HIGH SCHOOL TEACHERS’ INFORMATION COMPETENCIES IN THE VIRTUAL LEARNING ENVIRONMENT

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Abstract: The paper describes the new competences which enable high school teachers to use and develop the virtual learning environment. They are: the skills to create the electronic resource base of the virtual learning environment; the initiation and maintenance of students’ educational network communication; the educational activities management; the virtual professional community management; the educational problems management.

Keywords: virtual learning environment, competences, high school

INTRODUCTION

The successful development of a university information environment depends not only on its strategic planning, but also on teachers’ performance. It is important for teachers to be aware of their own role in this complex process and to have a certain level of information culture. Today a special role in the educational process is delegated to students’ independent work and the individualization of their educational routes. The modern informational resources and networking technologies have a high potential to improve the efficiency of social interactions, educational and professional mobility.

In the definition of information competencies of modern high school teacher the psycho didactic approach is used (Noskova 2007). According to this approach the basic concepts of the educational environment interactions are considered as follows: social information in the context of the electronic educational resources development; communications, in the space of virtual interactions within various classes of educational tasks; flexible educational management activities in the network environment with the use of diverse feedback, based on telecommunication.
Changing of information environment of the educational process requires a significant change in the implementation of educational activities. The solution is a blended form of training. Along with studies in the classroom, the remote forms of interaction are used to stimulate self-organization of students’ extracurricular activities. Consequently, teachers need new information competencies that provide the opportunity to include multi-format educational resources in the learning process, to organize educational network communication and to manage the activities of students in a distributed interaction. These are the main vectors of information competencies expansion in the virtual learning environment.

1. THE MAIN VECTORS OF INFORMATION COMPETENCIES EXPANSION IN THE VIRTUAL LEARNING ENVIRONMENT

1.1 The resources design

The first of the new information competencies is associated with the skills to create "high-quality" electronic resource base of the virtual learning environment. The design of the electronic educational resources and their inclusion into the learning process needs the awareness of the psychological characteristics of the interaction with the electronic content. Electronic resources are needed to ensure the students’ deliberate choice of educational preferences, to update the individual cognitive style of work, to develop the effective forms of modern information behavior. In this situation teachers facilitate the rational use of institutional and global information resources (digital libraries, educational portals, sites, data and knowledge bases, open educational resources). In some educational situations, teachers design their own original resources.

Thus, modern teachers must be prepared to design and build the resource base of the educational process. This readiness includes the knowledge of the e-learning potential and the implementation of active pedagogical techniques that are effective in the virtual educational environment. Teachers should solve the problems associated with resource dynamic updating, operational inclusion of new knowledge and flexible adjustment to the current pedagogical tasks.

1.2 The communication organization

The second information competence is associated with the initiation and maintenance of students’ educational network communication. Network communication does not mean simply the information exchanges with the use of technical services. In focus are the network interactions leading to the new educational outcomes. To build such interactions it is important to understand the psychological mechanisms that motivate actors to active social interaction in the Internet; to model the educational situations of high communication activity for students. Communicational capacity of the learning environment allows organizing group and individual interactions. Teachers need to learn how to perform the communicative acts not only in the direct interactions with students, but also in the
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community of self-learning students. These activities include: the design, the organization and support of group communications in the network environment; the individualized support of students. Expansion of the social partners can enrich the educational communication with the new meanings, attitudes, and values. The network communication during the educational and professional social partnership gives students the ability to position themselves in the virtual space (to discuss, to work together, etc). Accordingly, teachers should not be the "communication center", but preferably act as moderators and facilitators of students’ independent educational communication.

1.3 The educational activities management

The third information competence is related to the educational activities management in the network environment. The network environment has a fundamentally different psychological basis of educational interactions - distributed interactions between teachers and learners. In a classroom teachers clearly define and control all the activities of a group of students: synchronize their actions, monitor the progress of their work, and quickly make all the necessary corrections. In the networked environment these control mechanisms practically do not work (except for the synchronous network interactions, the weight of which is relatively small). So teachers need to be conscious of the psychological basis of the educational activities in the virtual learning environment. Self-organization and self-management activities have the leading role: without students’ active subject position learning in the network environment is not effective enough. Therefore, the active promotion of students’ position is one of the central objectives pursued both in the classroom and in the extracurricular educational interactions.

In the networked environment the special managing tools can be used to solve the problems of interactions: databases, network organizers, reminder services, etc. The system of pedagogical management promotes the support of the multiple feedbacks in the network environment. The feedback includes not only demonstration of cognitive processes, but also the characteristics of motivational and regulatory mental processes (Noskova 2009). Special feature of the network educational environment is the ability to see not only the result but also the process of individual work, which is fixed in the archives of the discussions, educational blogs, wiki-resources, students’ e-portfolios. These tools allow to make timed corrections, to establish reflexive relationship between students, to provide an individual student’s help. The promotion of learner’s active educational position becomes one of the central problems in the network environment. It sets the fundamental changes in the psychological atmosphere of the network interactions and professional teaching style.

