

IMPLEMENTATION OF ELECTRONIC MONITORING SYSTEM IN THE PROCESS OF RETRAINING AND PROFESSIONAL DEVELOPMENT OF PEDAGOGICAL STAFF

Shoymardonov Tuymurod Turdialiyeich
Head of the Scientific and Methodological Center
UZBEKISTAN

ABSTRACT

The article highlights the essence of monitoring as a basis for foreseeing the development of professional skills and processes of upgrading the skills of teachers working in higher educational institutions. There are given types, objects and methods of monitoring teachers' professional development and competences. Possibilities of electronic monitoring system, as an innovative technology that enables to fulfill the descriptive, corrective and predictive functions of quality management in the system of upgrading teachers' professional skills as well are described here.

Keywords: Professional development, retraining, information-communication technologies, electronic monitoring system, e-portfolio.

INTRODUCTION

Amplify the cooperation with the most prestigious universities in the world, holding various forums and conferences with the participation of foreign experts, the mutual exchange of experience, of course, will also serve to improve the knowledge and skills of teachers of our higher schools. The Decree of the Cabinet of Ministers of the Republic of Uzbekistan №25 dated February 16, 2006 "On further improvement of the system of retraining and professional development of pedagogical staff and the Resolution of the Cabinet of Ministers №278 dated September 26, 2012, «About measures on the further perfection of system of retraining and improvement of professional skill of the pedagogical staff of the Higher and Secondary Specialized educational establishments» which aimed at reforming the system of retraining and professional development of teachers of higher educational institutions set objectives to further improve the quality of teacher training and improving their skills, develop the educational-methodological and information support.

The Decree of the President of the Republic of Uzbekistan "On measures to further improve the system of retraining and professional development for administrators and pedagogical staff of higher educational institutions", adopted on 12th June 2015 №4732 is a solid basis for a fundamental modernization of the system of retraining and professional development for administrators and pedagogical staff of higher education institutions. For a ensure that this system does not have analogues in the world, in the context of globalization it will inevitably need to meet the modern requirements of professional competence of administrators management and pedagogical staff of higher educational institutions.

DISCUSSION

In the process of retraining and professional development one of the most important tasks is the training of students at the level of modern requirements, improving necessary knowledge, skills and qualifications for the fruitful use of modern pedagogical and information-communication technologies. From this point of view, the development of methodological and practical bases of

the development and application of modern pedagogical and information-communication technologies by students, the definitions of perspective directions, as well as the monitoring of training and professional activities of pedagogical staff, became important. This is due to the fact that the quality of the processes of training today is connected with the rapid pace of implementation into practice the information-communication technologies. In the scientific sense, methodical approaches to modern educational technologies enable dynamic form of professional skills among students and outlook, create the basis for a rapid and lasting assimilation of modern knowledge.

Based on the above, the formation of e-training process of monitoring and professional development of teachers is considered in a number of topical issues. Creating such a system serves for the realization of precise criteria, which characterize accordance of pedagogical and didactic principles with the requirements of the professional development of students. Electronic monitoring system provides: high motivation of the trainee; the direction of the person to achieve this goal; high communication skills; correcting their own mistakes, the desire for self-development; accordance of educational information with internal personal needs of a student.

The electronic monitoring system highlights the conduct of comprehensive monitoring of diagnostic performance changes of listeners, having advanced features. Thus, this system allows a free choice of information received for specific activities and the use of graphic principle of individual education of a student in the process of professional development.

The organization of monitoring conducted in the electronic monitoring system at the beginning and at the end of the listening courses on the basis of on-line tests to determine the level of knowledge serves primarily to determine the quality of teaching in the system of retraining and professional development. Based on various criteria and approaches to the final knowledge and skills of students, obtained in the process of training, one can control the real accordance of the information technologies used in this process with didactic requirements.

