New Trends and Strategies For the Integration of Information and Communication Technologies in Educational Activities

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Summary
The article discusses the results of a quantitative analysis of open educational resources in the field of information technology. Study is based on a study of the content of ten platforms that provide access to open resources (OPs). To achieve this goal, we used the following methods: theoretical analysis and generalization of Internet sources to determine the popularity of educational platforms and resources on them; quantitative data analysis to determine the relative proportion of IT courses in various parameters: the relative weight of courses in the IT field in general and on each platform in particular, the language of instruction, the quantitative content by thematic areas.
The following platforms providing access to open educational resources were subjected to quantitative analysis: Coursera, Edx, Udemy, MIT OpenCourseWare, OpenLearn, Intuit, Prometheus, UoPeople, Open Learning Initiative, Maidan Open University.

Key words:
information, administrative liability, right to information, legal liability, administrative offenses.

1. Introduction

New trends and strategies for integrating ICT into everyday educational practice are a prerequisite for modernizing the education system.

Today ICT is the driving force and coordinator of the growing globalization of education. Educators understand that the combination of digital technologies and resources provides more opportunities to improve the quality of learning and teaching than all previous educational technologies. Digital learning materials differ from traditional materials in their ability to manage them.

ICTs are the coordinator, since the Internet is a unique medium for broad, accessible distribution of educational material. As the Internet has become a medium of interaction as well, its potential for teaching and learning has grown. The most important thing is that it is the learners who influence the implementation of ICT at all levels of education.

The development of an automatic and non-automatic set of interactions between machines, people and systems for various processes is of great importance. Many attempts the introduction of ICT into the educational process disappointed their initiators, because they paid insufficient attention to the systems used, the people and the way they interact. Many organizations have already determined the goals of introducing ICT into the educational process, developed norms and standards for teachers on the use of appropriate tools.

The three most popular LMSs (Blackboard, Moodle and Sakai) provide a concentration of teaching materials and courses, and also cover course management, registration, course planning, discussion forums, blog sites, grades. The main features of the LMS include controlled password access for selected courses. LMS keeps track of what materials the student has access to and how much time they spend on them.

It analyzes learning activities to collect data available to the LMS about student activities. LMS enrollment accounting systems contain basic student information such as enrollment data, course selection, course plan, qualification goals, study time and tracking information. LMSs are also used as data repositories for training, resources and materials. For example, the developer of the course can provide commercial materials or, conversely, freely available open educational resources. Materials can be presented in various formats - from plain text to interactive multimedia.

LMS distinguishes between three main types of communication media: email, forums / webinars, and chat rooms, which can also be used to include students in publication of materials or can serve as download mechanisms through blogs or wikis, links to other web resources, such as libraries.

2. Theoretical Consideration

Social media provides an opportunity for people to communicate using ICTs. In other words, social media is a means of social interaction.

In various countries, there is a tendency of increasing the importance of social media in the educational sector. In particular, the practice of private, elite, individual education is becoming more widespread, which inevitably entails a decrease in the role of traditional state education. This trend threatens the implementation of one of the most important functions of education - socialization. In this context, social media provides young people with the opportunity to maintain numerous contacts with peers based on common interests (such as sports or creativity, collective learning activities on the network, knowledge sharing).

Social media has spread rapidly as a result of the emergence of systems that create the possibility of a virtual presence. The term "virtual presence" means the indirect interaction of people using media communication channels that replace face-to-face communication (for example, video conferencing and the relatively recent networking platforms Twitter, Facebook, etc.). In this context, Web 2.0 provides a platform for such emerging social phenomena as social clustering, cloud technologies and, finally, the online community.

Social media has enhanced the social interaction effects of remote users, giving them greater scope, dynamism, and influence. It is these trends that guarantee and amplify the potential educational impact of social media when formal education is rejected by learners.

The most popular way to use new media in the learning process is to introduce the most closely related competencies into the list of skills provided by the curriculum and curriculum. The concept of "media education" has already been developed, which provides the social communication skills necessary for students to gain access to the global media space, netiquette and information security. Thus, systematic education is needed to make young people more aware of the use of social media and to maximize their creativity in education.

