

Particularities of Remote-Acting Courses to Upgrade Teaching Qualification

Lyubov Alekseevna Krasnova and Tatyana Ivanovna Anisimova

Elabuga Institute (branch) of Kasan (Volga region) Federal University,
Elabuga, Republic of Tatarstan, Russia

Submitted: Oct 30, 2013; **Accepted:** Dec 18, 2013; **Published:** Dec 20, 2013

Abstract: The article is devoted to higher qualification courses for teachers organized remotely, world practice in organization of such courses for teachers of physics is described. On this basis aim, tasks of remote course, its structure, potential of remote training were defined and developed. Obtained results allowed to reason the importance of developed by the author course in the contest of professional development of teachers of physics, upgrading their professional competence.

Key words: E-courses • Educational process • Education standard • Qualification • Professional competence

INTRODUCTION

In the conditions of modernization of Russian education aimed first of all to reaching new level of education thanks to creation and implementation of new education standards, new educational plans, programs, new forms of organization of educational process, foundation of new types of education institutions modern teacher must solve new professional tasks. And today we really need the system training and upgrading of qualification of teachers which can quickly and efficiently adapt teachers to changing conditions of their professional activity. E-courses play a key part in solution of this task.

The problem of using e-education as a form of education, higher qualification courses and re-training for new specialties is actively discussed in Russian and foreign literature (Andreev A., E. Polat, A. Khutorskoy, Mary Burns, Stephens [1-5] and others). In these works the potentialities and essential characteristics of e-education are considered. Key advantages of e-education technologies are as follows:

- Interactive work between a teacher and a student in the form of dialogue which in a number of cases can be similar to interaction which takes place in traditional audio training;
- Quick delivery of text-books in electronic forms;
- Easy access to basic knowledge in Internet;
- Testing of student's knowledge remotely;

- Virtual laboratory practicum;
- Realization of remote network access to real laboratory equipment;
- “virtual groups” (operative interaction of students with each other) [6].

In spite of rather numerous works devoted to the problem of e-education [7,8], there are still a lot of questions which must be solved. In particular, especially up-to-date ones are the issues of development and implementation of e-courses of higher qualification for teachers.

Solution of these problems depends on practical aspects rather than theoretical-methodological aspects only (analysis, synthesis, comparison, elevation from abstract to specific etc.).

Main Part: The first attempts to introduce e-education in Elabuga institute of Kazan federal university-at that time it was called Elabuga state pedagogical university-were made in 2009 in were intended for training senior schoolchildren for passing unified state exam (USE) on different subjects. With this purpose Open education resource center (OERC) was organized based on MOODLE platform. Materials of OERC were developed by university teachers and the best school teachers of Elabuga municipal district. Cooperation with OERC gave opportunity to study remotely all systematized resources, to get ready for USE individually [9].

At present time e-education at EI KFU is realized by different ways including use of LMS MOODLE-training management system which allows to create remote training courses (internet resources) including all necessary training, auxiliary and testing materials or references to them (and methodological instructions in accordance with working program of a discipline as well).

In 2012-2013 academic year in the framework of higher qualification program for teachers on physics and mathematics faculty of EI KFU higher qualification courses were organized for teachers of mathematics and physics. In particular, in May of 2013 the teachers of the faculty developed and tested higher qualification courses for teachers of physics devoted to the problem "Formation of developing environment to facilitate studies of physics".

Main goal of the course: exploration by the courses participants of developing environment while studying physics and psychology-pedagogical conditions in order to increase schoolchildren's interest in physics.

The tasks which must be solved by organization of e-courses:

- Make courses' participants familiar with the requirements of regulatory documents on professional activity;
- Train courses' participants to planning of the physics educational process;
- Infuse teachers with the idea about use of modern pedagogical and IC technologies intended for teaching physics.

In developed by the teachers course side by side with face-to-face module there is also a remote module on the topic "Psychological-pedagogical conditions of developing students' interest in physics" (36 hours). Remote module includes: contents and methodological block, practical tasks block, block of educational resources (methodological block), dialogue block, control block.

The first topic of contents-methodological block "Regulatory base of the concept of general education in conditions of introduction of Federal State Education Standard of general educational (FSES GE). Innovation character of FSES GE" is intended for theoretical and practical training of courses' participants and introduction and realization of FSES GE and includes 3 modules:

- FSES EG: history, characteristics, aim, role, functions, structure, contents, introduction management, innovative character of FSES EG;

- Main educational program of general education;
- Development of interest of schoolchildren at physics lessons in conditions of FSES EG.