Incompleteness of didactic orientation and system, the monotony of the means of conducting and the imperfection of monitoring and evaluation criteria are recognized as the lack of professional activity of teachers and the organization of the system for monitoring of professional development process.

Forms and methods of monitoring, as such, have not yet been the subject of special scientific research and systems analysis; insufficiently developed methodological and methodical basis, as well as scientific approaches to determine the quality of the system of professional development on the basis of a permanent collection and statistical processing of the results. The conclusions made on the basis of such estimates do not allow us to compare the parameters of the objects under research.

Electronic monitoring system of retraining of teachers of higher educational institutions, enhancing their skills and professional activities allow to: determine the results of educational programs; to develop recommendations for the use of new educational technologies; organize monitoring of the quality of educational training processes; systematize the results of professional work of teachers who have passed training courses; prioritize the development of educational system [2,108].

The above allows us to consider the development of electronic system of monitoring of retraining, professional development and professional activities of pedagogical staff as actual scientific and practical problem.

ACKNOWLEDGEMENTS

Today, at different stages of education, several attempts were made to create pedagogical monitoring systems, various aspects of pedagogical activities were investigated. The great interest in this field indicates a number of articles and monographs (Adam Swinyard¹, Niall Marriott², J.D. Willms³, Э.Н. Рычихина⁴, Е.А. Семина⁵, А.Н. Майоров⁶, В.И. Вовна⁷, Н.Ф. Ильина⁸). Analysis of pedagogical researches (Vorontsova, 2012 Vvedensky, 2013) leads to the only conclusion about the actuality of this problem.

Most researchers consider monitoring in the context of the management process, since it is considered one of the main necessary means of collecting the reliable and timely information to manage each system (Moksheev 2014, Kazakov, 2012). Accordingly, the purpose of monitoring, regardless of its type or object, is always linked with the provision of information for making key management decisions. So basically, the researchers recommend monitoring be considered as one of the types or stages of operational management (Mozgarev, 2004).

METHODOLOGY

One can specify the following reasons, adversely affecting the efficient organization of the monitoring process of retraining and professional development of pedagogical staff and their professional activities:

- insufficient focus on retraining and professional development of pedagogical staff, as well as integrated monitoring of professional activity;
- Lack of development of methodological systems and software for the implementation of retraining and professional development of pedagogical staff, as well as integrated monitoring of professional activities on the basis of information and communication technologies.

The urgency of the problem of the creation and implementation of methodological reference system with the theoretical sources, the study of the activities of institutions for retraining and professional development of pedagogical staff, the analysis of experiments and monitoring to improve the skills and professional development of pedagogical staff, as well as the lack of proper pedagogical research is the source of a number of pending issues.

Actuality: Currently professional development is been implemented and directed in the form of systematic work on training in specialized educational institutions for professional development. The mechanisms that take into account other forms of independent type of professional development (self-study, participation in scientific conferences, holding open training sessions,

¹ Adam Swinyard Organizational monitoring systems and student academic achievement. Dissertation, Doctor of Education. – Seattle Pacific University, 2015. – 136 p.

² Marriott N., Goyder H. Manual for Monitoring and Evaluating Education Partnerships International Institute for Educational Planning. Paris. 2009. – 114 p.

³ Willms J.D. Monitoring school performance: A guide for educators. Washington, DC: Falmer Press. 1992

⁴ Рычихина Э.Н. Мониторинг как общая функция управления. Монография // Ухта: УГТУ, 2008. – 140 с.

⁵ Семина Е.А. Мониторинг профессионально-профильных компетенций студентов – будущих учителей математики как средство повышения уровня их математической подготовки. Дисс. кон. пед. наук. – Красноярск, 2014. – 229 с.

⁶ Майоров А.Н. Мониторинг в образовании. – М.: Интеллект-Центр, 2005 – 424 с.

⁷ Вовна В.И., Короченцев В.В. Мониторинг качества обучения как важнейший инструмент управления образованием // Инновации в образовании. 2005. № 5.