Social media allows learners to critically reflect and make an unbiased judgment about an under-covered topic. Vivid examples of such topics are ecology, sustainable development, cultural tolerance, moral issues. Discussing them through social media provides an opportunity for learners to demonstrate their vision and understanding of the phenomena. As a result, the next generation will be much better at a certain topic, and learners will feel a greater ownership of its development.

At the same time, the dominant point of view is that learning and social networks are incompatible. But experience shows that social media expand the opportunities for learning outside the educational institution, stimulate joint work of students, their curiosity and communication [1-3, 7].

Although social media in educational institutions is not yet a full-fledged tool for solving traditional learning problems, it nonetheless provides opportunities that are transforming learning practice. For example, in the context of lifelong learning throughout the professional career, they simplify the process of familiarizing professionals with practical solutions, new trends and topics in a specific professional field.

In the modern world, educational institutions can no longer function effectively without ICT. Increasingly, educational services are provided to students and teachers via the Internet.

The purchase and maintenance of various computer hardware and software constantly requires significant financial investments and the involvement of qualified specialists, so educational institutions are increasingly using cloud technology services, receiving them free of charge or for a small fee. Such services are often more affordable and reliable than their placement or support at the educational institution itself.

Cloud technologies have:

remote data centers. Cloud services are provided over the Internet from high-tech data centers remote from the end user and the organization to which he belongs;

pooled resources. Resources such as storage devices, processors, RAM, and network bandwidth are shared among all users and dynamically allocated as needed;

"Elasticity" - "unlimited" scalability. Access to the system is maintained even in the event of an unexpected "peak" of requests, so that the user has the impression that resources can be increased indefinitely. If an educational institution suddenly needs to increase the computing load, it will not have to buy additional equipment that may not be used later [2, 4, 5].

Some educators mistakenly believe that any Internet-provided service that is not developed in their organization is called cloud technology. The term "Web 2.0" is often confused with the term "cloud technology". Web 2.0 is a specific kind of software, while cloud technology is a method of storing data and delivering software to the end user.

Mobile learning today provides new means of communication and collaboration.

However, it requires financial investment and teacher training. From a pedagogical point of view, education can be compromised and reduced to self-education and the philosophy of superficial collection of random facts, when the depth of understanding of the subject is no longer appreciated.

Therefore, to develop mobile learning, a number of steps should be taken, namely:

• recognize the value of education in a non-traditional, informal or everyday environment, encouraging learners to

strive for self-realization through the use of mobile learning tools;
• provide geographically dispersed learners in need with mobile technology to share knowledge and experience;
• jointly with educational institutions to create administrative and legal norms for mobile learning;
• to train teachers, to encourage teachers who are constantly learning using personal mobile devices, improving their own teaching methods;
• discuss with telecommunications companies the possibility of reducing the cost of mobile Internet access for mobile learning.
An important aspect here is to increase the availability of educational resources. In the educational field, the concept of "accessibility" can be interpreted in relation to the students and to the learning resources themselves. The development of standards in this area began in the late 1990s. The Global Learning Consortium (IMS GLS). The international standard was approved by the International Organization for Standardization (ISO) in 2008 [1, 2, 5, 8]. The concept of an accessibility standard is based on the awareness of the need to match the metadata of resources to the preferences of students. For example, resource metadata can include pointers to alternative audio and text formats so that learners can select a specific type of media resource. The learning platform then analyzes the resource metadata and learners' preferences to deliver the appropriate resource type for a specific user. This kind of accessibility is useful for learners with special needs. Since the most important characteristic of an innovative
the learning platform is to support the functioning of a variety of devices and learning environments for teachers and students, accessibility issues should be resolved based on the characteristics of the learning platform.
Changes in communication facilities and information and computer infrastructures have become another factor in the diversification of educational platforms. In particular, the development of smart media contributes to the widespread adoption of mobile platforms, which, in turn, facilitate content convergence.
For example, in 2010, Walt Disney's Toy Story iPad movie introduced a new type of digital book, now known as motion book) [5, 6, 11].
Such a book is a combination of text, illustrations, audio, video materials, drawing elements, and all this is in one application. Moreover, many smart media users use social networking services, online office software such as Google docs, and check emails using mobile devices. With a variety of communication and computing devices, users prefer to have continuous access to services.
The main trend in education today is that the most important potential benefits from the use of ICTs are convenience and productivity, that is, there is a saving of time. Therefore, providing educational platforms with integrated access to the resources that are necessary for the

