet all the current needs of the world's energy [1].

Solar energy is used mainly in two ways – in the form of thermal energy, through the use of various thermal systems, and through photochemical reactions (photovoltaics) [2]. The latter method is the direct conversion of solar radiation and electrical energy using solar panels. Solar cell photovoltaic cells are photosensitive plates made of a semiconductor material: selenium, silicon, gallium arsenide, etc. Solar panels can be of various capacities-from portable installations of several watts to multi-watt power plants covering millions of square meters of area.

When using solar panels for low-power enterprises, there is an advantage associated with the fact that they have a very simple design, as well as simple installation, and minimal maintenance requirements and with a long service life. When they are installed, they do not require additional space. We should strive to ensure that they are not in the shadows for a long time.

The process of converting solar radiation into electrical energy is carried out in solar power plants (SPP) [3,4]. SPP is one of the most promising and fastest growing areas of renewable energy use.

In order for the SPP to find practical application, it is necessary to calculate it.

The calculation of the SPP means the determination of the nominal power of the modules, their number, connection scheme; the choice of the type, operating conditions and capacity of the accumulator battery (AB)б; the capacities of the inverter and the charge-discharge controller; the determination of the parameters of the connecting cables.

Determination of the rated power of solar modules.

You must first determine the total (estimated) power of all consumers connected at the same time. This capacity is indicated in the product data sheets.

The amount of energy consumed $W\ (kW \cdot h)$ during time T is determined by [5]:

$$W = P_{calc.}T$$

where где $P_{calc.}$ – calculated rated load power, kVt.

It is believed that electricity supply from solar energy is economically feasible with a daily energy consumption of up to 4 kWh.

The calculated load capacity of the $P_{calc.}$ is determined by the statistical method.

Depending on the material, design and production method, there are three generations of photovoltaic converters (PhC):

- First-generation PhC based on crystalline silicon wafers. According to the manufacturing method, polycrystalline and monocrystalline silicon wafers are distinguished. Currently, the first-generation PhC due to its low cost has become the most widespread;
- Second-generation PhC based on thin films, allow you to produce flexible, and in the future cheaper, large-area PhC, but with a lower conversion factor compared to the first-generation PhC;
- The third-generation PhC based on organic and inorganic materials is currently at the research stage.

In general, the PhCs that are part of the SPP can have a fixed or tracking photodetector without a concentrator or with a solar radiation concentrator.

Various variants of concentrators and tracking systems are known, which differ in technical and economic indicators and efficiency. However, it is impossible to unambiguously determine any option for building a SPP as the best, without conducting appropriate research. The power P (kW) generated by the SPP can be calculated using the formula [6,7]:

$$P = R_{\sum} S \eta, \qquad (1)$$

where P - the actual total power of solar radiation (direct, reflected and scattered) in the focusing plane, kW/m^2;

S - the area of all PhC, m^2;

η - the efficiency of the PhC.

In formulas (1), the parameter η determines the ability of the PhC to convert the energy of solar radiation into electrical energy. Its value depends on many factors, including the material, design and method of production of the PhC, temperature and light transmission of the protective coating. The value of R is determined by the territorial location of the SES, the climatic conditions at a given time, the terrain, the date and time of day, the presence of a tracking system, a hub, and their design parameters. In some studies, the R component associated with the presence and design of tracking systems and concentrators is taken into account as a separate coefficient or as a component of the efficiency of a solar battery.

The method of calculating the economic efficiency of converting solar radiation into electricity is similar to the method used to calculate the economic efficiency of wind power plants (WPP). The overall investment (I) and the total annual operating costs (C), which depend on the type of solar panels, their design, the availability and design of control systems, play a decisive role.

However, for solar panels, the following disadvantages are inherent: there is a sensitivity to contamination of working surfaces; there is a dependence on high temperatures; quite a high cost.

Thus, the use of such sources of electricity as wind power, solar power or mini hydroelectric power plants in a minimum configuration, including only an energy converter (wind turbine with a PhC generator or a hydro turbine with a generator) and a device for converting electric current parameters to standard values (inverter, stabilizer), is not able to provide high-quality and guaranteed constant power supply to the consumer.

The solution to the problem is the use of energy complexes or hybrid power systems that use wind, solar and water flow of small rivers as primary energy for the power supply of an autonomous consumer (low-power enterprises).

REFERENCES

1) Allaev K. R. Energy needs a Strategy. Economical Review No. -6, 2018.
2) Meitin M. Photovoltaics-materials, technologies, prospects// Meitin. M.// Electronics: science, technology, business. - 2010. No. 6. - p. 40-46.
3) Gorbenko O. N., Rozhkova A. A. Problems of using solar energy// Modern science-intensive technologies. - 2014. - № 5-2. - P. 38-39.

4) Vissarionov V. I. Solar energy: a textbook for universities/ Edited by V. I. Vissarionov. - M., Publishing House of MEI, 2008 – 317 p.
5) Chetoshnikova L. M. Non-traditional renewable sources/ energy: textbook - Chelyabinsk: YuURGU Publishing House, 2010. - 69 p.
6) Butuzov V. V. Calculated values of the solar radiation intensity for the design of solar installations. International scientific journal "Alternative Energy and Ecology" – 2016. - №11(79) – pp. 75-80.
7) Jurayeva K. K., Rustemova A. R. Issues of using renewable energy sources for railway transport enterprises// International Scientific Research Journal. Eurasian Union of Scientists– 2020.- № 1 (70)/ 2 part, - pp. 42-45.