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THE POTENTIAL OF TERTIARY LEARNING ENVIRONMENTS FOR NOVICE TEACHERS' TRAINING

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Abstract

The article maintains that information-based learning environment enables the integration of program environment, electronic environment, communication environment, and pedagogical environment with educational technologies, information support and documentation. Studying in an information-based learning environment, students are involved into learning activities and are encouraged to actively self-monitor their academic achievements. The authors underline the importance of ensuring proper pedagogical support of students when they master network technologies and explore the information-based learning environment of modern universities. The authors highlight the significance of involving students into active learning which promotes the development of their communication skills. The authors stress the necessity of securing students' access to information and enabling two-way communication between teachers and students. To ensure proper training of novice teachers, it is essential that tertiary learning environments promote advanced information systems, students' and teachers' accounts, students' personal portfolios where students can store their works in different formats. The Internet is responsible for the major part of information exchange in an education institution. The Internet serves both as a source and a means and a holder of information. The results of one's professional activities are stored in the Internet in the form of presentations, graphical files, audios, videos, hypertexts, and hypermedia documents. Interactive online training involves master classes, distance learning courses, webinars, Internet projects, and iMind maps.

Keywords: Dialogue, information, communication, portfolio, environment, technology.

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1. Introduction

Modern information environment is characterized by continually changing ideas about extracting and using information in all spheres of human life. Intensely developing information and communication technologies have naturally pervaded primary, secondary and tertiary education institutions. The new generation of adolescents have been continuously encouraged to use computer and mobile technologies. Therefore, modern pedagogy is expected to provide appropriate methodological support.

Tertiary educational technologies, including software and hardware technologies which enable extraction, storage and transmission of information, keep developing and prompt teachers and students to explore new means of creatively processing information (Khairova & Tokareva, 2016; Krechetnikov, 2002). Nowadays, students have an unrestricted access to information, moreover, they live in a new environment, which is often labeled information environment. Therefore, modern education necessarily requires electronic educational resources and internet technologies (Ellis & Goodyear, 2016).

Proper pedagogical support, which enables students to employ internet technologies and explore tertiary learning environment, creates new educational opportunities for improving both the external and internal efficiency of education. Tertiary learning environment ensures gradual transformation of knowledge and skills into competencies, enables students' self-improvement, promotes education through life whose necessary prerequisite is the ability to extract and implement information. The Federal State Educational Standard of Higher Education demands that students should be necessarily involved into information-based learning environment. The article treats the necessary prerequisites for creating information-based learning environment in a tertiary education institution at the example of novice teachers.

2. Problem Statement

Ryazan State University named for S. A. Yesenin, with its centennial history of pedagogical work (Romanov, 2015), treats information-based learning environment as the integration of program environment, electronic environment, communication environment, and pedagogical environment with educational technologies, information support and documentation. Studying in an information-based learning environment, students are involved into learning activities and are encouraged to actively self-monitor their academic achievements.

Students' learning environment encompasses cultural environment, information environment, and academic environment and promotes their interaction and interdependence.

Submerging into learning environment requires specific adaptation. Acquiring knowledge, students are obliged to meet such challenges as adaptation to new people, adaptation to new learning activities and new educational technologies. Students are expected to acquire new skills of extracting and processing information, submitting academic reports. Novice teachers are expected not only to learn new information but to be able to transmit it to others. Therefore, it is essential that they can orally present the information they have gained from reading and fully realize their creative potential. It is important to combine the educational space within and without university buildings (Thomas & Card, 2018).

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Living in the epoch of continuously developing educational technologies, students are encouraged to cooperate with other participants of educational process (students and teachers) and to employ information and communication technologies. Cooperating with teachers and other learners, using information and communication technologies, students extract, process, and transmit information and develop creative abilities to effectively master their curriculum (Vanslambrouck, Zhu, Lombaerts, Philipsen, & Tondeur, 2018).

3. Research Questions

Among necessary prerequisites for the proper functioning of information-based learning environment at tertiary education institutions, one can single out students' involvement into the active process of knowledge acquisition, mutual cooperation encouraging the development of communication skills, unrestricted access to necessary information, and technology-assisted two-way communication between teachers and learners (Astashova, 2018).

Studying at a higher education institution, students are endowed with personal academic space and are expected to be able to perceive information. The quality of information perception depends on a number of factors. The most important factor is students' personal qualities, innate and acquired. Students' innate qualities are responsible for the perception of information. Some students rely on hearing, others better perceive through sight. The quality of perceived information also depends on students' mindset, which makes them perceive their academic world differently.

Being a component of information-based learning environment, information resources are originated by people and exert influence on them. One perceives information which is vitally important for one at this or that period of time. Therefore, one's ability to perceive information is predetermined by one's motives and needs. One's motives are predetermined by one's environment, while the environment, in its turn, is reflected in one's motives and behaviors.

