

VI International Forum on Teacher Education

Development of Competencies among High School Teachers: Main Directions

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Abstract

The timely character of the research depends on high pace processes, taking place in educational system, necessity of developing competencies among students. Teachers of higher educational institutions should possess a range of new skills and qualities.

The aim of work is to find and classify new pedagogical competencies, which are formed under new conditions. That's why the competency approach can be considered as a leading methodological foundation.

Three groups of forming competencies are defined in the article. The first group is connected to the advanced training for high school teachers in terms of psychology, pedagogics, didactics, common and specific methods. It includes good command of methods and teaching techniques for different categories of students, usage of active and interactive forms of work.

The second group is connected to the training on information and communication technologies and embraces skills in distance learning, creation of special web-sites, generation of academic audio- and video- materials, usage of online platforms.

Finally, the third group consists of special professional competencies, also competencies in the spheres interconnected with its topical areas, which allow to form the cohesive outlook among students and teach them how to apply the acquired knowledge. Knowledge about genesis and development of competency notion also refer to this group.

The practical importance of the obtained result is entailed in structuring the tasks of informal self-education and creation of an individual plan for the development of professional competencies among high school teachers.

Keywords: competencies, advanced training, informal education, high school, professors, teaching technique, information and communication technologies.

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Published by Kazan federal university and peer-reviewed under responsibility of IFTE-2020 (VI International Forum on Teacher Education)

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Introduction

The modern stage of human society development is characterized by the informational globalization, increasing role of flexible skills. The growth of information streams, change in the technologies lead to the necessity for the development of adaptability, problem solving skill, critical thinking, emotional intelligence, time-management skills, and other professional competencies. The educational system felt these global tendencies in full measure. Also, interdisciplinarity trend, educational market globalization, mass character of higher education - have the significant impact on the model of tutition.

The speed of changes in modern world lead to the shift of educational paradigm. The concept of continuous education is oriented on creation the optimum conditions for developing human capabilities during the whole life.

Now the task for higher education systems is to prepare students for activities in a rapidly changing world, to form the ability and readiness to constant retraining. As universities should become the breeding ground for new economy, the requirement of advanced training during the whole life is relevant for higher education institution professors. The changes are taking place in the society, in higher education system and requiring the pedagogical competencies which have not been in high demand in an industrial epoch.

Purpose and objectives of the study

Higher education of postindustrial world requires professional competencies, different from the ones that were relevant during the last historic epoch.

However, these competencies haven't yet properly formed, that's why there are some contradictions between a need in scientific and pedagogical staff of new type and an available high school teacher with systematic and technical knowledge. This problem is getting worse because high school teachers must acquire new competencies for multiple directions at the same time.

It's easier to resolve a set of problems if the field is structured. That's why, the issue of informal retraining of teachers within the process of pedagogical activity is easier to consider if the existing tasks are systemized.

The aim of the work is to identify and classify the relevant areas of continuing education during the teaching process.

Literature review

The significant number of scientific works in pedagogics is connected to the formation of diverse competencies among students either during the educational process or out of it. For example, the following work (Stromov et al., 2018) is devoted to the "School of competencies" project, which allows students to gain additional competencies in law, business organization, scientific research. Also according to the research (Efimova et al., 2019) the majority of Russian students are not involved in the programs of additional education. In the article (Shafranov-Kutsev & Efimova, 2019) the acquisition of information competency, adaptability and problem solving skills are considered in the context of youth competitiveness. The paperwork (Pechnikov et al., 2018) is devoted to the process of formation of special competencies. According to it, the factors, which influence the final results, including students' peculiarities and character of didactic systems with regard to the level of leaning and aptitude for learning, should be taken into account.

There are several studies aimed at developing the professional competencies among teachers. The following works (Panov & Selezneva, 2019; Drugova, 2019; Noskova et al., 2018; Smolyaninova & Popova, 2019) are devoted to the separate components of pedagogical competence. In the following research (Panov & Selezneva, 2019), the pedagogical competency can be defined as the ability of a teacher to achieve perception of educational material by students. The study (Drugova, 2019) is devoted to the analysis of experience of the leading universities in the United States and Europe. The article describes the main ways of increasing professionalism in education fields. It includes the development of transforming, self-directed and other types of modern learning. The article (Noskova et al., 2018) is devoted to the professors' competencies for the use of information and communication technologies in the educational process. It is noted that Russian and foreign teachers have similar competencies in the use of information resources. But the frequency of their use is higher in western countries. The following research (Smolyaninova & Popova, 2019) is devoted to competencies in the field of mediation. There is a gap between the development needs of society among teachers and the real level of their formation.

Some works are aimed at studying the structure of a pedagogical competency. For example, such aspects as special (in the field of taught discipline), social-psychological, autopsychological are highlighted in (Ziganshina et al., 2018).

The research (Inozemtseva et al., 2019) explains the necessity of a pedagogical competency profile for the description of qualification requirements. Also, the understanding of competency structure allows to define the directions of professional training when organizing the advanced training courses.