⁸ Ильина Н.Ф. Мониторинг процесса профессионального становления педагога, занимающегося инновационной деятельностью // Стандарты и мониторинг в образовании. 2009. №2.

training, creative leave for defending doctoral thesis or preparing a textbook, study guide), have not been developed.

In the condition of widespread use of information and communication technologies, the improvement of the creative capacities of pedagogical staff through the full realization of all forms of professional development becomes an urgent task.

In our opinion, the development of the capacity of teachers in the process of continuous training allows them to use their own forms of training, and constantly update their knowledge and skills in the process. Thus, the figures obtained in the process of self-training, allow us to determine the optimum and necessary ways of improving the creative potential. In the process of continuous training for the improvement of the creative potential it is considered advisable to exercise self- defined scientific and educational activities, the formation of the necessary information competence.

In the process of retraining and professional development through information and communication technologies the ability is increased to train for self-learning, self-education and self-improvement, creativity, the ability to self- search for information and new knowledge, application of knowledge in practice are developed. So, the trainees have an opportunity to develop communicative competence, the ability to self-representation, to have variability (there is an opportunity to get acquainted with an effective mechanism for the implementation of pedagogical functions), to create the conditions for full independent work, turning their knowledge into an active participant of the process of self-perfection, self-education, to increase mobility in rapidly changing conditions.

As is well known, in retraining and professional development courses a teacher improves his or her professional skills, he or she gets a new theoretical and practical knowledge. Professional development courses objectives include the improvement of professional skills of the teacher, assistance in applying innovations in the educational process, introduction of new information and methodological support into educational processes, support in determining the content of self- training and others.

It is considered to be important for a teacher to focus on continuous professional-pedagogical self-improvement, for in this way the teacher determines the goal, forms, tool, and individual trajectory of their professional growth. The degree of professional competence of the teacher is considered to be one of the factors that have a major impact on the efficiency and appropriateness of the educational process in dynamically changing conditions, ensuring the quality of innovation activities and, finally, the educational process. Creation of pedagogical conditions for the manifestation of the intellectual potential of students is directly related to the interaction and cooperation with the teacher, as well as the specific forms of direction.

Under this condition, the educational process in the retraining and professional development courses, as well as the monitoring of continuous professional development becomes fundamental in determining the competencies of pedagogical staff and improving the process of professional development. In this regard, monitoring is the main means for receiving information, one cannot represent adequate, the real definition without it. In these circumstances, the importance of monitoring and directions of scientific approach to its implementation are determined.

Organization of monitoring of continuous improvement of the listener's qualification serves to define the quality of the full implementation of forms of professional development that is the definition of the status of professional activity of pedagogical staff and on the basis of its

improvement, effective management of these processes. It is possible to determine the outcome of knowledge and skills of students, based on various criteria and approaches in an independent professional development, to apply in the process the information and communication technology, to control the accuracy of their compliance with didactic objectives.

In our opinion, evaluation of the process of continuous education on the basis of indicators of e-portfolio, unlimited to determining the performance level of the listener, has a profound effect on the personality of the listener, as an important educational tool and positive motivator in encouraging the process of professional activity. Thus, on the basis of an objective evaluation of a listener there appears an opportunity to an adequate self-evaluation and noted the formation of a critical attitude towards their achievements. From this perspective, the electronic system of evaluation of knowledge and skills of students, and especially the control of knowledge, in order to improve efficiency requires continuous research and improvement.

With the help of an electronic portfolio the capabilities of system analysis of application in practice of all forms of professional development of teachers are formed. Thus, the introduction of an electronic portfolio system creates important conditions for consistent development of the creative potential of teachers, creates opportunities for a differentiated approach to organization of the process of training of pedagogical staff in specialized professional development institutions.

System integration of the educational process with the information and communication technologies is considered one of the important directions of development of the system of professional development of teachers. Thus the organization of the educational process of training and fundamental renewal of its content, organization of pedagogical activities and the process of education in the field of information and communication technologies are presented as a strategic objective.

