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Using Gadgets in Teaching Students Majoring in Economics

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ABSTRACT

This paper investigates some issues of using gadgets in students' training at the university. The key methods of the study are observations and generalisation which allowed to verify the results. Based on empirical evidence, the study shows the importance of the gadget usage for doing different subjects in university. The initial data come from the questionnaire completed by the students and the textual analysis carried out by university lecturers. For evaluation purposes, the study uses quantitative and qualitative methods. Modern learning technology, types of information technologies used in the learning process are examined and advantages of using the Internet technology for students are highlighted. The analysis of Internet users on various continents is done and Russia's place in the rating of International Telecommunication Union in order to identify technical abilities for citizens to learn through the Internet is shown. The authors proved the effectiveness of using gadgets by students majoring in Economics, which will improve students' academic performance and minimize the time spent on the learning process.

KEYWORDS
Learning technology; using gadgets in classrooms; Internet technology in teaching; Internet tools

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Introduction

Urgency of the problem

To get a quality education in the dynamically developed world, students need to be constantly kept thoroughly advised and keep up with the latest changes both

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in their subject area and in modern technologies. The Federal State Educational Standards of Higher Professional Education establish the requirements for the use of modern methods and learning technologies. Russian universities expeditiously tap advanced international experience of using these technologies to enhance student learning (Gutman et al., 2014).

Hence, studying problems related to the use of gadgets in the learning environment is the burning issue of contemporary pedagogy.

The aim of this study was to identify best practices related to the problems arising from the introduction and use of information technologies in teaching Economics Major students. Within the broad theme, the research had a number of specific objectives:

- to examine the use of gadgets in classrooms;
- to look into the problems arising from the use of modern gadgets by students majoring in Economics to do subjects.

This research will determine the number of benefits and drawbacks of using gadgets to study different subjects at university.

Literature Review

The works of some scholars laid foundation for much research focusing on issues of influence of Internet technology on the learning process (Vasileva, 2010; Perchatkina, 2013; Masalimova et al., 2014; Khodosevich & Zaykova, 2016; Sibgatova et al., 2015), as well as the study conducted by Internetworldstats.com and International Telecommunication Union (2014).

These works and materials of the study have made significant contributions to the development of contemporary pedagogy. The research of these works makes it possible to define the major problems and advantages of modern learning technology for training Economics Major students, which is the subject of our study.

Materials and Methods

During the study the following methods were used:

- theoretical methods: analysis, synthesis, generalization and logical method;
- empirical methods: observation, description, measurements and comparisons.

This research consists of four stages.

At the first stage the concept of learning technology was studied, which made it possible to determine its main components.

At the second stage the modern Internet technology used in training students at university was reviewed.

At the third stage the research into the proportion of students having Internet access both in the world and in Russia was done. This made it possible to assess the number of students that can be trained via the Internet and the necessity of studying the use of gadgets in the learning environment.

The purpose of the fourth stage was to do research into students' attitudes towards the use of modern gadgets in classrooms, which allowed the authors to

draw well-founded conclusions.

Results and Discussions

The concept of learning technology

At the first stage of the study we will consider the concept of "modern learning technology " used in universities.

According to Podlasy, learning technology is referred to as "integrated methods, forms, means, patterns, material resources, etc., to reach goals. Learning objectives are not a technology, and their results are not a technology" (Podlasy, 2010). The author claims that the technology is that which is between the goal and the result.

According to UNESCO documents learning technology represents a "systematic method for the creation, application and determination of the entire educational process and acquisition of knowledge taking into account technical and human resources and their interaction".

From these definitions therefore it is clear that learning technology is put into practice by the educator when using certain methods, techniques and tools to help students have grasp of the course materials. Nowadays, most universities implement a competency-based approach by using active and interactive learning instructional strategies which include computer simulations, business meetings, role-plays, case studies, psychological and other training (Vasbieva & Kalugina, 2016; Sakhieva et al., 2015b). The combination of these techniques with students' self-study makes it possible to develop professional skills (Borisova et al., 2016; Sakhieva et al., 2015a).