Some of the works describe the formation of competencies in relation to different categories of people, connected to the educational systems. So according to (Zhdanov et al., 2019) it is stated that the rectors of leading foreign universities have more experience in scientific research, administration of business enterprises, scientific and educational institutions compared to Russian colleagues. On the other hand, the process of forming the professional competencies among students of pedagogical universities is described in the following works (Golovanova et al., 2019; Ma, 2019). The article (Golovanova et al., 2019) characterizes the way for determining the level of competencies and identifying the problem zones with regard to the masters' teaching practice reports. The research (Ma, 2019) is devoted to the design and implementation of distance learning education for teachers. The article (Sharlanova, 2018) describes the model of teaching and career development for pedagogical staff based on their strong sides. The adaptability to new requirements for competencies among university teachers is researched in the following article (Shuklina et al., 2020). Contrary to the popular belief it's agreed that age is not an obstacle for activity in the changing conditions.

The analysis shows that the formation of competencies among students is researched only in modern literature. The question of competencies development, which is necessary for teachers working in the new conditions, was not developed enough.

The directions of informal training for university professors was not researched substantially.

Methodology

Competency-based and systemic approaches compose the methodological baseline of the study. The competency-based approach is manifested by the identification of poorly formed skills in the educational and methodological activities of teachers. The application of a systematic approach is due to the fact that we are considering the whole complex of interrelated pedagogical competencies that can lead to an increase in the level of training.

During the research, empirical methods such as observation, conversation with teachers, and a review of modern scientific pedagogical literature were applied. The obtained empirical data were processed by means of a number of general scientific theoretical methods: analysis, synthesis, generalization, classification.

Results

Let's consider the main directions of advanced training for high school in connection with a change in training goals and teaching conditions.

Development of methodological competence

1) Teaching methodology

Transition to mass higher education is one of the global trends in modern education. More high school graduates are admitted at Universities nowadays.

The role of teaching methods was not so great in the period of elite higher education. Now when students with average knowledge enter higher educational institutions, a professor should be able to make sure the majority of students understand and learn the complex material. In addition, the role of motivation to learning and the role of assessments, formation of skills and developing competencies, has increased. Thus the necessity of advanced training, qualification upgrade in developmental psychology, pedagogics, didactics, general and private methods in the context of mass education is inevitable.

2) Methods of active and interactive education

Nowadays the tasks of creating universal and professional competencies, ability to apply the acquired knowledge, development of a consistent, project and critical thinking, increase in students' motivation to the educational process are relevant.

Therefore, a teacher should possess certain methods of active and interactive learning, usage of innovative organizational methods for effective independent work among students combined with the methodology of traditional teaching methods.

3) Methods of correctional pedagogics

Another modern trend is an accessible educational environment for all citizens, including people with disabilities. However, the methodology of teaching young people with visual, hearing, and musculoskeletal disorders is significantly different from the methods of working with students without disabilities.

We also need special knowledge about how to teach students of this category, we need to treat students attentively and with individual approach.

Consequently, at the present stage, high school teachers should be familiar with bases of correctional pedagogy.

4) Ways to bridge knowledge gaps

Because of the globalization of the educational service market, a significant number of foreign students choose Russian universities. During the transition period, this fact led to a number of problems. Firstly, secondary school programs in different countries are different. A lot of international students experience difficulties with the mastering of educational material because they don't know the concepts and facts on which it is based. Moreover, there are differences in the names and notations. This refers particularly to students from foreign countries.

Secondly, some international students have an insufficient level of school training, a low degree of educational skills. The current situation leads to the necessity of considering the gaps in knowledge, skills and abilities of this category of students. Before, this form of pedagogical activity was a high school feature. At the present stage, university teachers are gaining experience in correction of academic results.

Information technology skills development

The roles of students and teachers have changed in the information-oriented society. The teacher is no longer the only source of knowledge. Nowadays his task is to help a student with organization of a search process, selection and acquisition of knowledge. To implement this new function, it is necessary to learn a number of methodological and technical competencies.

1) Distance teaching

The representatives of Generation Z are prone to virtual reality and visual perception of information. These peculiarities imply new challenges, new opportunities.

The method of distance learning, including the "flipped classroom" is promoting the development of critical thinking because students are supposed to seek, perceive and estimate information by themselves.

Moreover, such a method of academic activity enables the development of personal independence, responsibility, forms of project-oriented thinking and problem-solving ability.

Taking into account the huge developing potential of distance learning, we can draw a conclusion that modern teacher should always improve IT skills and forms of distance teaching application.

2) Generation audio- and video-content

There is a diverse range of online academic resources. However, not all of them can be used by teacher for achieving academic goals because students possess different levels of knowledge, the existence of detailed

elaboration, approach to certain questions. That's why the university professor should obtain the range of techniques and skills to have an opportunity to stream his point of view, transfer his professional experience with the help of audio- and video content.

For developing the mentioned competency, it is necessary to deal with podcast and video recording equipment, cope with programs for editing, define platforms for posting the created materials.

3) Web site and distant courses development

A course developed by a teacher on one of online platforms or a site with teaching materials can become an informational support for any academic discipline.

In both cases, students get the opportunity to organize work at an individual pace. Also, both the author's thematic site and a supporting course make it possible to differentiate educational material by level of complexity.

