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## Scientific and Methodological Concepts of Education Quality Monitoring

**Key words:** *Monitoring, technology, quality assessment, model, general secondary education.*

**Annotation:** *the article discusses the technologies and monitoring development tendencies and education quality assessment in general-secondary education system in Uzbekistan and modeling issues for monitoring system. Today, quality of intellectual resources is becoming a major geopolitical factor in the world. In this regard, upbringing of younger generation who have strong knowledge, active citizenship and independent thinking, is one of the priorities of state policy in Uzbekistan. This work is based on the laws "About Education" and National Program on Personnel Training. The effectiveness of educational work, the acquisition of knowledge and skills that meet modern requirements are heavily dependent on state educational standards. At the end of the article there is recommended the model for education quality monitoring. Many developed countries have paid much attention to the quality and effectiveness of education. Methodologies and technologies for monitoring the quality of education has been developed for comparative studies. In addition, international monitoring studies of the quality of education have been developed.*

*In Uzbekistan, in the conditions of modernization of the education system of the country, mechanisms for monitoring research are being improved, tools to study the results of teaching-learning process are being developed in order to form in students a set of competencies that meet the needs of the individual and society, ensuring social inclusion of students in the community as well.*

### Introduction

In the years of independence, there was defined tendency as one of the priorities of Uzbekistan state policy to raise an intellectually developed, independent thinking person with an active civil position through improving the education and nurturing quality and efficiency. The development path is being implemented profoundly into the Life – being an integral part of the "Uzbek model" the Law "about Education" and "national manpower training program" Today was brightly displayed as one of the main factors ensuring the development in socio-economic and cultural spheres, and has been recognized as "Uzbekistan national manpower training" by international experts of developed countries.

Today rapid development of science, technology and production branches requires to raise the quality of education in all educational institutions to a new level.

Among the various types of continuing education in the education system the **secondary education** has critical importance. The main reason of this is that at this stage main skills for continuing studying at all types of education such as: **reading, writing, listening, logic**

**thinking, communication skills, having an independent thinking** and knowledge basis on fundamental science are being instilled and moulded at students.

Since the early days of independence in a row with radical modernization of education system, enhancing the quality of education and teaching efficiency there has been improved the assessment of education quality and its mechanism for monitoring. The Projects such as "School education Development" carried out during 2007-2013 in cooperation with International Development Association (*World Bank*), in partnership with UNICEF, the International Organization of the United Nations "Development of quality parameters for general secondary education" and "improvement of the mechanism for monitoring the quality of education" have been implemented within the framework of **"The plan of education sector development in the Republic of Uzbekistan within 2013-2017 years"**.

### Literature Review

Scientists of the Western countries Vincent Greney (consultant, Human Development Network, Education Group, World Bank), Thomas Kellagan (Educational Research Centre, St. Patrick's College, Dublin), Sulvia Akana (Uganda National Examinations Board), J. Dzhuran (USA), the Japanese scientists K. Isikava, scientists of the Middle East Zebardjadian Zakhre Aliasgar (Uganda) carried out monitoring of quality of education at the state and international level in the last decade and have developed system of national estimation of quality. They have developed also technologies, indicators of quality and the effective model allowing to compare education systems and to develop the existing systems of estimation.

Number of the scientific Commonwealth countries of the independent states, such as Kovalyov L.F., Bakhmutsky, Andrey Evgenyevich, Makarov, Alexey Alekseevich, Khokhlova Svetlana Viktorovna, Bagayeva Svetlana Nikolaevna, Belevtseva Irina Vladimirovna, Galmukova Irina Arkadyevna, Zvonnikov Victor Ivanovich, Ivshina Galina Vasilyevna, Kochetova Natalya Ivanovna, Kulakova Natalia Ivanovna, Mikhaylova Evgenia Isayevna and others carried out monitoring of quality of training in system of continuous education investigated questions of technologization and automation of process of monitoring; scientific I.A. Zimnyaya, B. K. Kolomiyets, V.P. Panasyuk, N. A. Seleznyova, A.I. Subetto, A.O. Tatur have proved scientific and pedagogical aspects of categories on a pedagogical qualimetry.