Studying of the second topic of the block, which is named "System-activity approach in teaching physics in conditions of transition to FSES EG" determines changing of the general educational paradigm which is manifested in:

- Transition from aim of school educational as mastering knowledge, skills and abilities to the new aim which is ability to study;
- Transition from studying the system of scientific ideas isolated from life which is the contents of a discipline to combining this content with solution by the schoolchildren of the tasks from real life, in other words, from orientation to the "subject" contents of school subjects to understanding of studying as educational process and creation of essential things;
- From rather disordered educational activity of a high school student to strategy of targeted organization and planning;
- From individual form of mastering knowledge to recognition of a key role of educational interaction in reaching the goal of training.

Courses' participators get familiar with the foundations of system-activity approach-methodological basis of FSES GE, with requirements to the results of mastering new educational programs, learn the notions of personality- and meta-discipline result, technologies of activity approach in teaching physics.

The next topic is connected with contents-methodological block "The particularities of formation of universal actions at physics lessons in primary school". In broad meaning "universal actions" mean self-development and self-updating through deliberate and active acquisition of new social experience. The contents of the topic include both general ideas of universal training skills and methodological particularities of realization of schoolchildren's actions at physics lessons.

Today the aim of school is to find out and develop creative abilities with every child, form personality able for self-determination and self-updating. That is why issues which are connected with development of intellectual and creative abilities and giftedness of high school students, organization of project and research activity of students of secondary high schools are very up-to-date.

The topic "Psychological-pedagogical follow-up of project and instructional research activity of schoolchildren" unfolds essential characteristics of project and research activity of schoolchildren, familiarizes with psycho-pedagogical conditions of organization of project and research activity in school.

The next topic "development of interest of high school students in studying physics at lessons and out-of lesson activity in the context of FSES GE" is devoted to the consideration of development of schoolchildren's interest in physics in psycho-pedagogical terms. The ways of how to develop this interest are given here, main forms of educational activity in primary and the whole high school in context of FSES EG are described. New standard is oriented not only to the results achieved on some subject, as it was before, but to meta-subject and personality's results. In this conditions out-of-lesson activity is of utter importance and has its own specific character. Out-of-lesson activity is an important link of educational process during which high school students not only must learn, get to know something, but to learn to act, feel, make decisions etc. In the framework of FSES GE the key focuses of out-of-lesson activity are identified: sports, spiritual and moral, intellectual, cultural, social [10]. Out-of-lesson work in the context of above mentioned areas of focus allows to form skills and abilities, creative thinking, polytechnic studies, professional orientation of schoolchildren, form their moral features, increase interest in studies and, in general, to provide higher personal and meta-discipline results.

The final topic of contents-methodological block is the topic "Experiments and observations as a way to develop interest of younger schoolchildren and students of primary school in studying physics".

While studying natural disciplines some issues are difficult for schoolchildren. Physics is one of the very complicated disciplines. But it is physics when the experiments and observations at lessons are of utter importance. These lessons allow schoolchildren not only to learn surrounding world but give opportunity to feel themselves as experimenters, penetrate deeper into essence of physics, develop creative, technical abilities.

As an example of organization of studies with the use of experiments and observations the courses presented in detail the topics of lessons performed in the framework of projects of EI KFU "Intellecto" and "Children university". These lessons which are tied up by common topic "Physics around us" are organized on the base of dialogue with demonstration and doing physics experiments and observations, they familiarize

schoolchildren in a popular form with foundations and laws of physics. Presented lessons also demonstrated the opportunities opened while using modern ICT, electronic resources ("Video problem book on physics", "Experimental mechanics problems" etc), implementation of which increase ability to observe, improve motivation to studies. Animated interactive models allow to deepen understanding of key issues of physics and machinery.

Presented systematized material of all topics of contents-methodological block is followed by examples, video-materials, references to additional sources of information.

In order to master discipline material better the participants of courses are offered to answer questions and perform tasks at the end of each topic. They are organized in such a way that it is possible to focus attention on the key points of the topics. Block of practical tasks has 2 sections:

- Tests in regard to development of interest of schoolchildren in physics.
- Practical tasks devoted to development of interest of younger schoolchildren in physics.

