выцветшим, недоступным голосом. Он не освободился. По словам подростка, эмоциональная нестабильность была накануне его отъезда из его любимой дочери. Он не был уверен, что хочет продолжить свои отношения. Девочка была полна решимости узнать последнюю судьбу своих близких отношений. Его любимая дочь не любила свою мать. А. оказывает давление на обе стороны и он не мог принять решение о своем будущем. После серии разногласий с его матерью А. говорит своей дочери не встречаться с ней снова. А. его детство было худшим в его жизни. Его отец редко бывал дома, и он всегда поссорился со своей матерью. А. напоминает, что он был виноват в отходе своего отца. Она признает, что, когда она не заботилась о своем отце, она всегда чувствовала за то, что оставила ее дома. А. его мать была «женщиной, которой было тяжело». Его мать сказала, что она провела свою жизнь счастливо для своих детей и что он только пришел к горе и нищете. А. сказал, что у него часто бывает плохое настроение. В начальных классах, когда он получал более низкие оценки, чем он ожидал, он был сначала зол, а позже подавлен. Она почувствовала смущение, когда поняла, что ее родители не были адекватно оценены ее родителями или в школе. Продолжительность изменений в настроении была относительно серьезной, когда она отсутствовала со своей дочерью. А. он не понимает сути своей депрессии, но начинает чувствовать себя подавленным его отъездом и ходить в школу. Человеку было трудно говорить, фокусировать свое внимание и забывать о вещах, которые он сам должен был делать. Он хотел остаться в своей постели, а не разговаривать с ним, и часто плакал в своем одиночестве. В дополнение к основной информации, собранной во время клинического интервью, было обращено внимание на потребности подростка, его воспоминания о событиях и т.д.

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IMMERSIVE TECHNOLOGIES IN A HIGHER SCHOOL IN THE MODERN DIGITAL REALITY.

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ИММЕРСИВНЫЕ ТЕХНОЛОГИИ В ВЫСШЕЙ ШКОЛЕ В СОВРЕМЕННОЙ ЦИФРОВОЙ РЕАЛЬНОСТИ.

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ABSTRACT

Immersive technologies and virtual reality technologies have become a powerful and promising tool in education due to their unique technological characteristics that distinguish them from other applications. In the higher education system the coronavirus pandemic (COVID-19) has played a role as an accelerator for the use of all forms and methods of e-learning. Mobile learning (m-learning) is characterized in the context of "smart" education, which has become one of the most viable and popular in terms of flexibility in the organization of the educational process and access to educational resources, virtualization in training. Also, mixed (hybrid) educational technologies that allow e-learning at the transition stage from their use to implementation. Providing the latest statistical data on the degree of penetration of Kazakhstan users into the mobile Internet and its development the advantages of an innovative form of education are revealed in the context.

АННОТАЦИЯ

Иммерсивные технологии, технологии виртуальной реальности стали мощным и многообещающим инструментом в образовании благодаря их уникальным технологическим характеристикам, которые отличают их от других ИТ-приложений. В системе высшего образования пандемия коронавируса (COVID-19) сыграла роль ускорителя использования всех форм и методов электронного обучения. Мобильное обучение (m-learning) характеризуется в контексте «умного» образования (Smart Education) стал одним из жизнеспособным и востребованным, с точки зрения гибкости организации учебного процесса и доступа к образовательным ресурсам, виртуализации в обучении, а также смешанные (гибридные) образовательные технологии, позволяющие реализовать электронное обучение на переходном этапе от их использования до внедрения. Приводя последние статистические данные о степени проникновения казахстанских пользователей в мобильный интернет и его освоении, в контексте раскрывается преимущества инновационной формы обучения.

Keywords: m-learning, immersive approach, virtualization in learning, hybrid educational technologies, education.

Ключевые слова: m-learning, виртуализация в обучении, гибридные образовательные технологии, иммерсивный подход, образование.