Over the past fifteen years, technologies have become more advanced and now the Internet is widely used by many universities to teach students. This requires the development of new approaches to learning.

Nowadays, the majority of Russian universities use all types of information technology in the educational process (Figure 1).

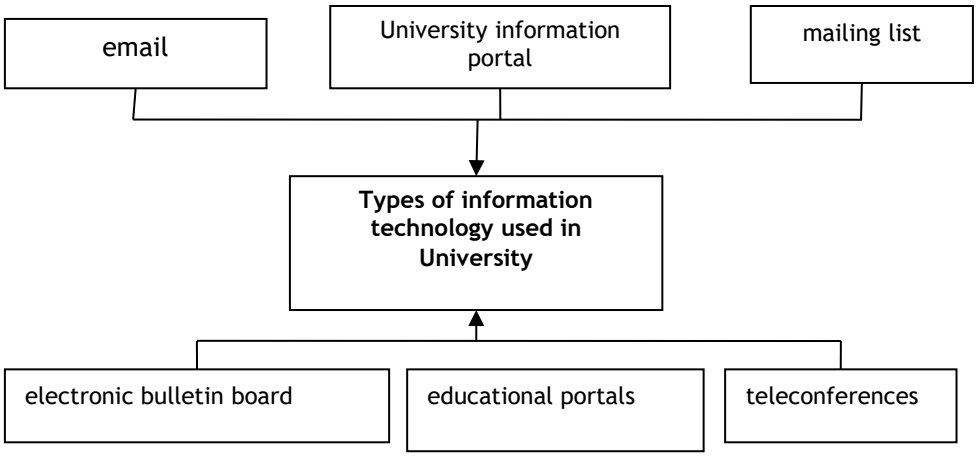


Figure 1. Types of information technology used in University

Advantages of the Internet technologies

The use of information technology made it possible for universities to significantly increase admission from different regions, and for students from remote areas to get an education from home through on-the-job training. Our study has shown that there are some advantages of using the Internet technologies:

- the possibility of increasing the social network;

- the diminishing role of the geographical factor, which plays a significant role for people from remote areas;

- the perception of the learning material without any time limit;

- the ability to cope with the task individually;

- lower tuition cost;

-the use of text messaging, speech for communication (Baranova & Dubinina, 2015).

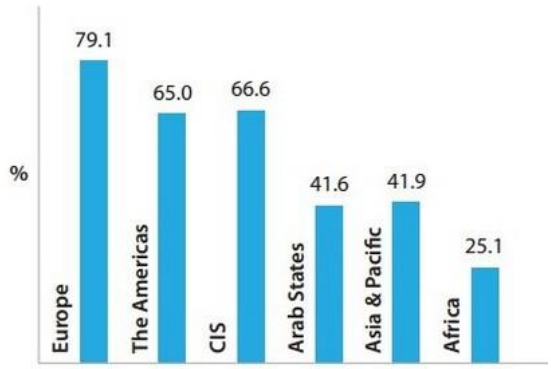
The use of the Internet technologies in the learning process makes it possible for students to significantly increase their social network and to get to know their peers from other universities.

Informatization of universities

Informatization of universities is one of the conditions for informatization of society. According to the International Telecommunication Union (ITU) the number of the Internet users worldwide was 3.5 bn people on 22 July 2016, 2.5 bn users living in developing countries and 1 bn users in the developed ones.

