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Research Of Communication Activities Using Electronic Devices In Education

Josef Sedivy [a*], Jan Chromy [b],

[a] *University of Hradec Kralove, Faculty of Science, Department of Informatics, Rokitanskeho 62, 500 03 Hradec Kralove, Czech Republic*
[b] *University of Hradec Kralove, Faculty of Education, Department of Technics, Rokitanskeho 62, 500 03 Hradec Kralove, Czech Republic*

Abstract

The primary goal of computer networks and the Internet education is to share and deliver data in a short time and together at a great distance. Generally can be part of computer networks and other devices that make up the means of information and communication technology ICT. They can be as mobile phones, iPod, iPhone, etc., which are fundamentally different group.
The article presents the results of authors own research, which focuses on the practical use of mobile devices and communication channels of internet that are typical of the research, student respondent sample. Research was conducted in the university environment in the Czech Republic. The paper describes the use of communication tools of modern mobile devices in education.

Keywords: Communication channels, internet services, educational process, mobile devices in education;

1. Introduction

For use in the education process can be electronic communication summarized to:

- Information - is available to a wealth of communication
- Presentation - anything-can present yourself, your company, school, but also study materials, the results of scientific work, etc.
- Communication - it is possible to create an enabling environment for all participants to communicate with each other in real time. Participants will hear and see, they can write and draw on shared whiteboard, they can exchange ideas, help each other. If necessary, they can also control each other.

The didactic use of Internet features and capabilities is necessary for teaching the use of certain capital assets to ensure transmission of information between the sender and recipient (e.g. Chromy & Drtina, 2012). The basic software tools called Internet services.

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* Josef Sedivy. Tel.:+0-432-432-432.
  E-mail address: josef.sedivy@uhk.cz

2. Basic Internet services - Web site in communication

The benefits of web communication include:
- Low cost - issuance of electronic textbooks and publications is economically feasible even if a small circle of readers, while sometimes printed publications are not sold out despite the small load.
- Simple publishing - authors can self-publish e-publication and distribution of the costs are significantly, lower than in other forms and publications.
- The availability - electronic publication may be available via the Internet anywhere in the world. You can ensure effective protection of copyright by software.
- Support for media - educators can prepare students for a tailor-made texts textbooks, and can classify them into multimedia applications (various media and interactive links). The publication can place links to other resources located externally, such as on the Internet.
- A benefit for handicapped - can enable the computer program controlling a mouse or voice, reading a written text for the visually impaired using a computer program, etc.

The list of benefits suggests that the benefits of e-books are essential and can be the basis for a positive prognosis for their future development. In this context, it should be noted that the electronic text, which is possibly equipped with a multimedia extension, it is really powerful and effective tool in the hands of teachers, but it is advisable to ensure its inclusion in the process of teaching (e.g. Chromy & Drtina, 2012). In any case, it can´t not be considered and proceed without prior definition of the concept of teaching. In terms of communication are the foundations of web pages rather one-way communication. The minimum two-way communication is necessary to adjust Web sites such as the inclusion of at least one optional element that will be the sender of a communication means to evaluate. This can be a traffic count at least part of individual web pages or the inclusion of simple questionnaires using closed answer. One of the most used and old Internet service is electronic mail. It represents an inexpensive, fast and convenient replacement for postal mail. Moreover, by e-mail can send files that contain only static media (text and images immobile), but also files containing dynamic media (audio, moving images). Audio and video recordings are now a common part electronic (e-mail) correspondence. A positive effect of such teaching is the ability to continuously monitor the specified seminar work and help students to focus on the issue, which is mainly in combined form of study for students invaluable. There are also easier using e-mail. For example regular sending of documents will enable students to prepare for teaching. This opportunity of educator is not suffer because only sends initial messages and get feedback from students to the classroom. Students can print documents need not be addressed in the course of teaching writing and drawing, and can focus more on interpretation.

