

**THE VOLE MATHEMATICAL MODELING IN THE PROCESS OF IMPROVING THE  
QUALITY OF HIGH EDUCATION AND ITS SOCIAL-PHILOSOPHICAL ANALYSIS**

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**ABSTRACT**

Creating mathematical models of real processes and even the formation of the ability to study them shows that one of mathematics at all stages of education. In accordance with educational standards: higher education, a modern teacher must have the method of mathematical modeling to be able to form it's basis students. To teaching mathematical modeling promotes fundamentality and professional orientation of the future teachers. The article defines the role of mathematical model, mathematical modeling.

Key words: quality of training specialists, mathematical knowledge, mathematical model, mathematical modeling.

Learning process of education defines the educational institution management, an important task that determines the quality of the future specialists to be trained. Education is an important part of human's socialization, which plays a key role of solving problems in society. In the same way with developing an education, next important problem increasing a quality of education has been worrying. Although, the ability of specialists counted the product of education is dependent on eco-social society. At first time theories about training and education is brand to the book Avesto. Ancient countries and their civilizations' achievements are known in the world. At that times intellectuals take into consideration for science-fiction, art and culture. The Heroines about education social management, spiritual and motel training problems, are expressed by Central Asian intellectuals: Imom-al –Buxariy, Abu Rayxan Beruniy, Khoja Ahmad Yassaviy, Jaloliddin Davoniy, Kaykovus, Najmiddin Kubro, Kivahiy, Bohoviddin Nakshband, Xusayn Voiz Koshifiy, Amir Temur, Alisher Navoiy, Jaloliddin Rumiy, Yusuf Khos Xojib, Imom Gazoliy and they find own reflection from heir composition. Improving the quality of education in the social processes of society the issues of creating a perfect human image are studied separately in the hadith of the Holy Quran.

During the last years forming again of economic, sociopolitical field in human acclivity affected weighty certain increase in the demand for qualified specialists in the formation of personnel. It requires future professionals to be able to use the powers of their profession, to identify and evaluate problems that arise in the profession and to find solution to them independently.

Making mathematic models of increasing the quality of higher education is the most main cause of developing Uzbekistan education which demonstrates these investigations.

First. In many countries of the world, ensuring in the sustainable functioning and development of the education system as a prerequisite for development of society and the state has long been considered a matter of public policy.

Second. In the normative legal acts regulating the activities of education, education has been declared as the most important factor determining the prestige of the state, it is future and even national security.

Third. With of focus on state accreditation, theatrical research, development and testing of modeling apparatus, methods and technologies that ensure the functioning of the state regulatory system can be considered as one of the most important tasks in the field of theatrical and applied research in education.

Forth. Nowadays, in our country, without looking to the complexity of the socio-economic situation, from pure technical and ecological tasks to the formation of the strategy for the development of education, which occupies the most advanced positions in the world, the challenges of maintaining and developing the capacity of the education system, and many other tasks and challenges facing to the leader.

Fifth. Increasing the quality of the education in being the strategic goal of republic, it is becoming an important condition for the activities of the higher education institutions. Graduates or higher education should not only be experts in their fields, but also have a personal approach to each job, the ability to make important decisions, the desire to study, the ability to communicate and collaborate. Many investigators (G. L. Ilin, E. Seydkhalilov, Sh. Kurbanov) think that the quality of education is its improvements, knowledge of learners, their skills and traditions, qualitative changes in the learning environment.

When applied to the practice, the main approaches to solving the problem of quality, the assessment of the quality of education are identified as follows: to determine quality of education, systematic approach is important.

Assessment of the quality of education includes changes related to the so-called «internal and external» aspects of quality determination, both utilitarian measurements, as well as changes related to intelligence, knowledge and creative competence.

