World Applied Sciences Journal 36 (1): 142-147, 2018
ISSN 1818-4952

DOI: 10.5829/idosi.wasj.2018.142.147

Emerging Technologies in Education

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Abstract: Modern man found himself in a difficult situation where, on the one hand, knowledge and skills obtained in his youth do not guarantee success for the rest of his life and on the other hand, the full development of the personality is determined by the ability to actively participate in social processes and adapt to cultural and ethnic diversity, Which is possible only through education. Thus, the core objectives of lifelong education are based on two key components: competitiveness and an active civic position. The catalyst for reforming education was the development of information technology. Informatization of society is a global social process, the peculiarity of which is that the dominant activity in the sphere of social production is the collection, accumulation, production, processing, storage, transfer and use of information, carried out on the basis of modern means of microprocessor and computer technology and based on a variety of means of information exchange.

Key words: Technologies · Informational technologies · Education · Educational services

INTRODUCTION

Information technologies open up new horizons for people – not only in work, but also in teaching. With the spread of the Internet, the organization of education has undergone significant changes. How today remote educational technologies are used, what are their advantages and peculiarities in our article.

Innovation (in-nov) appears in Latin somewhere in the middle of the XVII century and means the entry of a new into a certain sphere, implantation in it and the generation of a whole series of changes in this sphere. So, innovation - is, on the one hand, the process of innovation, implementation, implementation and on the other - it is the activity to rotate innovation in a certain social practice and not at all an object.

Innovative activity in its most complete unfolding involves a system of interconnected types of work, the totality of which ensures the emergence of real innovations. Namely:

- Research activities aimed at gaining new knowledge about how something can be ("discovery") and about how something can be done ("invention");
- Project activities aimed at developing special, instrumental and technological knowledge on how to act on the basis of scientific knowledge in given conditions in order to achieve what can or should be (the "innovative project");
- Educational activities aimed at the professional development of the subjects of a certain practice, on the formation of each personal knowledge (experience) about what and how they should do, so that the innovative project is embodied in practice ("implementation") [1].

The main productive force in the modern world - human capital has supplanted the traditional industrial capital from the leading position. The existence of such a transformation is, first of all, the merit of intellectuals who create and use knowledge for effective solutions to socially and economically conditioned problems. The development of these solutions is considered by researchers as the main source of growth in the knowledge economy, while technologies have become decisive in economic development.

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Education and the ability to manipulate information have long been the basis of prosperity and power in most of the economically developed countries. The OECD (Organization for Economic Cooperation and Development) documents show that: "science and technology are the most important source of economic growth and well-being in a knowledge-based economy". OECD experts agreed unambiguously that: "the pace of basic long-term economic growth in OECD countries depends on maintaining and expanding the knowledge base ... In many OECD countries, the real growth in value added in knowledge-based industries in the past two decades has been consistently higher than the rate overall economic growth. The process of globalization has accelerated these trends... The comparative advantages of countries are increasingly determined by the richness of natural resources or cheap labor and more and more by technological innovations and the competitive application of knowledge ... Economic growth today is as much a process of accumulating knowledge as the accumulation process Capital" [2].

At present, the concept of pedagogical technology is firmly embedded in the pedagogical lexicon. Technology - a set of techniques used in any matter, skill, art (explanatory dictionary). There are many definitions of the concept of "pedagogical technology". We will choose the following: it is the construction of the activity of the teacher, in which all the actions included in it are presented in a certain sequence and integrity and the implementation implies achievement of the necessary result and has a predictable character. Today there are more than one hundred educational technologies.

Among the main reasons for the emergence of new psychological and pedagogical technologies can be identified the following:

- The need for deeper accounting and use of psychophysiological and personal characteristics of trainees;
- Awareness of the urgent need to replace ineffective verbal (verbal) way of knowledge transfer by the system - activity approach;
- The possibility of designing the educational process, organizational forms of interaction between the teacher and the student, providing guaranteed learning outcomes [3].

What is "innovative education" today? - This is an education that is capable of self-development and which creates conditions for the full development of all its participants; Hence the main thesis; Innovative education is a developing and developing education.

What is "innovative educational technology"? This is a complex of three interrelated components: 1.
Modern content, which is transmitted to students, involves not so much the development of subject knowledge, but the development of competencies that are adequate to modern business practices. This content should be well-structured and presented in the form of multimedia teaching materials, which are transmitted using modern means of communication.