Scientists-pedagogues of our republic in recent years actively develop the actual problems directed to education improvement of quality. Among them questions of quality management of education, modeling and design of teaching and educational process, determination of efficiency of organizational and methodical approaches to estimation of knowledge of learners based on rating systems. In the center of attention of scientists there are questions of ensuring development of educational institutions, their resources and personnel potential, management of pedagogical technologies, definitions of a role government bodies of management education in satisfaction of requirements and interests of the personality. A number of works of scientists is devoted to research of the social nature of pedagogical management, development of conceptual ideas about features of the complete control system directed to realization of problems of improving quality of education. In particular, Sh.E.Kurbonov, R.Sh.Akhlidinov, J.G. Yuldoshev, G.Ya.Alimova investigated theoretical-methodological bases of quality management of education, have studied questions of control and an assessment of quality of training, have defined organizational and methodical approaches to estimation of knowledge of learners based on rating system (4).

R.Kh.Djuraev, U. I. Inoyatov, R.Sh.Akhlidinov, S. T. Turgunov, Kh.F.Rashidov, U. Nishonaliev, R. F. Safarova, U.K. Musaev, U.K.Tolipov, P. Musaev, M. Salaeva, F.Yusupova, R. Nurjanova, etc. have developed the concept of modern management of educational institution, investigated modern management in education, have defined theoretical-practical fundamentals of prognostics of maintenance of the general secondary education, have developed education strategy and have created new model of content of training, investigated features of management of educational institution and various aspects of harmonization of interests of the personality in management of education. N. S. Saidakhmedov, M. O. Ochilov, K. Zaripov have studied approaches to modeling and design of pedagogical processes, have analysed possibilities of management the process of training means of pedagogical technologies (5).

### **Methodology**

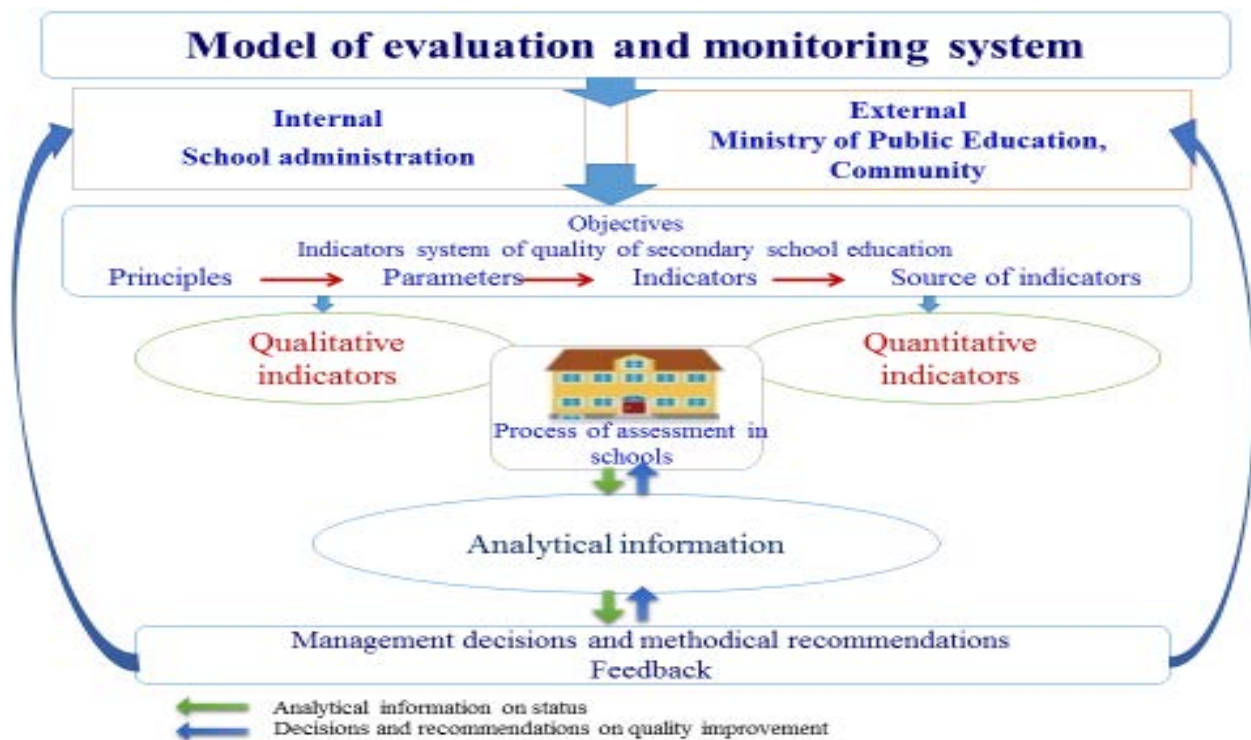
Today, taking into account the country's specific experience in the field of education, the achievements and experiences of the developed countries and the international evaluation systems, there is required to validate education quality parameters and indicators from scientific and methodic view, as well as create education quality monitoring model founded on scientific and methodic basis, to create the methodology of its implementation.