3. On-line communication

In teaching, and in activities that relate to it, every teacher must have a certain amount of support. This support is characterized by being individualized, and must allow a relatively wide range of activities. In analyzing the functions this support should fulfill, it is necessary to begin with the main activities that make up the instructor's total teaching experience (e.g. Hubalovsky & Sedivy, 2011). Consequently, it is necessary to combine the various functions of support for the teacher's activities into one system that will be interactively available in all the required moments. (e.g. Hubalovsky & Sedivy, 2011). It is describes this as Computer Managed Instruction (CMI). Representative of older hypertext documents (web pages) are the programmed textbooks, recommending that students go to other parts, such as by the accuracy of answers to given questions, as described in (e.g. Hubalovsky 2011). Programmed learning thus avoided the Internet (Arpanet network was 1969). At present, we can say that, conversely, the Internet, especially websites provide very effective support of programmed learning. Websites were at the origin of e-learning and blended learning, which will also be addressed. Very special web pages are analogous to electronic journals designated e-zine or book called e-book. Electronic text can be defined as a digital file with specific content that is not merely a text file. It may contain in addition to text and image content and navigational aid. The benefits include:
- Low cost- Simple publishing
- The availability of- Support for media

- A benefit for handicapped.

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- LMS (Learning Management System) - includes features for managing the activities of students, evaluation, and monitoring their activities, etc.
- LCMS (Learning Content Management System) - contains functions for creating course content, their import, export and sharing. Vastness of the Internet and the huge number of available resources are prerequisites for its use in teaching. However, we must realize that when searching for important and informative information can also come across the pages of dubious levels, even downright illegal sites which may impair the mental and moral development, particularly youth (promotion of racism, violence, etc.).

The educational system must also use the Internet to teach, among other things fulfill three important functions in the teaching process:

- To provide information,
- Give instructions, additional guidelines for information processing,
- Obtain feedback on the information processing.

Basic assumptions and Internet services allow the introduction and use of online study in this environment. Significantly, this study is usually finely detailed and if it uses the above possibilities of online communication are those observed basic didactic aspects of teaching. Advantages of e-learning consists in saving time, individualizing instruction, objective feedback and usability not only for teaching but also for the transmission of information, in which the emphasis is on their way transmission. Important for the use of e-learning is that there is no significant difference in relation readiness in the use of e-learning and the age of the students, as shown in a survey of high school students, described. This means that you can expect seamless use of e-learning students. Educators as the other side of didactic communication within teaching (e-learning), a central value of easy updating of training materials, the possibility of a permanent two-way contact with students. Surprisingly note that interest in contact with the teacher is the on-line system, is significantly larger than in classical studies. It's only an alternative in many areas suitable complement classical mode. Educators in the creation of e-learning realize the basic didactic aspects of teaching (e.g. Hubalovsky 2012). A similar view and provides some reservations pedagogical-psychological nature that appear in e-learning. He mentions, for example, the promotion of technology in education at any cost, that affects the very understanding of e-learning. The original understanding of "e-learning is an educational process, coupled with a computer" to New "e-learning is the use of multimedia technologies and the Internet to promote the quality of the educational process." Newer understanding that defines the role of e-learning in teaching, i.e. its application wherever there is a shift in the quality of the educational process. Further developments shifted

the understanding of the notion of e-learning in the current approach to the concept of teaching without full share of its forms. This is advantageous from the viewpoint of maintaining the "purity" of definitions of terms. This is based on the fact that full-time teaching only "live" teacher is different from full-time teaching, which forms an important part of teaching using electronic communication options, and both are different from teaching only to the use of electronic communication capabilities. They differ in many respects, including:

- The preparation of teaching
- Used didactic means
- Teaching style of the teacher
- Learning style of the student

Based on the above was another concept of blended learning, which we in the narrower sense, understood as a combination of e-learning and other non-electronic (especially full-time) forms of learning at different rates, depending on the objectives and other didactic aspects of teaching. In a broader sense, the term can be understood as the combined instruction, the combination of full-and part-time forms. The issue of teaching in the context of dealing with a number of author. About creating custom web applications to support teaching and use of the possibilities offered by different programs and databases, discusses a number of domestic and foreign authors. Some say a brief overview of options that allow modern web technologies and databases. When learning from the Internet can lead to all kinds of communication noise. In electronic communication usually lack non-verbal communication, which would effectively support the encoding passed message. Even, if the video is only visible part of the second caller, usually also poorly. Text Communication provides for necessary brevity usually only clean content of the communication, and thus may lead to its connotation, and then the communication noise. E.g. even seemingly simple sentence "Today is warm." can be decoded in two ways, if we do not know the context. Forms of redundancy needed for better communication passed decoding is disappearing due to aforementioned brevity. To some extent this can be replaced by using emoticons, but this leads to the suppression of natural language, see above. Significant problems in the social sphere are also related to the digital divide and the resulting uneven current opportunities for all people in a globalized world (e.g. Sedivy & Hubalovsky 2012).