- Modern methods of teaching are active methods of forming competences based on the interaction of learners and their involvement in the learning process and not only on the passive perception of the material.
- Modern infrastructure of training, which includes information, technological, organizational and communication components, allowing to effectively use the advantages of distance learning forms [1].

The definition of the main directions of innovative activity in the sphere of education must therefore be based on an idea of the important functions that the educational system implements in the life of society and a comprehensive analysis of the current problems in this area. Speaking about the functions of education, it should be noted that the education system is one of the main institutions of socialization of a person in society, the formation of a harmoniously developed, socially active, creative personality, as well as an important factor in carrying out the tasks of socio-economic and cultural development of society. In this regard, the ability of the educational system to react promptly and flexibly to the needs of society, taking into account the main trends of its development, is of paramount importance. The implementation of this task cannot be achieved only on the basis of the introduction of new technical means and technologies [4].

The need to introduce new training technologies that are adequate to today's day, thus, has become an objective necessity. It should be noted that the students themselves, their parents are primarily interested in obtaining an education that will help them to adapt in a rapidly changing world. The systematic use of multimedia has a significant impact on the development of the student. The study of the peculiarities of attention in the

lessons with the use of multimedia revealed not only the student's external activity, but also the internal curiosity, curiosity [5].

In accordance with international standards, innovations are defined as relevant and systemically self-organizing new formations that arise on the basis of a variety of initiatives and innovations that are promising for the evolution of education and positively influence its development, as well as the development of a broad multicultural education space. The concept of "innovative activity" in relation to the activities of educational institutions can be considered as a purposeful transformation of the content of training and the organizational and technological foundations of the educational process, aimed at improving the quality of educational services, the competitiveness of educational institutions and their graduates, providing comprehensive personal and professional development of trainees. Thus, innovation activity transforms the nature of learning in relation to such parameters as target orientation, nature and content of interaction of the main subjects of the pedagogical process. Indicators of the new quality of the educational process can be the following characteristics: new knowledge, the formation of the core competencies of students, increasing their personal development; Absence of negative effects and consequences (overload, fatigue, deterioration of health, mental disorders, lack of educational motivation, etc.); Increase the professional competence of teachers and their relationship to work; The growth of the prestige of the educational institution in society, expressed in the influx of students and teachers, etc.

In the educational process, there is an intensification of information flows for educational purposes (Internet and network resources, electronic libraries and databases, forums, teleconferences, computer models, simulators and simulators, networking tools for organizing "virtual" team work, etc.). Legislative changes record the convergence of traditional full-time education and online education. We have a massive use of social networks and content created by users, the separation of functions carried out in education (content, training, knowledge testing, recognition of qualifications) [4].

Distance technologies in education significantly expanded its capabilities. In the modern world, you can get education from anywhere in the world. And although the traditional forms of getting education do not give up their positions, the technology of distance learning has recently gained increasing popularity.

Today in our country there is a formation of a new education system, oriented towards integration into the world information and educational space. This process is accompanied by significant changes in the organization of the learning process, which must correspond to modern technical capabilities. The penetration of modern information technologies into the sphere of education allows qualitatively changing the methods and organizational forms of instruction, making it more convenient and accessible [6].

MATERIALS AND METHODS

Based on the analysis of the work of domestic and foreign researchers, teachers, psychologists, it was shown that the use of multimedia allows solving didactic questions with a great educational effect, can become a means of increasing the effectiveness of instruction and significantly shortens the time devoted to studying compulsory educational material, expand the range of issues and issues.

RESULTS AND DISCUSSION

A large number of scientific and pseudoscientific researches are dedicated to the topic of the doctor and patient relationships. It is self-evident that the panhuman doctor and patient relationships essentially affect the health, mood and, ultimately, the recovery process of the sick person. When a doctor carries out his/her professional duties, he/she shall comply with high ethical norms to conduct a patient, his/her relatives and colleagues. He/she shall always remember that tenderness, kindness, attention to the sick person is crucial to foster trust-based relations in the system “doctor-patient”. Communication with serious, often immobilized patients requires special patience, self-control and politeness. Systematically repeated questions, inadequate behavior, inaccurate and ambiguous answers and often reprimands concerning medical staff on the part of a patient shall not annoy the doctor or provoke him/her to respond in a rude and incorrect way. One should always remember the biblical truth: “a word may treat or kill”.