Introduction

Mobile learning is the acquisition of knowledge and skills through mobile technologies at any time, in any place, and this leads to certain changes in the behavior and mentality of the student [1]. Thus, mobile learning radically changes two main components of the pedagogical process: access to learning tools and forms of implementation of educational interaction. Today, a student can get instant access to educational materials and programs, educational resources, complete tasks, and communicate with a teacher at any time and in any place. Mobile devices provide wide types of communication: voice, email, video, social networks, educational communication through podcasts, etc. Traditional SMS messages are now being replaced by various messengers that require an Internet connection (WhatsApp, Viber, Facebook Messenger, Telegram, messenger Skype, Allo). Now, according to Json & Partners Consulting the most popular messenger for smartphone owners is Viber: it is used by about 75% of owners of smart phones in Kazakhstan. In second place is What’s App [2].

Experts from all over the world consider the indisputable advantages of m-learning: the possibility of quick access to educational materials practically anywhere and at any time; availability of constant feedback from the teacher and the educational community; exclusively individual pace of learning; increasing student motivation through the use of familiar technical means and virtual environment; development of skills and abilities of "lifelong learning". In addition, m-learning is indispensable for people with disabilities and in extreme conditions where conventional e-learning technologies do not work. In addition, of course, it is impossible not to mention the mobile application of the digital giant Google-Classroom, integrated with the already well known Google Docs and Drive applications. This app, supported in 42 languages, is open to everyone and allows you to quickly create tasks, send them, and check them online. We add that mobile learning apps are very popular now, and hundreds of their varieties occupy the first lines in the App Store and Google Play Market ratings. As a result, more and more universities are entering the interactive field of mobile learning, enabling the teacher to become a more active mentor and almost constant guide of knowledge in the life of a modern student.

A distinctive feature of higher education is that young people with basic knowledge of the world order want to get relevant professional competencies in their chosen field. To meet this need in modern reality, all levels of the University system, from the administration to the teaching staff, must have a clear understanding of who and how to transfer knowledge.

Modern reality, which is increasingly referred to in literary sources as digital reality, characterized by ubiquitous immersive technologies with huge
opportunities for understanding the world around them, is the natural habitat of modern students of the current generation «with full immersion in the digital environment and social media from early childhood» [3]. Immersive technologies involve transforming the role of the teacher, placing emphasis on designing a multi-modal virtual environment and creating immersion scenarios. According to L.M. Andryukhina «its main function is to model various routes and educational scenarios for the student and together with the student, to support the processes of goals and meaning formation in the learning process, which is impossible without eye-to-eye communication» [4]. Designing the most complete virtual environment is a new feature for the teacher. Now the teacher becomes «an observer and an active participant in communication, using his experience and authority to guide the student in the area of educational meanings, change the observed parameters of the learning environment» [5]. At the same time «the function of the lecturer gives way to the role of a guide, which enhances (facilitates) the psychological effect of the group's communication with the virtual world» [6]. It should be noted that for most teachers, digital reality is an environment to which they have to adapt. In order for the learning process not to become, figuratively speaking, the survival of a «new form» for students among teachers with a slightly «outdated» view, it is necessary to introduce and apply a variety of digital tools in the educational process. E-learning today must become the norm in universities, so that the university environment does not become alien to modern students, not seeing the difference between the real and virtual world, suffering from the syndrome of lost information ready for self-learning. «Should» and «necessary» are directive terms associated with theoretical reasoning, often far from practical. To translate theory into practice requires a public order or the need for time. However, often, even if there is a public order or time need, large systems are not able to react immediately and promptly, but are modernized with a significant time delay. Nevertheless, as you know, the factor of accelerated innovation implementation is a challenge to society.

COVID-19 was the very factor that was the catalyst for the transformation of learning in the higher education system on the way to its digitalization. In the Republic of Kazakhstan, the increase in the spread of coronavirus infection occurred in April 2020 – the middle of the spring semester. Then universities began to switch to remote forms of work with students. Despite the fact that the country's leading universities are implementing distance learning systems, in general, the inertial educational system was unable to widely spread distance learning technologies, and the faculty was given carte Blanche to organize the remote learning process. Thus, e-learning from the category of innovation discussed in scientific forums has become a vital model of the learning process. Forms and methods of implementing e-learning certainly deserve attention and discussion [7].