4. Problem Formulation

Vastness of the Internet and a huge number of usable resources are prerequisites for its use in teaching. We note, however, that prolonged sitting at a computer can lead to the following: Meeting with pages of dubious levels in adolescents- some sites can like some computer games lead to loss of ability to distinguish between real world and reality, or extremely motivated, and thus provide the basis for addictive behavior. There are restrictions on movement and thereby adversely affecting the spine, circulation, sight, etc. Educators must be able to show how to work with information as to evaluate how to communicate with other people, how to create new digital documents. This is just part of the requirements that determine not only the use of the Internet, but the media and multimedia in teaching. Students with different learning styles prefer different media and different styles of practice. From the above it is clear that learning styles play an important role in teaching using the Internet.

5. Problem Solution

Research was conducted at three universities in the Czech Republic. Its aim was to map the potential conflict between the demands of students and teaching experience (opinions) teachers. The first hypothesis was that students will prefer learning with the use of certain Internet services that enable more "dynamic" and online communications, such as Facebook. The second hypothesis was that teachers will prefer more "static" form of communication that is based on pedagogical principles. It is also easier to create learning materials. For this occasion, we also conducted benchmarking exercise against the interest of students and teachers of learning using mobile devices (mobile phone, iPad). The third hypothesis was that students would prefer the monitors. Teachers will hesitate between iPad and non-use of mobile devices in teaching. The results of our research show various tables and graphs.

Table 1. Preference forms of communication in the classroom - students (standard error of the estimate is 3.74)

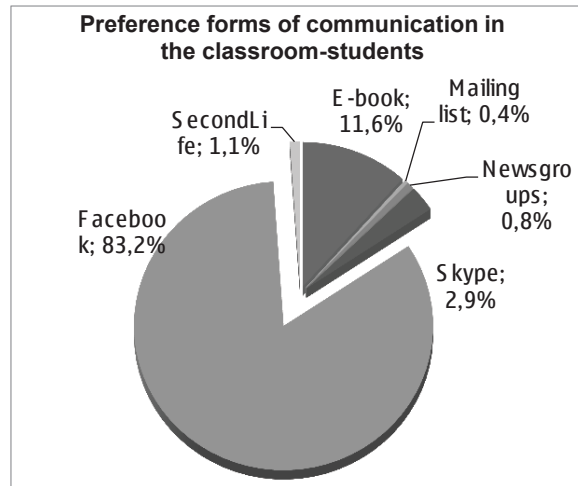|	
E-book	11,6%
Mailing list	0,4%
Newsgroups	0,8%
Skype	2,9%
Facebook	83,2%
SecondLife	1,1%

Fig. 1. Graphical presentation of results of own research

Table 2. Preference forms of communication in the classroom - teachers (standard error of the estimate is 3,59)

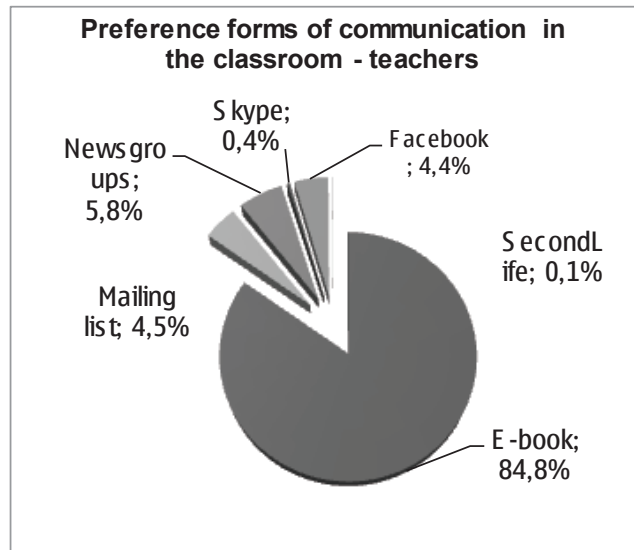|	
E-book	84,8%
Mailing list	4,5%
Newsgroups	5,8%
Skype	0,4%
Facebook	4,4%
SecondLife	0,1%