Often a doctor happens to deal with alone senior patients who were abandoned by their relatives. In such case a doctor appears to be the only close person whom a person trusts all his/her deep things. Such patients need mercy not less than treatment procedures

and medications. It is well known that rudeness, irritability, indifference to complaints of a sick person and self-interest are seen on the part of medical staff. All that actions is improper fulfillment of duty. But as always, one should understand what the errors are due to the personal traits of a health care worker and his/her rudeness and where there is a misunderstanding of all the importance of case, self-deception of a young specialist, attempt to hide lack of knowledge behind an air of rudeness.

According to long experience the knowledge of deontological approaches to deal with a patient, psychological foundations of the "doctor and patient" relationships should be laid and practiced in the process of study in university. Moreover, practical methods should be theoretically sounded and learned as well as worked in practice.

In emerging countries the issue of a real patient to be involved in the learning process was solved about 15 years ago and precisely set forth in the programs of study of nationwide state character. Future doctor begins to practice using simulators and molds. In senior courses the practice continues through imitation games involving volunteers. The latter is in particular widely used within supervisory stage of test takers' knowledge level.

As a mode of study imitation role games has been long attracting the attention of specialists. However, they were not widely used being one of the methodological modes of study. There are a few reasons for that: the work content of preparation; the lack of required academic hours in the program; the lack of material and technical resources; the lack of staff that is able to implement creative ideas properly; a range of factors hindering to systemically implement such mode of study.

The introduction of new learning technologies is currently one of the priority tasks of the education system. The law of Republic of Kazakhstan "On education" is directed to that. That is in line with the spirit of our time. "Innovative" learning that is mainly directed to develop cognitive activity of students and to make them become the subjects of it is more and more widely used in modern didactics.

Now please note the technique of "standardized patient" which is currently one of the innovative learning methods. This is learning gaming process involving "doctor" and "patient" due to which one may on the one hand develop practical skills and on the other hand – comprehensively evaluate knowledge and skills of a test taker. The advantage of this technique is that a student may really evaluate his/her skills, reveal gaps in knowledge and skills and make an attempt to remove them in time. Here one may apply his/her theoretical knowledge, using them as tools to achieve the specific purpose, namely to help the sick one.

The technique "standardized patient" is widely used in the learning process. As a whole the technique is not the author's one but borrowed from the experience of the Brody School of Medicine, the East Carolina State (USA) at the Department of obstetrics and gynecology No2 at the West Kazakhstan Marat Ospanov State Medical University. Given the differences in teaching and practical health service areas of our country this learning technique for all the period was amended a lot and now is adapted to the conditions of Kazakhstan. Therefore, we would like to share the outcomes of our version of the technique "standardized patient" with our colleagues.

In this case according to this technique we conduct studies among internship doctors who are obstetrician-gynecologists in 6-7 course. Our goal was: to succeed in learning on the one hand and to comprehensively evaluate knowledge of internship doctors in obstetrics and gynecology including a child gynecology on the other hand.

In the interim, before the beginning to be deeply involved in the clinic, the student may personally evaluate his/her abilities, to reveal gaps in education and, ultimately, to make attempt to remove them in time. Here a student learns to apply his/her theoretical knowledge, using them as tools to achieve the specific purpose, namely to help the sick one. Besides during the study a student is engaged to the problem of one real person, but not an abstract case that is vague and non-specific. The method consists in the fact that internship doctor directly acts as a patient. He/she is able to stage a clinical case in great degree of reliance. He/she has specific instructions by methodologist-instructor, which prohibit him/her to improvise on the main plot and are intended to provide clearly-worded information on the script developed for an actor. The initially told complaints would be detailed only in the case of specific issues on the part of a student as all the rest of the legend (medical history) indeed. At the same time the pathology that is available for whatever task is created by the scene verbal images as well as showing some symptoms by the "patient" in a physical examination. During preparation for studies one may use make-up and sometimes initial changes of objective status that are inherent to "a patient".

Work of internship doctor who acts as the patient's curator, is held individually in separate boxes and within strictly regulated time (20 minutes of interview and 25 minutes of physical examination). The specially prepared room looks like a hospital ward: there is a bed, a wardrobe, a chair, a bedside table and a sink. Complying with all the above listed factors we may fulfill an important condition to mostly approach the staged situation to reality.