Marking the quality of education must consist of expert, effective and general approaches to social order it is impossible to assess quality without expert evolution of expert. For making the quality of education. It is necessary to enter certain indicators. Problem of the quality higher education were first formed in the works of European experts. Analyzed in England in the 60s of the 19th century in the works of M. Frezer, Allan Eshfort, Rojev Xarvly, Ronald Bovnet, Alma Kraft, Uvban Daxlok, Jon Xarris, Michael Shattok, Andre Staropoli, Ronald Veld, Diana Grin, Leo K. J. Gedegebure, Pitre A.M., Masen va Don, Vesterxaydrn, X.R.Kellz, Markis Kogan and others. Analyzed in USA for works of problem of marking the quality of higher education in the compositions of S.Bell, B. Xagerti, D.Stark, D. Xarvey, D. Grinn, I. L. Ratklif, X. R.Kellz and others. The quality of higher education in Russia has been studied since the late 1990s. The problems of Russian, G.A.Bordooskiy, E.E.Buxtaeva, L.I.Varenova, A.A.Vedrova, B. A.Zaxarov, S.P.Yerkovich, N.F.Yefremova, D.F.Zakirova, A.A.Kiriyuk, N.M.Kovaleva, B.K. Kolomiets, S.B.Korshinov, V.L.Kuklin, A.A.Kishel, B.X.Lond, A.G. Levinson, B.G. Litvak A.N. Mayorov, T.V. Makarova, V.V. Melnik, V. Meshalnik, V.A. Moskinov, R.V. Muzichenko, O.G. Nefedova, O.N. Onishenko, B.P. Zelezneva, O.A. Silaev, I.M. Popov, I. Trubina, K.S. Farino, I.B. Fedorov, E.V.Filyuk, A.L.Chuchalin, V.D.Shadrikov, E.N.Shuvalov, E.M. Yurtanova and others.

These investigators identified different approaches to determining the quality of higher education and proposed different criteria for its evaluation. In creating the national the National Accreditation Agency E.N.Gevorkyan, G.N.Motova V.G.Navodnov. M.V.Petropavlovskiy. V.Y.Kuklin, A.S.Maslennikov, V.A. Savelyev, D.I. Petrov, A.P. Paskal and others not only developed a system of education quality indicators and a comprehensive assessment mechanism for universities, but also used statistical and mathematical models, methods and methodologies in his procedure. Along with the problem of measurability of the quality of education, problem of equivalence, remain the problem of finding a way to improve quality of higher education. All aspects of society's development cannot be imagined without mathematics education and mathematical literacy of the population. The modern practice shows that, student's strong mathematical knowledge of notational education is associated with weak motivation. Student strives to convince to not want subject knowledge's, without looking its practical importance. In the next courses, it is not formed about mathematic and mathematical modulating to young-students.

How mathematic should give us practical knowledge? Mathematic would be surprising that the learner had to impart special knowledge relevant to his whole life. But in I is a necessary condition to have methods and ideas for students. How to maintain interest in the material being studied by the young-students throughout the lesson. How the lesson is conducted can be achieved only if teacher is not an explanatory and etiquette performer, but the student is the learning activities. During the process of education, it demands application of modern educational technologies such as project research technology, career oriented technology, information and communication technology and person-centered learning.[1]

In the process of mathematician of knowledge originally began in mechanics, physics, today it covers almost all the natural sciences and many humanities.

A.N. Bogolyubov, A.V. Gorstko, V.S. Jarubin, P. Korobeinikov, A.D. Meshkis, G.I. Rizavin, A.A. Samarskiy and other. Scientists conducted research in the field of mathematical modeling. During the process of

education, a certain model was created, which gives the subject a level of knowledge in mathematics. The transition from formal mathematics to its interpretation allows for the creation of visual mathematics tools. Therefore, mathematical modeling is generally recognized as a means of interpretation. The need to incorporate mathematical modeling ideas into school and university education has been repeatedly emphasized by A.V. Babrovskaya, V.B. Genedenko, B.E. Kamenetskiy, U.V. Kamenskaya, U.A. Kolyagin, I.D. Kudryabmsev, T.V. Malkova, A.G. Mordkovich, A.S. Rayxman, M.N. Statkin, N.A. Soloduzin, A. Stukalov, A.P. Jonkix and other teachers and methodologists.