Thus, due to versatility and accessibility of the network information and communication tools, teachers should be active creators of the information educational environment with the specified information relationships and interactions. It is considered to be an important element of pedagogical support for
students' independent work. Formation of such an environment modifies the pedagogical work and becomes the new dominant of teachers’ professional activities. (Pavlova 2010). In such an environment direct educational interactions require the complementation of the telecommunications. The system changes should affect the activities in the classroom. Teachers will be able to shift the focus from the presentation of educational information to the interpretive commentary, discussion of problems, students’ motivation to further research. However, this requires new teachers’ skills to see and understand the behavior of students in the educational process, which is due to the use of network technology, distributed in time and space. Teachers must take into account that the psychological aspects (interests, motives, attitudes) of students’ activities based on the electronic media differ from the traditional characteristic of classroom interactions. Pedagogical vision of students’ network behavior helps to optimize the activities of students with different cognitive styles, leading sensory modalities, different strategies of cognitive processes. At the same time it requires a high degree of understanding benefits and risks of the network communication technology use. In other words, teachers help to create personal, psychologically comfortable and efficient telecommunications environment of educational interactions.

1.4 The virtual professional community management

The fourth information competence is connected with the virtual professional community management. The networked information environment was originally intended not for individual activities but for the distributed interaction. To achieve significant results such interactions require certain distributed efforts. The distributed cooperation of colleagues gives the information support for teaching activities, expands interdisciplinary communications in the process of learning and teaching, and enhances the creative approach to teaching through ongoing professional exchange. The main features of the current educational situation are the intensification of knowledge, the update of new educational goals, the emergence of the variety of communication tools. So the main condition for the pedagogical activities success is the continuous development of professional competence and self-education. The network environment allows teachers to have quick access for the most relevant professional information and innovative experience of colleagues (in the online discussions, the blogosphere, the pages of professional sites, in the joint distributed work). Therefore, the virtual learning environment is not only the source of the new information and knowledge for students, but also the virtual laboratory for teachers’ reflexive improves and innovative teaching ideas.

It is important to note that the electronic environment is not static. It should include the possibilities of dynamic updates, adjustments to changing pedagogical tasks, quick inclusion of new knowledge and activities. Therefore, in the virtual learning environment, teachers have to be mobile and constantly developing. It is especially relevant for the university teachers, who train future professionals for the labor market. They should teach students to disclose the potential of the modern educational environment. The high quality of educational services can be achieved if
teachers react dynamically and systematically, transform activities in accordance with the changes in the global information space. It is not enough to acquire information skills. The whole evaluation of the education activities must change. In teaching the values are referred to as "the rules governing the teaching career and emerging as a cognitive-functioning system that serves as a media between the prevailing social outlook in the field of education and the activities of the teacher" (Rapatsevich 2001). Formation of values and professional targets is a complex process of interaction and understanding of the changes in processes involving teachers and students. Teachers must be aware of current trends in the development of modern education and related requirements; be aware of causes and effects of the informatization. Teachers need to possess the new ways of solving professional problems, within knowledge-intensive computing methods. It is the new way of professional thinking. (Noskova 2007).

1.5 The Educational Problems Management

The fifth information competence is the preparedness for the educational problems management. There are several approaches that enable productive educational problems management. Firstly, in the network environment a special value gets the indirect influence on the personality of the subjects – their motivations, incentives, collisions, positions. This kind of techniques is often used by social workers. This mechanism is adequate to the network environment and more efficient for today's youth. Secondly, the network environment leaders (the most popular authors of opinions) have a productive influence on the subjects of the medium. Authoritative communicators (such as social partners, successful alumni, employers) can also influence. Thirdly, relevant approaches to the educational problems can be taken from the social media, particularly social networks.

If we transfer the technologies and methods of electronic media to the university corporate media environment we can help young people to adapt to the life in the global media environment (Noskova, Yakovleva 2012). Firstly, it is needed to create the conditions for the preparation for the correct, critical perception of information. Secondly, it is important to create conditions in which students acquire the skills of the acquisition of electronic media language in social and professional problems. Mass media methods help to solve some important problems of education and professionalization in the media environment of the modern university.

CONCLUSION

What strategy can teachers choose to design the virtual environment for education and interaction? There are two concepts of rising and falling design strategies. The upward strategy involves the movement from the holistic vision of the image to the elaboration of its structural details. Downward strategy, in contrast, focuses on the connection of the individual components together. Further practical changes in teaching depend on the version teachers prefer (the holistic predictive model of the
virtual environment educational activities or the generalized model of the environment with some well developed pedagogical information components).

In the design of the activities in the network environment teachers use the terms of the new collective subjects of networking, such as "network group," "virtual classroom", "network class", "distributed audience," "online community" and so on. Remote interaction requires significant adaptation of teaching methods and technologies developed and described with reference to the traditional environment. Special attention is paid to the support of students’ initiative - new types of network information activities in the environment. The main quality of the designed environment is its network construction principle, which corresponds to the laws of the development of modern information structures. It means that not all information and communication should be and may be predetermined. They arise in the course of interaction, depending on the activity, interest and readiness of subjects. It is necessary to take into account the processes, taking place in the self-organizing systems. Therefore, teachers not only plan in detail the interaction in the networked learning community, but also understand the trends and see the processes, which can be influenced (Noskova, Pavlova 2012).

The design of the virtual learning environment is seen as gradual, step by step process. It is hardly possible to expect the sudden changes in the activities of experienced teachers. Practical inclusion of innovative tools in the learning process requires teachers’ "living" in the new conditions, striving for forward-looking educational goals.

REFERENCES


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