In our opinion, the direction of development of information processes of continuous professional development of pedagogical staff is directly related to the creation of educational-information environment by combining a variety of information resources. In terms of creating this environment, first of all, it is necessary to organize informatization of professional development institutions, i.e. the networking of all educational, administrative and economical services, libraries and administrative departments, creating conditions for them to access the Internet, control training processes in the institution, organizing electronic exchange of documents, organization of self-education of students through the creation of special educational and methodological complexes based on information technology and other tasks. At present to fulfill this task it is possible to organize the use of information and educational resources by using portal technology. The use of information and communication technologies in the learning process is considered as an important direction of development of united information-educational environment of the system of retraining and professional development of teachers. Information facilitates the use of information and educational resources. Creation of an educational and information portal helps logical ordering and systematization of information.

Along with appropriate content of programs the information and educational resources should provide tasks to ensure the formation of skills and abilities of students, to determine the amount of knowledge to be assimilated, presenting them in a certain logical system in accordance with the principles of organicity and continuity, and, finally, the principle of the systemacy. To ensure the effective development of informatization process it is necessary to give sufficient attention to the formation of an information infrastructure.

In our opinion, the direction of development of information processes of continuous professional development of pedagogical staff is directly related to the creation of educational-information environment by combining a variety of information resources.

As is well known, in the process of retraining and professional development the professional skills of the teacher is been developed, new theoretical and practical knowledge is been provided. Development of professional skills of teachers, introducing them to the new normative and legal documents connected with the sphere of education, assistance in determining the content of self-training, helping teachers in applying innovations in the learning process, etc. are parts of problems of re-training and qualification improvement training courses.

It is considered to be important to focus a teacher on continuous professional-pedagogical self-perfection, so the teacher determines the goal, forms, means, and individual trajectory of his or her professional growth.

The degree of professional competence of the teacher is considered to be one of the factors that have a major impact on the efficiency and appropriateness of the educational process in dynamically changing conditions, ensuring the quality of innovation activities and, finally, the educational process.

Under these conditions, monitoring becomes the main characteristics of the processes for the development of professional skills and retraining of teachers. In this regard, monitoring is the main means for receiving information, it is impossible to represent adequate, the real definition without it. Under these conditions, the importance of monitoring and directions of scientific approach to its implementation is revealed. In our opinion, the following monitoring tasks can be identified:

- collection of reliable and objective information on the object of monitoring;
- the formation of the corresponding database;
- system analysis and evaluation of the obtained data;
- the provision of information to the relevant educational authorities;
- preparing recommendations on organization of activities in the field of monitoring.

Reducing the time of data processing with a sharp increase in its volume is considered an important task for determining the structural indicators of monitoring system of retraining and professional development of pedagogical staff. The system of retraining and professional development aiming at increasing the quality of education can be considered as the level of compliance with the objectives defined on the basis of qualification requirements and expected results of subjects of the educational process. Monitoring ensures the collection, processing, storage and transmission of information, allowing to receive accurate information about the state of the educational process, determine the state of the object, make educational decisions and determine its development.

Improving the quality of education in the system of retraining and professional development of pedagogical staff creates certain difficulties associated with the peculiarities of the educational process. The educational process (evaluation of the educational program of courses) and its implementation (evaluation of the educational process in accordance with the recommended settings: motivation of educational achievements, innovation of educational content, methods and properties of forms of teaching, organization of self-organization, the nature of relations between subjects, personal needs); results of education, professional competence and professional activities of the teacher, as well as the results obtained in teaching students are

considered to be direct object of evaluating the quality of the educational process in retraining and professional development of teachers.

From a practical point of view, a comprehensive evaluation of the quality in a modern monitoring system can be used as means of analysis and management of quality of retraining and professional development of objects. In our opinion, electronic monitoring is the systematic identification of qualitative and quantitative characteristics of the effectiveness of the educational process, including the objectives, content, forms, methods, didactic and technical means of learning and the use of modern information and communication technologies.

