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IMPROVEMENT OF METHODS OF MONITORING THE EDUCATIONAL PROCESS OF STUDENTS IN THE DIRECTION OF MATHEMATICS-FUTURE TEACHERS OF MATHEMATICS

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Abstract
At present, we use traditional and innovative forms of knowledge acquisition, assessment tools, modeling the future, competency-based education format for students - future mathematics teachers we are working on the problem of creating a science-based system of control over educational and practical activities. This article describes the main results of designing this system.
Key words: methodological, learning activities, monitoring, practical stage, preparatory stage, competence, analytical stage.

Introduction
Among the problems of improving the quality of higher education, the problem of organizing the monitoring of the educational process of students is crucial. The development and transformation of the conceptual models of the education system as a social institution, its constant functioning is also inextricably linked with the principles of organization and management of the education system as ways to achieve these goals. In turn, the functioning and development of the education system depends on social requirements, such as students' level of learning and development, self-improvement. Thus, the ever-increasing demands on the modern man, especially his creative and analytical ability, constantly (each time at a new stage) constantly update the problem of assessing the quality of education and human development. At present, this problem is very relevant, especially in connection with the transition of higher education to new educational standards. Existing approaches in the competency format in the assessment of the quality of education require updating in response to changes in the requirements for the quality of student training. It is well known that competencies are formed and manifested in activity and are evaluated according to its results. And this inevitably leads to the need to create new measurement tools and methods to assess the results of student learning activities (SLA-student learning activities). Many universities now use traditional forms of SLA results assessment, aimed at determining students' knowledge: 1) current, intermediate and final in the form of examinations and tests in the subjects specified in the curriculum; 2) protection of final and step-by-step combined qualification and educational work (periodic work, graduation work, competition, etc.). However, from the point of view of a competency-based approach, the object of monitoring

should be not only the scientific knowledge and skills, but also the main components of the competencies implemented in the SLA process. During this process, there are major methodological challenges associated with developing a system for monitoring, measuring, and evaluating the formation of students' analytical, general, and professional competencies.

At present, we use traditional and innovative forms of knowledge acquisition, assessment tools, modeling the future, competency-based education format for students - future mathematics teachers (SAMS- study activity of mathematics students) we are working on the problem of creating a science-based system of control over educational and practical activities. This article describes the main results of designing this system.

Under SLA monitoring we understand systematic diagnostic monitoring of the state of formation of the main components of SLA, including diagnostics of the formation of general cultural, practical and professional competencies of students in the educational process, information on the progress of this process. We provide continuous monitoring through a plash, processing, and analysis and storage system.

If we talk about the main stages of SAMS monitoring, then we construct a combination of preparatory, practical and analytical stages, which is reflected in the functional monitoring model presented in Scheme 1. At the preparatory stage, the following is done: definition of the goals and objectives of monitoring, didactic principles of its implementation; preparation of work program and monitoring plan; selection of data collection methods that provide a combination of quantitative and qualitative levels of data analysis; Develop or select appropriate monitoring tools for SAMS; at the practical stage - implementation of the SAMS monitoring model developed in the preparatory stage; at the analytical stage - processing of SAMS monitoring data, evaluation of analysis results, development of management decisions, recommendations and error correction measures.

We will create a monitoring model for the process of training a future math teacher. We will implement the developed SAMS monitoring system in the teaching of Algebra and Number Theory.