Within the framework of modern IoT and BYOD concepts, mobile learning has become the most obvious technical solution for e-learning at a distance. Looking back, in the described period from the beginning of April to the end of June 2020, we can conditionally distinguish three stages of mobile learning. The first stage - the second half of the month of March and the beginning of April was determined primarily by psychological factors of awareness of the non-standard situation and the temporary uncertainty of its end. At this stage, teachers used the most primitive mobile learning tools (e-mail and messengers) to send students links to electronic lecture notes posted on the personal pages of teachers on the Internet or on University websites. Many of the teaching staff, who did not have such developments, were forced to urgently create educational material in digital format, someone offered students links to the available material on the web. However, feedback from students showed that these communication approaches are labor-intensive on the part of teachers and not very effective on the part of students [8].

The second stage was in May, when almost the same high increase in cases in our country was recorded every day. It became clear that for high-quality work with the audience in a remote format, mobile learning tools are needed that are more effective than e-mail and messengers. Among the many technical solutions, my colleagues most actively began to use the Google Classroom web service for practical classes and the Zoom cloud platform for managing Internet audiences in video conferencing format for remote virtual lectures [9]. Despite such characteristic features of students as total personalization and introversion, the forced self-isolation mode has exacerbated the problem of personal interaction and increased students' interest in virtual online learning, which is especially important with real-time feedback.

The last third stage is the month of June, when the incidence went down, but remained quite high, fell on the session when it was necessary to conduct control activities – tests and exams. Remotely conducted online exams using information and communication technologies convinced teachers that the traditional face-to-face form of control allows the expert to understand the student's thoughts and reasoning in a personal conversation and, based on this, more objectively assess their knowledge.

It is necessary to draw lessons and draw conclusions from a sudden life experiment that broke traditional foundations in many areas, including education. As a result of the pandemic, the educational process in the country's universities was carried out spontaneously remotely through e-learning dominated by m-learning [10].

Conclusion

Special attention should be paid to the psychological aspects of the impact of immersive tools on the student, being aware of the sense of proportion and goal-setting of their use, with an understanding of the risk of losing all useful effects. It is also determined that immersive technologies that involve the transformation of the role of the teacher, make us talk about the problem of the majority of teachers'
unwillingness to implement them in educational practice.

Therefore, information and knowledge are now becoming the main transformative force, and information resources are becoming strategic resources. The future of each person depends on the ability to find, receive, adequately perceive and productively use new information in a timely manner. This ability is particularly important in the field of education, which is looking for optimal forms of new education. One of these forms is m-learning.

We must admit that no matter how flexible and convenient digital technologies may be, they are not able to replace the exchange of energies and emotions, live communication. This nominal link may not be enough when transferring knowledge through e-learning from the teacher to the trainee. Therefore, as we see it, in the near future, the organization of the educational process at the University should be based on mixed (hybrid) technologies, when e-learning is combined with traditional methods, and the proportion of both should be determined by the subject teacher. At this stage, we are not talking about a large-scale implementation of e-learning in the higher education system, since full implementation involves a number of stages [7], which was not possible due to the urgency of the pandemic response project and the limited time interval for its implementation. In addition, in the near future, the Ministry of education, heads of universities, based on the practical experience of the teaching staff, analysis of the collected statistical data, will have to work hard to create a regulatory framework that regulates all aspects of e-learning in higher education.

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Therefore, information and knowledge are now becoming the main transformative force, and information resources are becoming strategic resources. The future of each person depends on the ability to find, receive, adequately perceive and productively use new information in a timely manner. This ability is particularly important in the field of education, which is looking for optimal forms of new education. One of these forms is m-learning.

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