Electronic monitoring system of the process of professional development and professional activities of teachers of higher educational institutions allows to determine the results of educational programs, clear directions in the development of recommendations on the use of new educational technologies, organization of monitoring of educational process in professional development, ordering the results of professional activities of teachers who have passed professional development courses, providing the quality of educational processes.

The main problems to be solved during the execution of monitoring of the implementation of retraining and advanced professional development programs are [1,143]:

- developing criteria to form an objective picture of the state of professional development, quantitative and qualitative changes;
- analysis and systematization of obtained information on the status and development of professional development and professional activities of teachers;
- development of management solutions and information provision for the analysis and forecast of the state and development of the educational process of professional development.

The proposed electronic monitoring system provides the implementation in three stages: at the beginning of attending professional development courses by students, after finishing the program of professional development and subsequent professional career. Entrance online tests allow forming a group of first-level degree of preparedness of students. Graduation online tests at the final stage of the study allow us to preliminary findings of the final results of the educational programs for professional development. The results of professional activities are also included in: open class, the number of published works, the results of progress of academic groups and others.

Retraining and professional development courses make it possible to analyze educational processes of the electronic monitoring of educational activity of students of retraining and professional development courses from which you can get information on the following parameters:

- monitoring of the contingent of listeners. Here you can get the data by month on the contingent stipulated in the plan and on the fact of the system;
- monitoring of listeners in the context of higher educational institutions, interim and final parameters of contingent on each higher educational institution are provided;
- monitoring the participation of students in the classroom, giving the opportunity to obtain detailed information on the behavior of students in classes;
- monitoring the progress of listeners, information about the results of the entrance and final online tests, scores obtained in the course of presentation of qualification works;
- monitoring of the professional activities of listeners after passing professional development courses, electronic database of educational, methodical, scientific, organizational and methodical activities of teachers of higher educational institutions are formed.

Conducted researches have shown the presence of the possibility of determining the effectiveness and efficiency of professional development courses in the electronic monitoring

system, monitoring the professional development of teachers. Easy and effective system of electronic monitoring of professional development and professional activities of teachers can quickly collect data about the true state of the learning process and its results, process them and make the appropriate conclusions.

Monitoring of professional activities of the teacher after professional development courses allows to implement methods of diagnosis and, thus, identify the organizational and pedagogical conditions of enhancement of professional development courses, firmly indicate the problem and effectively manage the quality of education.

RESULTS

In results of our research, web site www.bimm.uz was created in order to improve the retraining and the professional development process of pedagogical staff, the creation of united information and methodological support, organization of monitoring professional development processes.

The “www.bimm.uz” portal – united information and educational web portal which provides an open system of information-educational environment (opportunities) for communication between the main scientific and methodological center and institutions of retraining and professional development of pedagogical staff of higher educational institutions, access to various information resources, improving information and modern educational technologies.

The monitoring system in the portal covers not only the indicators of the educational process of students in the branch centers, but also their professional and educational activities after the professional development courses. The results of entrance and final online tests of the listeners, attendance, obtained scores on the presentation of qualifying work are been collected in the specially created database.

The pages of regional and branch centers are been managed by the respective administrators. Administrators input personal data of listeners in each direction, their attendance by day. At the end of the course the theme of work and qualification points obtained in its defense, the number of confirmed certificate or diploma are been introduced, if the listener has been excluded, the exclusion order number. For listeners to access into the system, a login and password are generated (*fig. 1*), also using the login and password by visiting their pages, students pass the entrance and outlet online test for the time set by the system. All this information is been collected in united database.