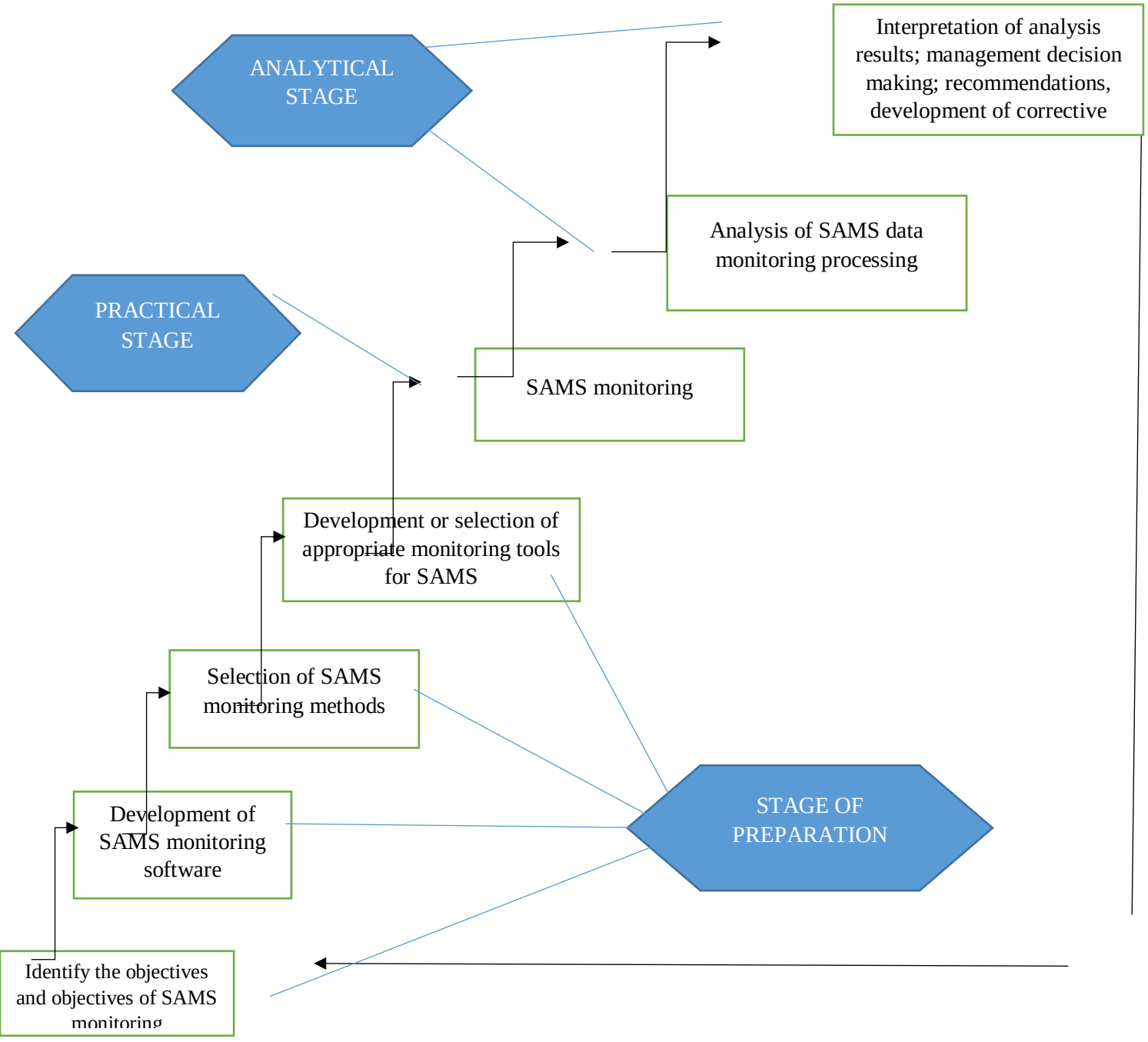
In the structure of SAMS monitoring, we distinguish three main parts: 1) entrance monitoring (performed in 1 semester); 2) continuous monitoring (2-7 semesters); 3) final monitoring (8 semesters).

For each monitoring unit, we develop competency-based assessment tools that allow for continuous monitoring of the SLA.

SAMS access monitoring

The main purpose of SAMS access monitoring is to diagnose students 'initial skills, identifying their strengths and weaknesses in first-year teaching, and the knowledge resources each student needs to develop and formulate certain competencies. Let's look at the main functions of access monitoring:

1) determine the reasons for entering the field of mathematics education; diagnostics of the professional and pedagogical orientation of the person (identification of interests, intentions, attitude to personal qualities of professional importance, determination of professional aptitudes, personal abilities of freshmen);
2) determining the level of school mathematics preparation of freshmen;
3) diagnostics of the formation of universal educational movements of the first courses (communicative, cognitive, regulatory).