However, when performing this type of work, the teacher is required to study the functionality of the Web-site or service to create online courses.

Development of professional competencies

1) Improving competency in the field of the discipline taught

Because of the constant development and regular changes in technologies, a teacher must self-educate and self-develop in his professional field in order to share the latest data with students. Moreover, by the time students graduate and start working, the information may be outdated. Therefore, taking into account the today's requirements, a higher education teacher should work ahead of schedule, accumulating and passing information that will become relevant in the near future.

2) Mastering the related areas

One of the main transformation vectors of modern studies– interdisciplinarity. The most serious discoveries are happening frequently at the junction of sciences.

Meanwhile, an ordinary consciousness is increasingly becoming fragmentary. This phenomenon is characteristic for students. Today developing and ideological functions of education are lost.

In the previous epoch the programs of separate disciplines were coordinated. Now, in a period of continuous change the mission of forming a unified world outlook among youth is dependent on the teacher. For its implementation, the teacher must be well-oriented in the complex of scientific, technical and technological skills, define the its connection with other sciences. Also, he must develop a methodology for the formation of consistent knowledge among students.

Thus, the trend of interdisciplinarity creates one more direction in advanced training.

3) The ability to build competencies among students

Theoretical training on developing competencies among students can be included in the group of advanced training

As the changes in the educational paradigm has occurred quite recently, teachers can't use their previous pedagogical experience in full measure with regard to resolving tasks in developing competencies among students.

That's why it's necessary to study the genesis and development of the notion "competency" for a deeper understanding of this scientific field. There is a necessity to get acquainted with the elements of management, which was the source of the following concept. The acquaintance of theoretical part of this concept is needed not only with the help of pedagogics but also psychology, sociology, philosophy and other subjects to integrate the practice of competencies development in your pedagogical experience.

Discussions

Thus, at this stage, there are three areas of advanced training for high school teachers. The first direction is connected with further development of methodological competency because of a change in the student group due to the massive nature of higher education, the globalization of the educational services market and inclusion.

The second direction is the application of technical skills, connected with information system development in education and a wide implantation of communication technologies.

Finally, the third direction of advanced training is linked with special competencies and includes information about new discoveries, inventories and development in certain subject spheres, also complete development of areas related to the taught subject.

Further training of high school teachers in these three directions can allow to improve the quality of education, prepare students to their knowledge application, form universal and professional competencies.

It's clear, that competencies, which are in an acute need are interconnected.

For example, advanced training in the area of general teaching methods can improve the quality of education for students with disabilities and international students. Moreover, the pedagogical experience gained in the frame of traditional teaching will contribute to the successful application of the "inverted class" methodology and other up-to-date forms of organization of independent work for students.

Application of information and communication technologies can help to widely incorporate differential and individual forms of work into high school reality, that can promote a qualitative education for all groups of students, including people with disabilities and foreign citizens.

For a teacher mastering the models of working on the online platforms, learning the way of creating a Website, generation audio and video content will expand the means of pedagogical forms, methods and devices will promote the expansion of new pedagogic experience.

The development of special competencies in areas neighboring the discipline taught will improve methodological training, because in this case the teacher will be ready to demonstrate the relationship of the subject with other areas of knowledge, as well as the dynamics of its development, he will form systematic and dialectic thinking among students.

Moreover, the consideration of intersubject communications will facilitate the use of active and interactive forms of learning.

Finally, the study of the genesis and development of "competency" notion will contribute to the formation of a methodology for the development of competencies for various categories of students during training as well as the teacher's awareness of his own educational needs in diverse areas related to professional activities.

The results obtained in the article replicate the conclusions of other authors. For example, the methodological, mediative and informational competencies studied in Panov & Selezneva (2019), Drugova (2019), Noskova et al. (2018), Smolyaninova & Popova (2019) correspond to the advanced training in the field of pedagogy, psychology, didactics, self-education in the field of information and communication technologies.

On the other hand, the directions described in this work corresponds to the aspects of pedagogical competency, stated in (Ziganshina et al., 2018).

Finally, in the following article (Inozemtseva et al., 2019) the directions of additional professional training for teachers are discussed as well but in the frames of further education courses.

However, despite the importance of the research conducted in these works, there is no classification for direction of informal advanced training. The offered note fills the specified gap to certain extent.

In other words, the significance of the work results in distinguishing the directions of advanced training for high school teachers that is taking place during activity under new conditions. Practical significance of the obtained results consists of the ability to create individual programs of capacity building by high school teachers.

It's important to note that there are some questions connected to advanced training in the field of scientific research.

Further research can be associated with solutions for methodological problems, requiring the considered competencies.

Conclusion

The main directions of high school teachers advance training which take place during the teaching activities are identified and systematized in this work.

It's understood that an informal retraining includes different didactics issues, methods of application of information technologies, further development of special competencies.

The results of the research can help teachers with creation of individual plans for the development of professional competencies.

This academic paper doesn't include directions for scientific career enhancement. Moreover, there are some questions regarding how the mentioned competencies influence the effectiveness of the education process. Such questions are planned to be considered in the future.

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