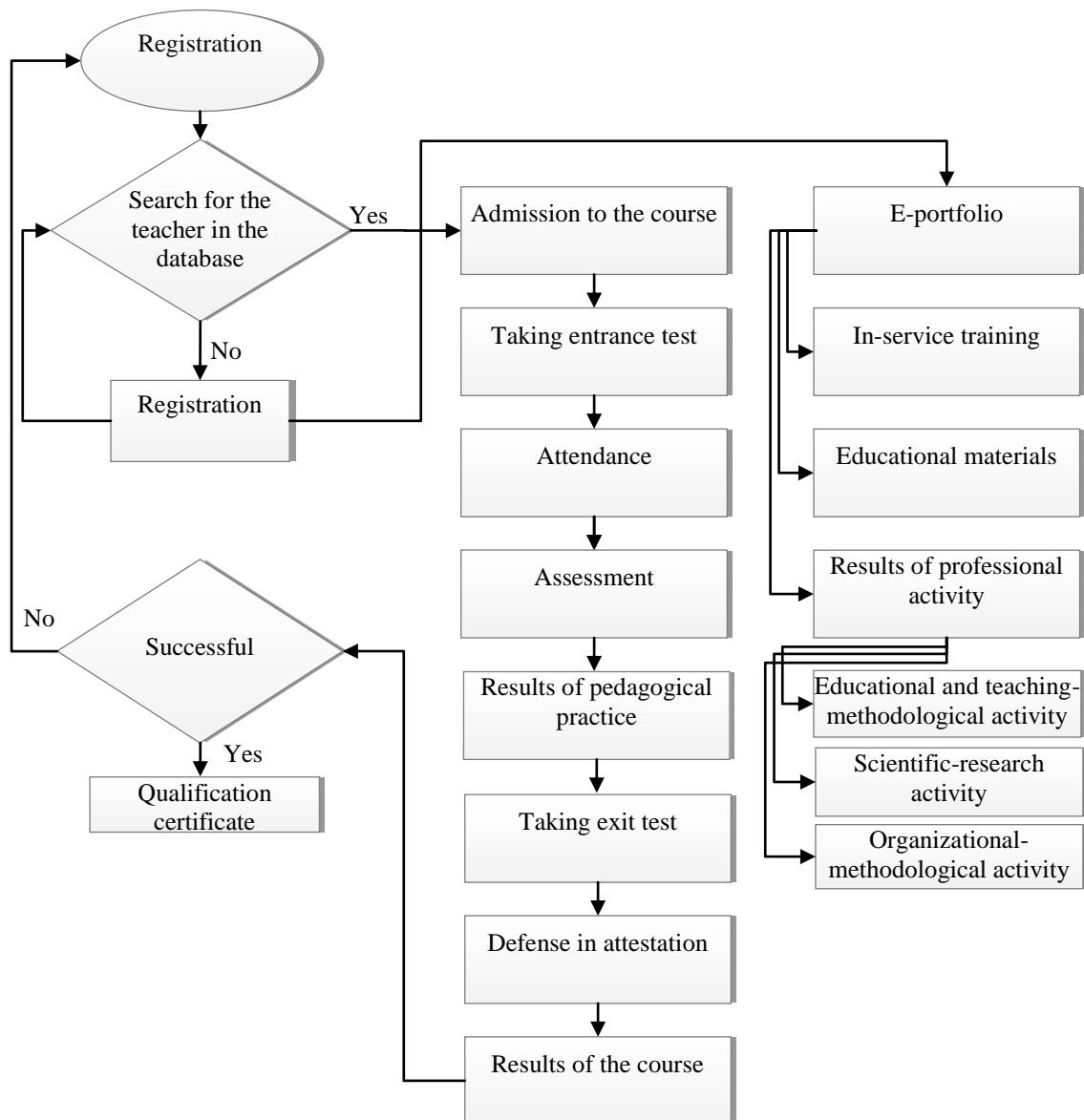


Fig.1. Scheme of admission to the course

On the basis of the database, the monitoring system analyzes the information on the processes of professional development of pedagogical staff.