Fig. 2. Graphical presentation of next results of own research

Table 3. Preference of mobile devices in education - students (standard error of the estimate is 3.69)

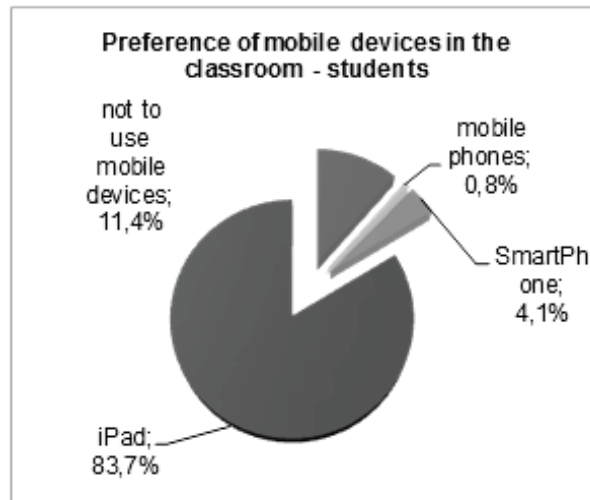|	
not to use mobile devices	11,4%
Mobil phone	0,8%
SmartPhone	4,1%
iPad	83,7%

Fig. 3. Graphical presentation of next results of own research

Table 4. Preference of mobile devices in education - teachers (standard error of the estimate is 4,97)

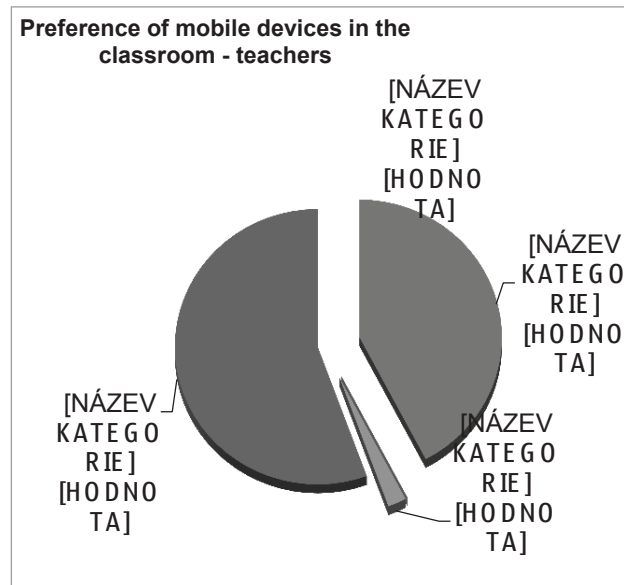|	
not to use mobile devices	42,3%
Mobil phone	0,0%
SmartPhone	2,1%
iPad	55,6%

Fig. 4. Graphical presentation of results of own research

Standard error is shown with 95% reliability. In addition, the table lists by percentage the average share of time spent by each teacher who performs this activity regularly. The total period of activity for each teacher for the activities mentioned above is 100%. Statistically, these calculations are verified using variable coefficients. Overview of the frequency of activities carried out by individual teachers in %, and an overview of the average % of the share in relation to other activities. All activities are always 100% of time spent by each teacher identified in the survey.

6. Conclusion

Based on our research, we can say that the first two confirmed our hypothesis and there is a discrepancy between the preferences of students and teachers. Students prefer communicating through Facebook. On the contrary, teachers preferred e-books. Our research showed that there was no interaction and communication is necessary to optimize the student – teacher (e.g. Chromy & Drtina 2012). Teachers should accept students' preferences, on the other hand, it is clear that no one t mindlessly. Above this contradiction it is necessary to consider in the future solve it on the basis of further research, particularly the influence of Facebook on students and their complementing styles of learning that the introduction of Facebook brought into teaching. A better situation is in the preferences of mobile devices in teaching. There was a consensus preference iPads only difference is the frequency. The difference is probably that the teachers see the current lack of software that has been specifically designed or optimized for the iPad. We realize such a relatively small monitor iPad. Another problem is that teachers of the social. Not all students own iPad and there is a digital divide.

Acknowledgements

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