**The quality of education – being a description of the integrals of the education system, reflects the regulatory requirements of education results, and the level of social and personal needs correlation.**

The assessment of education quality from Scientific and methodological point of view is implementing into pedagogy subject through "**Pedagogical qualimetry**", the field that is developing as new tendency.

**Monitoring of general secondary education quality in institutions** implies the systematic observation of dynamics of the development of skills, knowledge and aptitudes defined by the state educational standards for the students and identifies the factors affecting the quality of the education quality and is the process that enables planning of measures.

Monitoring of education quality based on aforesaid model is aimed at systematic observing of dynamics of PES (public education standards) requirements fulfillment, determining the factors that affect the quality of education, qualitative education process arrangement through taking measures on development of methodic service and training system, educational institutions, regional public education administration activity, as the result to enhance the quality of education.



The main functions of Monitoring are as follows:

- a) to observe the dynamics of students public education standards requirements fulfillment, determine the factors that affect the quality of education;
- b) to determine measures on filling identified gaps in the knowledge of the students due to the results of monitoring and on qualitative education process implementation;
- c) to prepare proposals for making amendments in curricula and public education standards regulations due to results of monitoring and necessary requirements that identified as connected with society, science and technology development;
- d) The comparison between the results of the use of different teaching technologies;
- d) to determine gaps in pedagogic progressive, information and communication technologies, psychological, didactic and methodological methods used by teachers in the educational process and work out measures on improvement of gaps filling methods;
- e) Control the implementation of the training and qualification requirements by teachers, prepare the appropriate conclusions and submit to administration;
- f) On the basis of education quality indicators of educational institutions, regional education authorities to identify the rating.

**The period and types of monitoring:** Monitoring is divided into two types, the first is an internal monitoring, the second is an external monitoring. The Internal monitoring is carried out directly by monitoring group established by the educational institution. This implies covering all classes and all subjects under the monitoring process during the academic year.

External Monitoring shall be carried out by the State Testing Center under the Cabinet of the Ministry of Education, Public Education Ministry, regional education authorities, departments of the district (municipal) public education institutions' activities methodic securing and organization.

External monitoring is organized by the Ministry of Education, regional education authorities each 6 months on the basis of special plan - schedule.

**Implementation of preparation works for monitoring:** According to the objective of the monitoring there is defined what class and subjects will be controlled. In a purpose to ensure coverage of all academic disciplines at the periodic time of monitoring process there is drawn a plan-schedule designed for one or more years. For Monitoring the disciplines there is carefully examined requirements of PES, the context of training programs and practical courses related to subjects to be controlled. There shall be made the list specifying the elements of knowledge, necessary skills and abilities to be acquired by the students. To conduct external monitoring the creative groups consisting of social experts on focused subjects shall be established under relevant bodies for preparation of control materials and making expertise.

Creative team prepare control tasks for examining knowledge, skills, qualification (tests, quiz, questions, dictations, essays, etc.). The criteria for task complexity level and their evaluation criteria are to be developed. For determining the quality of prepared control tasks and quizzes, students attitude towards these tasks and the time to be spent the approbation is held. According to the results of the approbation the control material shall be analysed and amended control tasks and given time for doing these tasks relatively, then approved and prepared for monitoring process. Selection of areas, districts (city), educational institutions to be covered by monitoring is made due to the future plans or on the basis of random selection method.

