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PRINCIPLES OF DIRECTING SCIENTIFIC RESEARCHERS TO RESEARCH ACTIVITY

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Annotatsiya
In this article, the stages of scientific research activities are analyzed, as well as important aspects of research, the content of modern requirements, ways to achieve efficiency in the process of scientific activity.

Keywords: Science, problem, criterion, hypothesis, experience, theoretical knowledge, pedagogical ability, creative ability, research, competence.

INTRODUCTION

Science is the result of scientific knowledge and the system of scientific activity, and it is expressed in new scientific knowledge of theoretical and practical types. In general, the existence of truth and novelty is the most important value for scientific knowledge. Science, as a component of culture, develops in a certain historical and cultural context, axiological framework based on socio-cultural point of view; on the other hand, science acts as a basis for the development of culture.

President of the Republic of Uzbekistan Sh.M. Mirziyoyev stated in his book New Development Strategy of Uzbekistan that “The developed countries of the world have the task of not only increasing the production of products and bringing them to the market, but also of transitioning to an innovative economy based on deep knowledge and scientific achievements.” [1.224-p]

In the educational system, the appropriate ability for scientific research activity, which is important in organizing the professional and scientific activities of personnel, can be formed in every student as one of the tendencies to learn in the learning process.

LITERATURE ANALYSIS

Intellectual cognition includes processes related to various mental activities. In our opinion, it is necessary to consider the nature of research activities in order to form the concept of “researchers possessing deep knowledge” and to determine its content.

From the point of view of phylogenetic (the process of development of the organic world), research activities are unique to humans. Some psychologists point to two main reasons for the emergence of research activity: it is an assumed reflex inherited from an animal and a research reaction.

V.S. Mukhina, S.L. The Rubinsteins point out that a predictable reflex - research activity can occur in the first place. [3.p.19]

L.S. Rubinstein put forward the idea that "in human activity and work, his practical, theoretical, psychological and spiritual development is not only manifested, but also improved." [7.p.19]

K. Obukhov claims that the anticipatory reflex is considered evidence that shows initiative in the current knowledge of human activity and, in turn, divides it into "simple anticipatory reaction" and "complex anticipatory reaction" that occurs in the cognition of an interesting event or object in one or another situation. . The more opportunities the object of study has, the stronger the research reaction will be, and a specific motive for research will appear here.

A number of scientists-psychologists (A.G. Allakhverdyan, A.N. Luk, A.A. Melik-Pashaev, etc.) emphasize that initiative and freedom to overcome stereotypes should be formed as one of the two important arguments that influence the development of a person's research activity. Psychological freedom to understand the surrounding objects and phenomena is necessary for research activity. At this point, a person should emphasize the need for a high level of self-evaluation, which will justify his idea without waiting outside. He should have a good understanding of his creative potential (possibility, level).

Dj. Gilford's ability to improve the object directly involved in research, the ability to assess the situation, originality of ideas, new divides another group of concepts, such as the justification of the amount of ideas, the ability to find problems [4.p.246-279]. In the process of learning, where the cooperation between less experienced and more experienced people occurs, it gives the following clarifications to the research activity: the creative cooperation of two subjects in search of an unknown solution increases, as a result of which cultural wealth is displayed, and this is the formation of worldview.

M. N. Arsev describes his research activity and says that he cannot foresee its results. This means that this activity is related to the preliminary search for a solution to an unknown problem. Such a definition is related to the concept of competence, focuses on the importance of the situation of uncertainty and emphasizes that a person should find its solution. [5.p.4-29]

RESEARCH METHODOLOGY

Many scientists put forward their ideas regarding the effective organization and implementation of scientific research activities. In particular, V.S. Mukhina, S.L. If Rubinstein, K. Obukhov, etc. studied the importance of reflection for the emergence of research activities, Dj. Gilford, M.N. Scientists such as Arsev conducted scientific research in order to find a solution to the problem in advance.

ANALYSIS AND RESULTS

To develop research skills in students, to teach them to independently acquire new knowledge and to acquire professional competences, it is necessary to develop their self-development and intellectual abilities.

The formation and development of research skills is based on the fact that students often perform research questions and tasks along with regular tasks and assignments. “However, not only problematic situations, but also tasks in which students independently find a new way to solve a problem can be considered research tasks.”

Scientific research begins with setting a problem. The research problem should be equally relevant for science and practice. The problem is 'knowledge of not knowing'. The structure of the problem is the result of an objective scientific analysis of the state of educational practice (education and training), pedagogic science (didactics, theory of training, methodology) is considered, its goal is the boundaries of scientific “knowledge” and “ignorance” is to determine.