Nowadays method of modeling plays a major role as method of learning in the developing of science and society. By modeling we mean the creation and study of a copy of an actual object while preserving its most important features. Modeling has been a viable for a long time and its developmental stage is constantly accompanied by learning process.

Mathematical modeling in the natural and technical sciences is based on various direct analogies, the principle of variation, the fundamental laws of the nature.

Sometimes it is approached phenomenological. And the study of the humanities from such rich sources of research poses fundamental difficulties. A reasonable acceptance of the human factor that combines preexisting social processes with a separate human quality, association with a separate human quality, association with a whole social association, real mathematical modeling in the field of health.

-The absence of a known fundamental law that can accurately reflect the universally established indicators all the source under study.

-The shallow «measurement» of social indicator. Even if it clear what kind of measurement is needed, bringing it closer to reality requires a certain amount of intellectual precision.

- Strong, different positions, the presence of different districts and unstructured social groups.

- The ever-increasing complexity of social objects, the knowledge that determines their reflective nature, will sooner or later become an integral part of the object.

Moreover, any progress in the humanities depended on education.[6].

In essence of modeling method, it based on any method of scientific-research. The connection of philosophical and general scientific problem with modeling is reflected in the work of scientists such as G. Vayl, V.A. Venikov, B.A. Glinskiy, B.C. Gryaznov, I.U. Korolev, K.E. Morozov, E.P. Nikitin, A.L. Uemov, V.A. Stoff.

Mathematical modeling — is modeling with ideal, scientific characters, which describes an object expressed in mathematical language using on another mathematical method. Today it is only of most effective and widely used methods of scientific research. This is explained by the possibility of successfully analyzing the experimental world with mathematical world systems. The first structure is ideally abstract, and the second structure is a more perfect depiction of the generalized and logically described.

The process of mathematical modeling can be divided into the following stages;

- 1) Specification — Understanding the task at hand, distinguish existing features and relationships of the modeled object or process.
- 2) Formalism — making a plan for solving a problem, translating an object model into mathematical language.
- 3) Calculation of model parameters — studying the problems of mathematic.
- 4) Interpretation – Commenting the results obtained.
- 5) Model adequacy — the results obtained meet the criteria of practice. Return to steps 1 and 2, if the model does not match.
- 6) To predict — Make a decision with looking obtained results.
- 7) Last analyses — model and its modernization. It helps to develop general skills in mathematical modeling, its structure and the peculiarities of the individual stages, the application of mathematics in solving practical problems. In addition, mathematical modeling allows to show the problems that arise and their solutions, how the event in one field effects the development of other areas, to reveal the interdisciplinary relationships of the studied disciplines.[4]

But, analysis of literature and pedagogical activity shows that student working with mathematical models modeling and do not a clear understanding of their application. To translate the problem of

educational standards into mathematical language to interpret the results using mathematical apparatus, and therefore do not meet the requirements of mathematical modeling skills. In addition, student must be ready to use mathematical skill in the field, researches in own activity.

Nowadays, the assessment of the quality of higher education is nearing additional statistical indicators and methods of identification: Necessity of labor market and should be evaluated in terms of employer requirements. The study of the theory and methods of mathematical modeling as a whole allows to eliminate the following main contradictions that arise from the traditional method. Application of mathematical modeling in education is possible to study the identify of such a task in a consistent sequence. In this case, the object of research is the educational process, which is considered as an object of information. As a result, they are ready to use it in their professional, scientific and creative activities. Only such experts can find a positive solution to the problems facing the time.

The course of modern developing, It keeps in mind that sociopolitical object system which made specialist to new condition It is a complex dynamic of the system activity that the higher education institution is developing as social-ecologic object.

But this is one of the ways to direct process of education as a productive result. And make It happen without passing mathematic modeling.

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