1-the scheme. Functional model of SAMS monitoring in the process of teaching specialized Mathematical Sciences.

Based on the analysis of the data obtained, SAMS access monitoring determines the direction of work to improve the quality of teaching students. In addition, a general map of the general educational activities of first-year students and the future teacher of mathematics in terms of the formation of professional competencies among students during the educational process at the university will be mapped for further monitoring of SLA results.

Continuous monitoring of SAMS

Subsequent monitoring of the MSLA will be carried out as part of a modular evaluation system. According to the research, the overall ranking scores and the form of monitoring student activities are consistent with the approach based on portfolio competence.

At this stage, the main methods of SAMS monitoring will be in the traditional form: current and midterm examinations, tests, course work, teaching and pedagogical problem situations. The purpose of these processes is to assess the level of knowledge and ability of students. From the point of view of the holistic approach, the object of monitoring is not only the student's academic achievements, scientific knowledge and skills, but also the main components of the competence in the process of their formation SAMS.

At the same time, the diagnosis of competencies is a more complex process: the regulation of the educational process in higher education, the assessment of the quality of staff, textbooks and manuals, the development of relevant regulations on the basis of state educational standards, their structure meaningful models and diagnostic maps need to be developed.

We carry out the diagnosis of competence formed on the following indicators: cognitive (knowledge in their field applied to professional activity and knowledge in the field of methods and directions of activity in this field of competence), practical (skills, abilities in the field of competence) and mastery of methods, as well as the necessary experience of students to work within the competence), axiological (attitude to the activity in the field of competence and its consequences); and we distinguish three levels of formation of professional competence: basic, effective, and creative.

Thus, SAMS continuous monitoring is carried out in two main areas:

1) constant control over the quality of teaching students at the university in specialized disciplines (carried out within the module-rating education);
2) Assess the development of elements of professional competence in the SLA process.

Continuous monitoring of the SAMS provides diagnostics, systematization and comparison of data obtained during its implementation, which allows you to track and record the achievements of each student in their professional development.

Final monitoring of SAMS

The final monitoring of MSLA will be held in the last (8) semester in the following areas:

1) final assessment of the level and quality of training of students in the relevant subject;
2) diagnostics at the level formed by the professional competencies of students.

As part of the work in the first direction, the general results of the student's rating book are summarized, the results of state exams are analyzed and the results of the work of the State Attestation Commission for the defense of graduate work are analyzed. The final diagnosis, created by the professional competencies of students, is carried out in accordance with previously developed programs for continuous monitoring. It should be noted that the diagnosis of the level of professionally oriented mathematical knowledge, skills and methods of activity, as well as specially developed problem situations of a professional nature are carried out by students in the final state exam based on the results of analysis.

All SAMS monitoring results form the basis of each student's achievement portfolio. Thus, as the organization of learning activities develops, the portfolio is supplemented by the student's achievements in order to acquire the skills and competencies necessary for a successful career and academic career. Today, a high-quality portfolio remains one of the most important tools for access to master's and doctoral programs.

In summary, the proposed approach to monitoring the educational activity of students is to provide constant, objective and timely information about the level of preparation of students in the specialty, the quality and robustness of the acquired knowledge, skills and methods of work. allows you to get; allows you to monitor the dynamics of the development of professional skills during the period of study at the university. Thus, the quality of students' professional training is constantly monitored.

References

1. Bo'lajak matematika o'qituvchilarida kasbiy kompetentlikni shakllantirishni nazariy asoslari. S.Y.Temurov. Toshkent-2014.
2. "Олий таълимда математика фанларини ўқитиш методикаси" Тошкент-2016
3. "Standards for preparing teachers of mathematics writing team". San Diego State University-2017
4. Designing effective monitoring and evaluation of education systems for 2030: A global synthesiss of policies and practices UNESCO Education Sector January 2016