The scientific problem is in educational or educational practice, pedagogical theory expressed on the basis of found contradictions. Conflict is "contradiction", "incompatibility", for example, between the components of the pedagogical process - the goal and content, content and methodological tools are not compatible with each other.

Conflict and "conflicts"; in practice - not yet a reason to conduct scientific research! Not every conflict in practice can be solved with the help of science tools. Moreover, science does not solve conflicts, but develops tools as conditions for their solution.

A scientific researcher expresses his general idea in one or more hypotheses. The hypothesis system is the mechanism of the research process.

The main requirements for a scientific hypothesis:

1. What is most important in pedagogical research?
2. What is the component, characteristic, pedagogical reality of the research object?
3. What is the nature of the learned process model?
4. What is the essence of the studied reality?
5. How is a certain reality formed?
6. What is the time and duration of the study?
7. What methods and tools are used to determine the scientific hypothesis in the experiment?

Therefore, a decisive component of the research process is a certain scientific hypothesis, it is important to prove it in experience and practice. [6.p. 81]

The success of pedagogical activities largely depends on pedagogical skills.

Intellectual work, scientific and methodical activity form the basis of pedagogical ability. These include the ability to understand ideas, express one's own opinion, solve problems independently, perform practical actions quickly and correctly, distinguish between imaginations, subjects, objects, events and processes. Through the formation of these qualities, they develop intellectual abilities.

One of the main stages and conditions of research activity is its internal motivation, that is, the manifestation of the importance of problems for him within the scope of the studied topic. In the process of research activities, students should develop a special ability that determines the essence of this form of activity, that is, they can see a problem, formulate a scientific task, move a hypothesis, form certain concepts, ability to classify, observe, experiment. to have skills, to know how to organize material, to form conclusions and results, to explain, to protect and justify private ideas. In our opinion, the sequence of these special abilities can be supplemented with the element "knowing the analysis of literary sources".

Research activity should correspond to the internal development of the learner. These criteria can be conditionally divided into two groups: 1) intellectual and creative ability; 2) motivational - characteristic of personal actions.

Regarding the development of intellectual and creative abilities, a number of authors divide the existing situations into the following:

- learning skills (development in movement and levels of generality) and the development of the cognitive process;
- talent ability;
- experimental (experimental) thinking;
- reflexive ability of a person;
- level of general creativity;
- emergence of creativity in problematic situations.

Among the indicated situations, we distinguished the quality based on the level of creativity, reflexive ability and learning skills development of the students, which determine the general result of the research activity.

Considering the motivational and personal development of learners, we can distinguish the quality of the research process and relatively active parameters in educational activities:

- cognitive activity and reasoning (motivation);
- the ability to overcome cognitive (cognitive) difficulties;
- freedom in the process of making and understanding decisions in their assessment;

-research activity, emotional attitude to study.

In the process of research activity, the following competencies are formed in the researcher.

In value-content competence, the subject of education has the ability to make decisions, to know the choice of the purposeful and meaningful structure of his actions, to have a goal in it, to understand and see the world around him. should embody.

Multicultural competence is determined within the framework of problems, the learner should be familiar with it, as well as have experience. In this place, he should also know the experience of mastering the scientific map of the world.

Cognitive competence is a set of competencies that make up general educational activities, methodological and logical elements related to the objects of knowledge within the framework of independent cognitive activity of the learner. It is here that self-assessment, reflection, analysis, planning, knowledge of purposeful organization and the level of knowledge are determined in research activities.

Information competence includes the ability to independently search, analyze, select, organize, reorganize, store and deliver the necessary information.

Communicative competence includes such features as teamwork skills in various social roles, ways of interacting with others, and knowledge of necessary languages.

Social work competence represents the experience and knowledge of social and public spheres.

The competence of self-improvement is directed to the methods of acquisition of private interest and activity, in which the necessary personal qualities and continuous self-awareness of a modern person are expressed.

CONCLUSION

In conclusion, it should be said that the summation of knowledge in certain fields, the amount of research knowledge, the organization of research results, the execution of experiments, the selection of more convenient methods, the implementation of the necessary data analysis, the planning of activities and goal setting, the justification of the hypothesis and It is the amount of behavior-based problem solving, vision, and application of knowledge and skills in concrete activities.

Also, knowledge of the level of concepts in the direction of the researcher in the organization and management of scientific and creative activities, organization, research, management, pedagogical skills, inclination to self-development and continuous independent education, aspirations, as well as Being in scientific research based on modern requirements is the demand of the time.

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