Requirements for Control materials: control materials are prepared on the basis of the current state education standards and curricula. Assignment can be different types such as selective (closed) or written answer (open) type test -assignments, writing task, audio and video, text reading comprehension, listening comprehension, defining the basic idea of the text, title of the text, questions consisting of variety of charts and tables to compare. The closed test assignment shall consist of 4 options, the open test assignments shall include short answer test that requires concrete and short answer. Control materials are to be estimated in accordance with the evaluation criteria.

If control materials is a written task form it should be focused to encourage students creative writing search, reflecting personal feedback, aptitude of generalizing conclusions on the ideas expressed by a number of sources on the same subject and ability to write it.

Time for doing control tasks by students shall be defined according to the number and level of complexity. Control materials shall be made on the basis of the current training programs until the monitoring period, the themes comprehended, and facilitate to determine the students' skills and knowledge, aptitude acquired.

**Control works procedure:** The external monitoring in selected classes shall be carried out by specially trained experts. Before conducting control works they ought to be trained by special training groups and taken appropriate recommendations/instructions at the seminars.

Experts for conducting control work shall present at the selected educational institutions an hour before and examine conditions in class rooms, familiarize with accommodation. If Control work is to be conducted in more than one class, the place for control work shall be chosen at classes of the close location in one school.

For conducting writing tasks for each subject shall be given time in accordance with age of students and complexity of the task.

Upon completion of Control work, the students sheets for each subject shall be collected by experts in each subject separately, and witnessed by all the students placed in a special envelope and sealed. Then envelopes are submitted to the head of the working group.

Upon completion of control work 10 minutes shall be given to students for the break. Then students, teachers and school administrators fill prepared beforehand questionnaire (the survey). 20-25 minutes shall be given for filling questionnaire .

**Analysis of the findings of the monitoring:** After the control work has been conducted a special trained teachers team shall check the work. To ensure the objectivity of findings of the monitoring the team should include neutral/independent teachers. If the control work consists of closed test tasks, the verification process shall be carried out using a computer program.

Other types of assignments are checked by practicing teachers on the basis of the prepared evaluation criteria. Monitoring results are processed using a computer program and the appropriate information is prepared. Prepared on the basis of analytical data. The results are compared with the former, specific academic subjects, specific class subject, district and regional development dynamics and the quality of teaching are to be determined.

Students, teachers, school administrators and parents will be questioned in order to find out the factors that influence on the quality of education, the knowledge of the students, and to identify effective and proper management solutions.

Factors affecting on the quality of education relatively will be studied by dividing into 3 blocks:

**1 block:** factors concerned with the conditions created by the educational institution;

**2 block:** factors related to professionalism of educational institution teaching staff (administrators, teachers, and leaders of the methods association etc.) and methodic assistance quality provided to them;

**3 blocks:** Factors concerned with skills, talents, interests and family conditions and habitats of the students.

Identified all the factors will be analyzed, due to the certain area, district (city), or the school in which the main ones are identified, on the basis of which will be made conclusions. There will be elaborated methodic instructions, principles of teaching, guidance and instructions for teaching staff and subject teachers.

To strengthen the material base of the educational process and to rise teachers' qualification following measures to be taken on (thematic educational meetings, seminars, demonstrative classes, and methodological work improvement etc.).

Monitoring is not one day control, but it should be continuous, systematical, related, indivisible observation.

In addition, the monitoring system is not only the mechanism determining PES and its standards compliance and controlling mechanism, but it shall serve for creating proposals that can be the basis for amendments related to plans and curriculum and PES due to development of science, needs and requirements of the society .

## **Results**

**The present model** implies participation of social customers and all participants of the educational process in the process of evaluating education quality. There is feedback at the most important process that facilitates to increase the effectiveness of education and training.

The fairness and objectivity,

Responsiveness of pupils' psycho-physiological characteristics, transparency, clarity, equality, science-based methodology are considered as the principles for Evaluation of education quality.