Test and practical tasks are intended for intermediary certification of the course's participants and checking of factual knowledge obtained by them during training and practical skills formed by this course. Besides that the tasks also bears teaching characteristics: they help to identify key moments, systemize and generalize educational material. While doing tests and practical tasks a participant must demonstrate knowledge of lectures (questions on theory) and ability to use it in practice (practical tasks).

Block of educational resources (methodological block) includes comments, clarifications, practical recommendations for work with the 1st and 2nd blocks.

Dialogue block allows all participants to get instructions and the answers to needed questions.

Control block is to connect performance and check-up of tests. Participants get the grades and responses to their tests in proper time.

CONCLUSION

Remote module of higher qualification courses was realized under supervision of the teachers from the chair of physics and informational technologies of EI KFU. E-courses give the participants the following opportunities:

- To get familiar with state priorities of modernization of general education;
- To understand features and purpose of FSES EG;
- To increase theoretical and methodological competence in understanding of psychological and pedagogical conditions of development students' interest in physics;
- To plan and organize lesson and out-of-lesson activity using modern pedagogical and IC technologies.

Remote module was highly appraised by the participants. In particular, they emphasized quality filling-up of the blocks thanks to which it was possible to focus attention on the key fragments of the given material, to fix new knowledge, interact with each other, test the knowledge of some topics. Besides that in comparison with ordinary courses e-courses of higher qualification are characterized by the following: firstly, these are courses which specially intended for remote form of training; secondly, it is the comfort. You can study materials as long as you need, use any literature, test yourself.

Inference: The necessity to develop and use e-courses to upgrade qualification of teachers is determined by innovative changes in professional activity of modern school teachers. Today the main task of any teacher is not only to give the schoolchildren some quantity of knowledge but infuse them with interest to study, discipline, to learn them to study. All this is impossible without constant refilling of one's methodological base in the way of self-education, exchange of experience with colleagues. And this opportunity is granted by e-courses. Right organization of e-courses which takes into consideration all modern requirements will provide not only opportunity to obtain knowledge but handy form of communication, exchange of experience, will increase professional competence of teachers, develop them as professionals.

REFERENCES

1. Andreev, A., 2003. Remote education in the system of continuous professional education. Innovations in education, pp: 4.
2. Polat, E., M. Moiseev and A. Petrov, 2006. Pedagogical technologies of remote education. Moscow: Academia.
3. Sidenko, A. and A. Khutorskoy, 2001. Remote upgrading of qualification. National education, 5: 79-86.
4. Burns, M., 2013. Distance Education for Teacher Training: Modes, Models and Methods. Date Views 03.09.2013 www.idd.edc.org/resources/publications/modes-models-and-methods.
5. Stephens, D., 2007. Quality issues in distance learning. Date Views 06.09.2013 www.aacsb.edu/publications/whitepapers/quality-issues-distance-learning.pdf.
6. Moore, M. and W. Anderson (2nd ed. 2012). Handbook of Distance Education. Psychology Press. Date Views 01.10.2013 www.books.google.ru/books?id=_IqeYfDpWGICandprintsec=frontcoverandhl=ruandsource=gbs_ge_summary_randcad=0#v=onepageandqandf=false.
7. Educational Benefits of Online Learning. CalPoly.edu. 1998. pp. 1-6. Retrieved 29 March 2013. Date Views 05.10.2013 www.blackboardsupport.calpoly.edu/content/faculty/handouts/Ben_Online.pdf.
8. Soekartawi, Haryono, A. and F. Librero, 2002. Greater Learning Opportunities Through Distance Education: Experiences in Indonesia and the Philippines. Journal of Southeast Asian Education, 2 (3): 283-320. Date Views 02.09.2013 www.seameo-journal.com/journal/index.php/education/article/viewFile/39/38.
9. Anisimova, T. and L. Krasnova, 2013. Remote education as one of the interactive forms of training of a specialist in university. Collected scientific works Sworld. International scientific and practical conference: Modern focuses of theory and application researches -2013. 1, (16). Odessa: KUPRIENKO, pp: 78-81.
10. Federal state standard of general education, Date Views 02.05.2013 www.standart.edu.ru/catalog.aspx?CatalogId=2587.