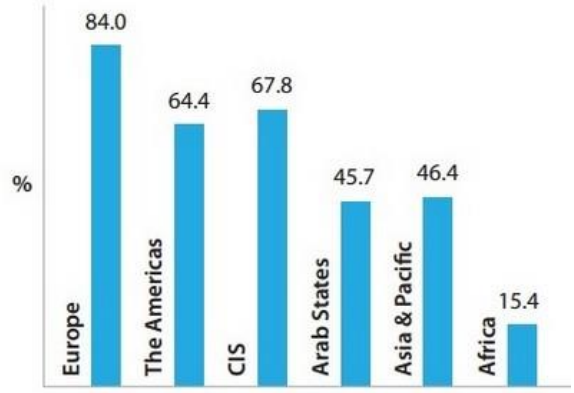
Russia ranked 6th in 2015 in terms of the number of Internet users worldwide. There are 87.5 mln people who use the Internet in Russia. The top five countries on the Internet include: China - 710 mln users, India - 350 mln users, the USA - 277 mln users, Japan - 110 mln users and Brazil - 110 mln users (data for China are provided by Internet Information Center of China (CNNIC); India - Internet and Mobile Association of India and KPMG; other countries - Internetworldstats.com data).

The analysis of society informatization indicators (Figure 2 and Figure 3) reveals that Europe has the most developed Internet, where more than 79.1% of people have Internet access and in the USA - 65% of people. These countries have a high proportion of home Internet use, which allows a significant number of people to communicate and exchange information unrestrictedly.



Source: Internet users worldwide.
http://www.bizhit.ru/index/polzovateli_interneta_v_mire/0-404

Figure 2. The proportion of Internet users worldwide (2016)



Source: Internet users worldwide.
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Figure 3. The percentage of households which have the Internet access (2016)

However, according to the survey by ITU (The ICT Development Report 2014) (International Telecommunication Union. (The ICT Development Report 2014) Russia only ranked 55th in the rating place, because 63.8 out of 100 people had Internet access. The top three countries included the Falkland Islands, Iceland and Norway according to the survey, where from 94% to 97% of people had Internet access.

It should be noted that a high Webometrics Ranking of Universities (or Ranking Web of Universities) is an important factor for the development of the country and its society. However, this ranking system does not take into account the use of university websites with the help of various gadgets.

Universities use broad options of computer networks for students of various modes of study. For example, lectures and practical classes can be broadcast online for years. It is technically possible for Russian universities to give classes in the blended mode (Kamyshnikova, 1999), which is a combination of a face-to-face classroom activity with the online instruction (Vasbieva & Klimova, 2015).

Until recently, universities only used a desktop computer or a laptop in classrooms. In the last five years gadgets have become very popular. Universities have to adapt their software to tablets and smartphones. Our study showed that in Russia there are few universities that are currently willing to provide a full package of services for students on the smartphone or tablet platforms. These are the largest universities such as Moscow State University, Higher School of Economics, Financial University under the Government of the Russian Federation and others. However, even in these universities, there are certain problems associated with the fact that not all software is ready to work in a variety of gadgets. This is due to significant financial costs.

To investigate the impact of gadgets on student learning, the 1st and 4th year students from various faculties at Financial University under the

Government of RF participated in the questionnaire survey. A group of the 1st year students included a random sample of 50 people, and the 4th year students - 35 people. The survey findings are presented in Table 1.

Table 1. The survey findings about the need of using gadgets in the educational process

Question	The proportion of students who answered «yes», %	
	1st year students	4th year tudents
Do you use gadgets in classrooms?	100	100
Do gadgets help you do your homework?	100	100
Do you do your homework with the help of gadgets?	80	40
Do gadgets help you reinforce the material learnt?	68	79
Do you use gadgets in classrooms for information seeking to answer the question?	100	92
Do you use gadgets for information seeking in everyday life?	97	95
Do you browse the university portal through gadgets?	85	70

The findings suggest that most of the students use modern gadgets in the learning process. They definitely can help with homework, because you can search for information at any time and get it promptly. Besides you can do homework on the way home in the public transport or your car. Among the 1st year students the percentage of those who rely on gadgets to have their homework done is higher, which is also explained by the difference in the subjects. For example, students study the major disciplines of humanitarian and social cycles in their first year, which have enough information on the Internet, and a number of them have special e-learning programs. In the third year and senior level courses, as well as a master course electronic gadgets serve as a tool for information retrieval, allowing to eliminate quickly the lack of information. Using gadgets for economic calculations are not always appropriate, because it requires the owner of the gadget to have some skills. On the other hand, doing calculations on computers and laptops makes it possible to save time significantly due to the ease of use.