The evaluation of education quality has its specifics. Hence, the monitoring of education quality should be carried out in the following order:

1. Establishment of Working (creative) Group for education quality monitoring, for the preparation of control materials and organization a training for them;
2. Determining the purposes for monitoring process, procedure, monitoring techniques to be used;
3. Prepare control materials completely corresponding to Primary education standards and curriculum. Control materials should be focused on working of students at various types of data, a logical thinking, comparison a variety of sources, generalization, conclusion summarizing, determination the level of acquired skills.
4. To identify the factors that directly affect the quality of education there is prepared questionnaire for students, teachers, school administrators and parents. These survey shall be focused on 3 goals: student and his family conditions, factors that affect the quality of education, the factors related to teachers qualification and professionalism that affect the quality of education, school leadership management skills, as well as methodological work affect on quality of education.

In general education institutions along with monitoring process all disciplines and all classes are covered during the academic year. During the monitoring there is studied factors effecting the quality of education, as follows:

Factors related to the level of teacher preparation and professional skills;

Effective Introduction of progressive pedagogic and information and communication technologies and their effectiveness;

Factors related to facilitating effective educational process by school administrators;

Factors related to facilities and resources and their effective application;

The factors related to the conditions of pupils and their families;

Factors related to methodical aid and training quality in Educational institutions, to teachers.

The above-mentioned one of the factors affecting the quality of education is Effective Introduction of progressive pedagogic and information and communication technologies and their effectiveness, that can be determined on the basis of the following criteria:

The productiveness, the regularity of the educational process effectiveness and a high level;

The urgency and social importance, effective performance of educational and training functions;

Stability, achieving high results a few times, testing under different conditions;

Presence of opportunity to achieve high achievements through condition and means, Optimality, minimal time;

### **Main Elements of monitoring**

- The ministry of education (MOE) appoints either an implementing agency within the ministry or an independent external body (for example, a university department or a research organization), and it provides funding.
- The MOE determines policy needs to be addressed in the assessment, sometimes in consultation with key education stakeholders (for example, teachers' representatives, curriculum specialists, business people, and parents).
- The MOE, or a steering committee nominated by it, identifies the population to be assessed (for example, fourth grade students).
- The MOE determines the area of achievement to be assessed (for example, literacy or numeracy).
- The implementing agency defines the area of achievement and describes it in terms of content and cognitive skills.
- The implementing agency prepares achievement tests and supporting questionnaires and administration manuals, and it takes steps to ensure their validity.
- The tests and supporting documents are pilot-tested by the implementing agency and subsequently are reviewed by the steering committee and other competent bodies to (a) determine curriculum appropriateness and (b) ensure that items reflect gender, ethnic, and cultural sensitivities.
- The implementing agency selects the targeted sample (or population) of schools or students, arranges for printing of materials, and establishes communication with selected schools.



- The implementing agency trains test administrators (for example, classroom teachers, school inspectors, or graduate university students).
- The survey instruments (tests and questionnaires) are administered in schools on a specific date under the overall direction of the implementing agency.
- The implementing agency takes responsibility for collecting survey instruments, for scoring, and for cleaning and preparing data for analysis (4, p. 6-7).

In a view that the Monitoring of education the quality has corrective nature, if this feature is operatively applied in eliminating identified gaps and challenges the education quality will significantly raise.

The difference in context and nature of model for monitoring education quality in general secondary education system is that, first of all, its systematic integrity, continuity and that it covers the most important components of this sector, as well as taking into consideration the economic and social modernization of this branch.

### **Conclusions**

Steps to improve the system for monitoring and assessing the quality of education in Uzbekistan can be divided into three stages:

1<sup>st</sup> stage: monitoring the quality of students' knowledge,

2<sup>nd</sup> stage: comprehensive monitoring

3<sup>rd</sup> stage: monitoring of education system.

Summing up aforesaid, the monitoring of the education quality model implies modernization of teaching general education discipline methodology, introduction of mechanisms on continual enhancement of teachers skills, innovative pedagogic and mediatechnologies, and reaching high efficiency through introduction of education quality indicators.

The main purpose of monitoring and assessment of education quality is to study and analyze systematically performance of the State Educational Standards requirements at schools, identify and fill up gaps in knowledge and competencies of students. This monitoring system measures performance and identifies factors and determines their impact on the quality of education. Also, measures for improvement and development of educational institutions are defined, necessary regulatory guidelines are accepted. Currently, studies and collaborations with international organizations such as UNICEF and the World Bank have been conducted to further improve the monitoring and evaluation of education quality.

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