Login is only possible for persons admitted by the order to the regional and branch centers. That is changing, deleting or adding information is impossible. This system provides the results of visits to the portal (<http://markazlar.bimm.uz>) by regional and branch centers in the form of graphs and tables.

One of the features of the system is to monitor the results of the professional activities. In this case, the results are been collected on the basis of the data entered in the private portfolio of a listener.

According to our research, the recommended portfolio is been formed as a system that allows registering, along with the professional progress of the teacher, the results of resource related to the organization of his or her educational activities, receiving of materials by students, control tasks for the discipline, as well as the acquisition of knowledge by students.

In this process it is advisable to organize the following activities to create an electronic portfolio of teachers: firstly, a software platform of portfolio of teachers is created and all teachers become familiar with its capabilities; secondly, accommodation for the software platform formed professional data on teachers and educational resources are organized; thirdly, the establishment of a permanent, continuous activities, ensuring constant updating of resources, organization of special inputs for the users in order to provide information security of an electronic portfolio.

Based on the foregoing, the software platform "Teacher's portfolio" as part of the portal of the Head scientific and methodological center for the organization of retraining and professional development of head and pedagogical staff of higher educational institutions under the Ministry of Higher and Secondary Special Education was developed and implemented in practice.

The objective of this platform is to input united centralized portfolio of pedagogical staffs of higher educational institutions, provide an opportunity to obtain the results of their professional activities and the creation of educational resources in the relevant disciplines, as well as the organization of complex monitoring of educational activities.