Another factor is the manner of presentation of information. Presentation of information is made feasible through the use of information and communication technologies. Information is usually presented in electronic form, in the form of electronic textbooks, reference books, encyclopedia, etc.

Modern e-textbooks are analogous to traditional paper books. The material is presented in them in a traditional manner. However, due to the development of modern technology and software, modern e-textbooks are accompanied by audio and video materials, multimedia elements. Employing modern information and communication technologies, teachers are able to take into consideration students' physiology and psychology of perception, which creates additional opportunities for information transmission.

The Internet is responsible for the major part of information exchange in an education institution. The Internet serves both as a source and a means and a holder of information. Mastering the didactic potential of the Internet, one promotes individualization, interactivity, and self-instruction of students. Students can use the Internet to find information, which may motivate them to study. However, without due monitoring of students' actions in the Internet, we fail to prevent its unwelcome usage, which hinders students' academic achievements.

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Internet resources associated with searching and reading activities can be also used to monitor the results of students' independent work. Information systems and students' accounts make it more feasible (Tsibulsky, Noskov, Baryshev, & Somova, 2017). To better understand separate sources of information, the Russian State University named for S. A. Yesenin employs the method of mind-maps. Mind maps evoke positive associations in the majority of students (more than 80% of poles), who want to use them in their further studies (more than 70%) (Makhmudov, Shchevyev, & Shchevyeva, 2018).

In novice teachers' training, students' and teachers' accounts are an important component of learning environment. Students' portfolios are becoming more and more popular. An electronic portfolio enables students to store their works in a number of formats. The results of their professional activities are stored in the Internet in the form of presentations, graphical files, audios, videos, hypertexts, and hypermedia documents. Interactive online training involves master classes, distance learning courses, webinars, Internet projects.

Taking a distance learning course, a student can work towards a certificate or solely focus on self-improvement. Distance learning courses enable students to combine their studies with other commitments. A student can study when it is most convenient and follow their individual curriculum. However, one cannot neglect some disadvantages, such as technology dependence, software dependence, and absence of a personal teacher-student contact.

To create distance learning courses, our professorial staff employ the Moodle learning management system, which has a significant potential for promoting teacher-student interaction, as well as student-student interaction (Makhmudov & Shchevyev, 2014).

A webinar is a Web-based seminar which is transmitted over the web through the use of application software. Being an analogue of a web conference, a webinar enables real-time video conferencing, real-time monitoring, and real-time communication. Each member of a webinar, from the presenter to the attendees, can be at a different location, which ensures low costs, saves time and secures information exchange between the presenter and the attendees, as well as between the attendees. Even though attending webinars students cannot communicate with their teachers in person, webinars are extremely popular in the academic world, for they have more advantages than disadvantages.

Internet-projects have gained huge popularity in tertiary education institutions. Teachers managing Internet-projects consult and assist students. They formulate topics of research, monitor the performance, assess the results. The participants of an Internet-project get an assignment, develop a strategy, work towards a result, draw conclusions, acquire new knowledge and skills. Since Internet-projects induce students to pursue information, they have an enormous self-improvement potential. Students' results are assessed through testing.

Teacher-student interaction fosters learning, communication and information exchange. E-mail, the first means of Internet communication, is still popular.

Both teachers and students are interested in professional interaction. Participating in professional discussions, teachers get access to a range of education-related information, are encouraged to communicate with other teachers to exchange experience and information. When participating in professional discussions, students are encouraged to gain experience, acquire new knowledge. Professional discussions are held on Twitter, via Skype, blogs and e-mail.

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The Internet enables teachers and students to publish their work ensuring that the professional community can analyze the presented information (Hang & Xiaoqing, 2018).

Off-line communication is promoted by forums, blogs and websites that provide resources which ensure communication on various topics. Forums, blogs and websites enable their participants to provide and receive consultations, participate in teleconferences and discussions (Trust, Carpenter, & Krutka, 2017). Students, teachers and psychologists can create blogs devoted to different topics. Reading and commenting on other people's psychology-related or pedagogy-related blogs, students and teachers exchange their experience and interact.

Nowadays, social networks are a popular means of social interaction. Teachers communicate with other professionals interested in pedagogy. Students participate in various Internet communities, the most popular of which are VKontakte, Facebook, Odnoklassniki, etc. Students often participate in groups to share important academic information. Earlier, the Internet was used for different purposes. Hiding behind their logins, people played various social roles. However, nowadays, people usually use their real names online, which has changed people's perception of the Internet (Raaper, 2019).

Modern social networks contain a lot of information, therefore there are many users. For example, VKontakte includes chats, file sharing services, feeds, etc. Due to such services, social networks are often used for educational purposes.