educational process is especially important for learners.
Books and printed materials will not be completely phased out, but their production can be significantly optimized to reduce costs for learners by replacing paper textbooks with digital counterparts that will be hosted in the cloud computing environment.
The explosion in popularity of massive open online courses over the past two years has sparked speculation that a revolution has begun in the world of education and will soon be completely transformed. Indeed, in the wake of technology development, new educational opportunities have emerged that were out of the question three years ago, but they are now at an early stage of development. There are many questions, problems, as well as little-studied areas.
MOOCs are a form of distance learning, localized on the Internet. And these are open courses, that is, you do not need to pay money to participate in them. These are mass courses, where as many people as they like can enroll. And finally, these are organized courses - with a well-thought-out program, intermediate assignments, tests and final certification. Usually they are limited in time, that is, they use a system of deadlines [1, 4, 10].
Thus, MOOCs should be distinguished from paid forms of education, as well as from free and distance learning, which are not limited in time.
The first to appear were courses in mathematics, computer science and programming, and they are also the most numerous. However, now the range of courses has expanded significantly[9, 11].
To take a certain course, you need to register on the site and subscribe to it. After the course is completed, it remains on the site as an archive. Archive means that all materials can be used, but assignments are no longer graded and certification is not available. The course is usually built week by week. Every week, new video lectures and corresponding quizzes appear, which must be completed by the specified deadline. The settings depend on the instructor. Usually, each test can be performed many times, as the final result (automatic check), which is taken into account during certification, is the maximum achieved. The tasks are given randomly each time, so it is almost impossible to find out the correct answer by the method of elimination [15].
In addition to weekly tests to check (and consolidate) knowledge, teachers may from time to time offer practical assignments or mini-projects in which the acquired knowledge can be applied. Peer assesment is often used here. This means that each participant, after all the work has been submitted, must check a certain number (4, 5) of the work of other participants and evaluate them according to a number of specified parameters.
Also, each course has a forum where participants can get acquainted, ask questions about the course and receive answers from both other students and teachers. Thus, a

kind of study group is created.

The revolutionary idea behind platform MOOCs is that quality higher education becomes free and generally available. Given that most MOOCs are English-speaking, it is clear that one of the obstacles is the language barrier. In addition, participation in such courses requires a computer, Internet access and sufficient Internet literacy to at least find these courses.

Another metric that is being talked about a lot is the number of students who complete the course. On average, about 50,000-100,000 people are registered on MOOCs. Of these, about 10% reach the end. The number of finalists may be related to how the course is organized. For example, if a course relies on automatic grading of work, then more students reach the end than when grading is peer-to-peer (users rate each other). Additional motivation to complete the course is the prospect of obtaining some kind of certificate of completion.

The first and main problem of platform MOOCs is that under the initial condition (free), you need to take money from somewhere. There are different approaches here. Many platform MOOCs charge a fee for certificates, that is, training is free, final certification is also free, but if you also need a certificate confirming full-time certification, you have to pay [8, 12-14].

Conclusions

The materials considered correspond to the most important directions of the development of new information and communication technologies in various sectors of education. It is the new, alternative educational technologies that are the result of the advancement of new ICTs in education. Analysis of alternative models of education in the digital age shows how the forms of education are changing and what new resources are needed for this (learning platforms, mobile learning and cloud technologies in education, social media). All this determines the new competencies of teachers, methods of socialization of children, a new organization of education using modern means of managing the educational process, new approaches to the formation of curricula and assessment methods based on the use of ICT.

The necessary practical skills for the use of ICT are defined by the International Society for Information Technology in Education (ISTE). It is important to keep in mind that students have changed, but educational practices have not.

Indeed, in the case of the use of ICT in education, most of the efforts aimed at change are overemphasized on the acquisition of equipment and software, as well as on the support of basic learning technologies to the detriment of the actual implementation of changes in educational institutions. Cooperation in the field of ICT application in education should be aimed at realizing the concept of "new pedagogy" - pedagogy of the global inclusive knowledge society [16].

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