The rooms where the learning process is held are equipped with video surveillance system, required for the work of a teacher and a student-expert. The latter observes his/her fellow's work through a monitor. Thus, 4 persons, 2 of whom are internship doctors, 1 is a "patient" and 1 is a teacher, are involved in the playing of one case problem. Due to business logistics we may play a various clinical cases simultaneously for the entire student group.

After they have communicated with "patient" interns-curators and interns-experts separate and continue to work in individual classrooms. 45 minutes is given for independent work. Within this time a student analyzes laboratory and instrumentation data regarding his/her clinical case and shows skills to promptly use modern scientific literature.

When the given time is over an internship doctor defends his/her clinical case in the front of a teacher with filled curator's sheet, which is a miniversion of the patient history. An intern expert's work who observed the curator's work from an operator room is also subject to control. It is evaluated on the basis of an expert's sheet and his/her remarks regarding the work of his/her fellow from the group. During the learning cycle internship doctors change their roles. A curator becomes an expert.

The evaluation principle of the students' work is comprehensive and based on a range of criteria. Intern-curator is directly evaluated by 3 persons: a "patient", an intern-expert and, surely, a teacher. The completeness and consistency of patient intake, correctness of a patient's objective examination and deontological skills communication with the patient are evaluated.

A "patient's" work is also strictly regulated regarding the control of a curator intern. It is evaluated not according to the concepts "like – do not like" but a clear record of collection history place and physical examination that were previously provided in the actor's control sheet. So, the first part of the "patient's" work is based on his/her presentation of a specific disease and the second one – on a regular monitoring of the intern's work followed by its evaluation. But if a "patient" and an intern-expert are focused only on the technical part of the process (asked, did not ask, has done – has not done, how he/she held any reception, if he/she was consistent), a teacher verifies medical judgment of an internship doctor besides the control.

Due to thorough analysis of all the main points of labor and delivery record, detection of errors and faults a student may create a whole image of a certain person, whom he has just been talking to. The latter turns out to be very difficult for the guys to do: they are ready to theorize aloud abstractly based on the literature and lecture data and it is very hard for them when they need to talk about that as to a certain patient.

In this cycle they have the opportunity to practice once again and apply their skills. One may estimate the curator's work and mostly objectify the estimate of his/her work in grades in such versatile way.

In view of the foregoing we conclude that according to us the use of technique "standardized patient" provides a number of valuable and important things: firstly, the internship doctor has the opportunity to practice skills on a real "patient" and corrects the downsides if error occurs. Secondly, he/she learns to work by his own, face to face with an "patient" and relies only on his/her knowledge and skills. Thirdly, a internship doctor gets used to work within strictly limited time (20 minutes of interview, 25 minutes of physical examination). The lack of time is one of the features of any doctor's work.

Besides, an internship doctor may also practice psychological foundations of "doctor-patient" relationships. Due to simulation of a certain complex of the disease symptoms by "the patient" as well as showing various patient's traits of character an internship doctor may learn the elements of psychology. If we add the following thorough analysis specifying curator's errors and making the relevant corrections, the technique "standardized patients" is truly unique.

Moreover this method may be efficiently applied for learning as well as the knowledge control not only among students, but also internship doctors, hospital physicians and young practicians. This is a real closest prospect.

CONCLUSION

In terms of the current modern healthcare problems it is obvious that one needs not only actively search for new ways to improve the quality of students' education in medical institutions, but more widely implement the promising innovations in the structure of educational and methodical process. Particular attention should be given

to methods of active learning and control which are the most efficient and resultative. Meanwhile they in no way should be countered to the stages of clinical training and examination at the bedside of patient which are an important part of learning in senior courses as well as the stages of post-graduate learning. It is possible to actually increase the education level of graduates from higher medical institutions and to put highly qualified specialists to practical healthcare only due to that stages being relevantly combined.

Pedagogical qualification of teachers needs to be constantly improved at multilevel to implement innovative technologies in the educational process. The process of preparing needs to be personal regarding the student as well as the teacher. To make this technique resultative and efficient all components of the educational process need to be interacted: teachers' qualification, motivation of students, methodological support and relevant schedule.

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