4. Purpose of the Study

The purpose of the study is to explore the potential of tertiary information-based learning environment in the system of novice teachers' professional training. The notion of academic potential is treated as the basis of methodological substantiation of academic decisions.

5. Research Methods

The research is based on the concepts of dialogic pedagogy, as well as on the ideas of axiological approach, activity approach, and culturological approach. Pedagogy, humanism traditions and education through culture are treated in close connection with modern education (Boguslavsky, Kulikova, & Romanov, 2018; Pichugina, 2016; Kato, 2014).

To ensure the efficiency of researching activities in the conditions of higher education, it is essential that we attempt to predict possible transformations of already existing education systems (Ju et al., 2017). It is important that we should ensure two-way communication between teachers and learners, which is investigated by dialogic pedagogy (Astashova, 2018). Such pedagogy enables students to improve their self-reflection and develop critical thinking as a necessary prerequisite for the exploration of the outer world (Matusov & Lemke, 2015; Wegerif, 2015).

Without due appreciation of students' nature and students' experience, it is impossible to ensure the efficiency of information-based learning environment at tertiary education institutions. Teachers organize and propel education, encourage their students to participate in two-way communication, promote the acquisition of cultural traditions and moral values (Astashova, Bondyreva, & Malkina, 2017).

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In our research, we analyze and compare teaching methods, investigate teaching experiences, rely on observation and conversation, explore pedagogic documentation.

6. Findings

According to educational standards, information-based learning environment of a tertiary education institution encompasses:

- electronic curriculum including such educational resources as electronic lectures, workshops, seminars, assessment tools (tests), curricula, plans, methodological recommendations

- applications for collecting, storing, processing, exchanging and spreading information, including software for creating and employing electronic resources, e-mail and visual interaction means

- information and communication technologies, such as computers, iPads and iPhones connected to the Internet

- organizations supporting and managing student-teacher information interaction

To ensure the efficiency of information-based learning environment, tertiary education institutions should conform to the following requirements:

1) ensure that information-based learning environment is accessible to all students 24 hours a day both at the university and at home

2) ensure that information-based learning environment is comprehensive and coherent, which can only be achieved if all participants are actively engaged in the academic process and interact with each other

Moreover, it is essential that information-based learning environment includes students' portfolios, academic curricula, and methodological support (Atanasyan & Grigoryev, 2007).

Being engaged in information-based learning environment, students acquire new knowledge:

- by independently processing new material

- by revising for midterm and final tests

- by independently studying issues discussed on lectures they have missed

- by profoundly studying some issues assigned for independent work

- by interacting with other participants of the academic process (teachers and students) in real time for the purposes of consultation

- by analyzing the results of their academic efforts and by being assessed by their teachers.

The results of engaging students into information-based learning environment can be illustrated by the example of courses offered to students of Ryazan State University named for S. A. Yesenin. Every course is Moodle-based and contains two parts: the heading and the contents. The heading encompasses such basic elements as a curriculum, examination issues, a chat website where students can ask and answer questions, a forum where various issues are discussed, and a glossary. The contents include lectures in PDF format or HTML format, practical tasks accompanied by assessment requirements, seminars and workshops, test, and answers to practical assignments. Moodle can be used for statistical analysis of students' academic achievement.

Our experience of working with the Moodle project shows that students are highly interested in working at the learning platform, show great improvements and get excellent academic results.

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7. Conclusion

Nowadays, information-based learning environment is an important component of tertiary education. It enables the realization of information technologies didactic potential. Information technologies provide visual aids, ensure students' independent work, secure professional competence formation in students.

To improve the efficiency of information exchange, it is essential that teachers and students should cooperate in their efforts to achieve their academic goals without exhausting efforts and within a reasonable time frame. It is also necessary that individual characteristics of people participating in information exchange should be taken into consideration. It is essential to promote students-teacher interactive cooperation and students' independent work. It is necessary to engage students in Internet-projects to ensure students' creative development (Vela, Lerma, & Ikonomopoulos, 2016).

All aforementioned forms of information interaction are undoubtedly useful but are not easy to monitor and do not comply with the educational standards. Therefore, teacher-student information exchange is monitored by an education institution, i.e. via electronic resources of the learning environment.

It is essential that the following requirements should be fulfilled:

1. Every discipline should be studied in accordance with the curriculum and should conform to the requirements of the educational profile.

2. All materials in electronic form should be supplied via information-based learning environment of a tertiary education institution.

3. Automated assessment technologies should be continuously replenished to ensure efficient knowledge acquisition, methodological support should be continuously diversified.

4. Students should have a steady access to information-based learning environment (Çoklar, 2012).

Conforming to the aforementioned requirements, tertiary education institutions ensure an efficient implementation of innovative educational technologies. Engaging in information-based learning environment, students get an opportunity to improve their knowledge and skills.

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