However, in the course of the survey 70% of the 1st and 4th year students were in favour of doing homework in writing which is more common than doing assignments electronically or with the help of gadgets, as it's the best way to remember what you study.

Next, we studied the list of subjects the students included in a random sample (Table 2). They were asked three questions. The results are given below.

Table 2. The list of subjects and gadget usage

Subject name	Gadget usage for		
	studying e-learning programs	obtaining information in the classroom	self-studying
1st year course			
History	-	96	100
Foreign language	80	100	100

Law	-	40	100
Institutional Economics	-	40	100
History of culture	-	50	100
Psychology	-	70	100
Regional Economics	-	50	100
Calculus	-	10	100
Information science	-	70	100
Management theories	-	50	100
4th year course			
Financial analysis	-	30	10
Strategic management	-	80	25
Cash flow management	-	50	40
Crisis management	-	90	60
Capital structure management	-	90	70
English language. Professional terminology	-	100	100
Financial risks of portfolio investments	-	95	50
Corporate fraud resistance	-	95	40
Long-term and short-term financial policy	-	70	20
Introduction to International financial management	-	85	40

The table shows that upper-division undergraduate students have to use gadgets in classrooms, which has something to do with the specifics of the economics disciplines, the dynamic environment and major trends which the courses provide insight into. In addition, a teacher plays an important role in the use of gadgets when writing assignments, so that students could search for information and find the right solution to the problem on their own. The 1st year students can use computer-assissted language learning software suited for gadget use. This is due to the fact that in recent years foreign language has been in great demand and many companies produce best technology-based e-learning software products (Bírová, 2013; Nagyova□, 2016). Universities tend to equip the rest of the subjects with the software by themselves, which is costly and most of them cannot afford it. The proportion of the 1st year and 4th year students using gadgets for the self-study is significantly different. According to the authors, this is primarily due to students' habit and rapid changes in modern technologies. So upper-division undergraduate students are accustomed to using desktop computers and laptops. But it is more convenient for the 1st year students to use mobile phones and tablets to search for information.

The main criteria for effectiveness of teaching technologies used in university which include training programs studied through different gadgets is the result achieved (content knowledge, exhaustibility, strength and skills), students and teachers' input, as well as the time spent. Given this it can be argued that students became more creative in finding information and doing their homework on the gadgets. At the same time the teacher preparation process for lectures and practical classes has changed. Even 10 - 15 years ago, teachers could use 2 or 3 sources of scientific literature and periodicals for their lectures and practical classes, but now these are not enough. Most subjects, especially those of the professional cycle require reviews that allow to introduce

the prospects for further improvement of particular school of thought. Information on these can be found by teachers using their own electronic gadgets.

The use of gadgets by students and teachers for class preparation is becoming necessary and allows to keep up with the times. Gadgets help save the time that students and teachers assign for homework or preparation at home. They allow anywhere, anytime access to an ever-increasing amount of information and resources through functions and applications such as cellular calls, Instant Messaging services (IM), audio/video recording, wireless Internet access, social-networking applications and flashcard programs (Barrs, 2011). As a result, the use of gadgets will lead to an increase in students' competence and allow them to search for the information needed for the analysis. The study showed that the use of gadgets in the learning process is quite common nowadays.

Conclusion

The study showed the need for the use of gadgets in the educational process, especially in preparing assignments for business situations and practice-oriented tasks that provide insight into the specifics of the chosen profession. This has something to do with increasing society informatization and the requirements of the Federal State Educational Standards. The use of gadgets will equip students with the skills of independent search for information that they will need for their practical activities. The findings revealed the regular use of gadgets for educational purposes depends on the tasks considered in the particular disciplines and on how often the teacher offers students to answer the specific questions on the subject on their own. Thus, the efficiency of using gadgets for students depends on accuracy of lecture material and assignments that encourage students' creative activity.

Disclosure statement

No potential conflict of interest was reported by the authors.

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