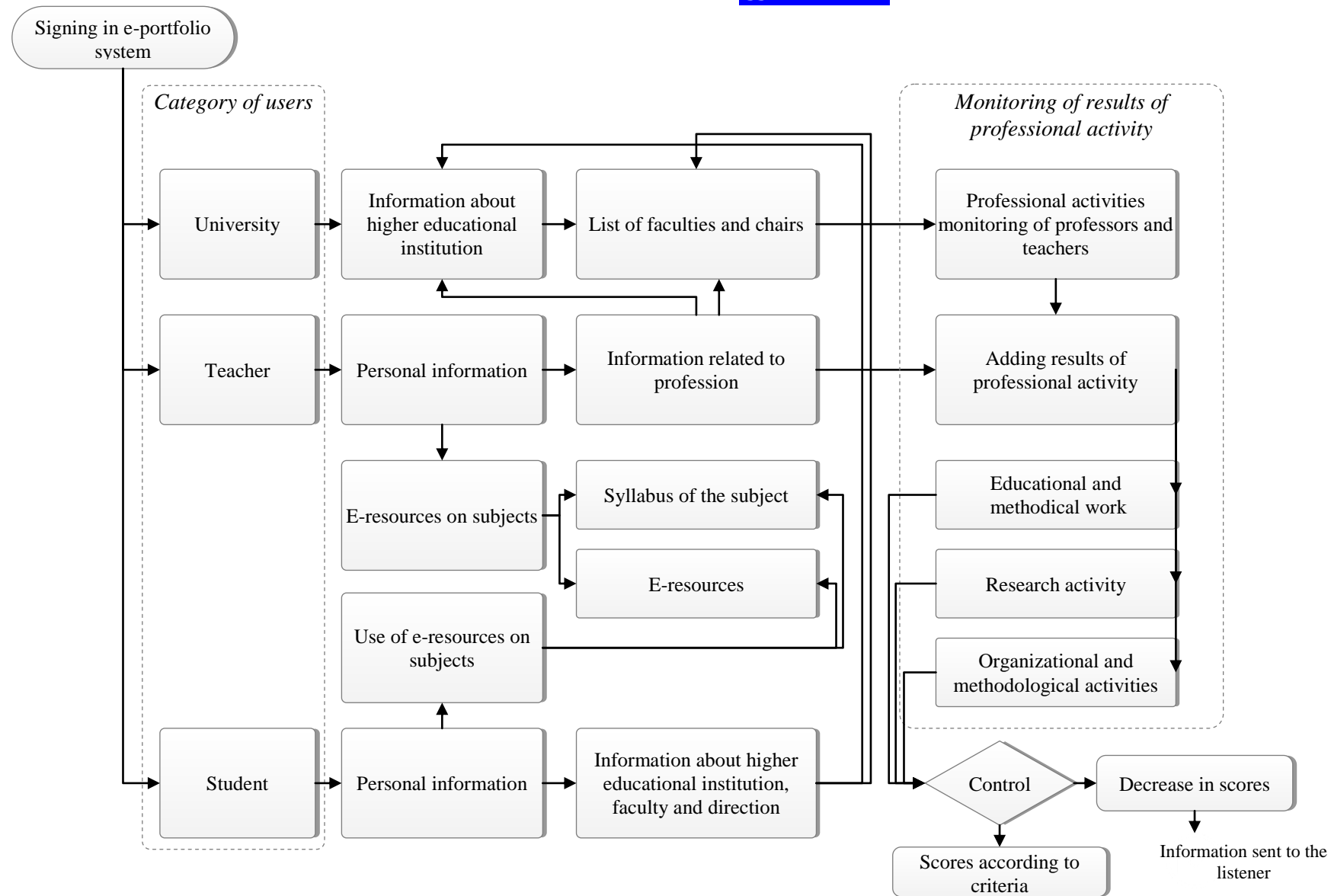


Fig.2. The structure of e-portfolio

Portfolio consists from three parts:

In the first part, there will be information related to the process of raising teacher qualifications. This information is not been entered by a teacher. It is been automatically collected in the process of forming database of teachers who are registered as students in regional and branch centers of retraining and professional development of pedagogical staffs of higher educational institutions. These details include the listener's profile, his or her attendance, the results of the entrance and final online tests, the theme of qualifying work and points received on its presentation, missed school hours, numbers of obtained diplomas, certificates or references, etc.

The second part of the portfolio highlights the professional activities of the teacher, the information in this section periodically introduced by the teacher in the relevant sections of their private office on the basis of a given username and password.

This information is been divided into basic and advanced. Basic information consists of the following sections, reflecting the achievements in professional activities of the teacher:

- Educational and methodological activities;
- Research activities;
- Organizational and methodological activities.

In the third part of the portfolio teachers enter and edit information on the composition of syllabus and educational methodical complex in their disciplines.

Thus, the portfolio system in higher educational institutions has their offices, giving them the right to log in, enter and edit information about faculties and departments. In addition, the universities themselves can also track data on the professional activities of the pedagogical staff, as well as the cooperation of the pedagogical staff with the students.

CONCLUSION

Based on above mentioned, the electronic portfolio is particularly important in monitoring the professional activities of pedagogical staff, dissemination of advanced pedagogical experience, the organization of virtual communication of teachers and students, the effective use of educational resources. In addition, the teachers have an opportunity to present and analyze relevant professional results, as well as the information collected in the portfolio is been formed as a professional teacher certificate.

Based on the above constant, monitoring of professional development and professional activities of the pedagogical staff of higher educational institutions is conducted, also the quality of professional development processes is improved, that is, a feedback system is formed.

REFERENCES

1. T.T.Shoyardonov Oliy ta'lim muassasalari pedagog kadrlarining malakasini oshirishi va kasbiy faoliyati monitoringini olib borishning elektron tizimlari // Ilmiy axborotnoma. – Samarqand, 2015. – № 1. – 143 p.

2. U.Sh.Begimkulov «Uzluksiz ta'lim tizimida pedagog kadrlar malakasini oshirish va kasbiy faoliyat monitoringini tashkil etish mazmuni» // Uzluksiz ta'lim. – Toshkent, 2014. – № 6. – 108 p.

3. Трапицин С. Ю. Мониторинг качества высшего образования // Экология человека. – Архангельск, 2009. – № 9. – 17-23 pp.