Changes in ICT use by polish students from life sciences university

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Abstract

The paper assesses the changes in the use of the computers and internet, and specifically internet communication, by students of the Faculty of Production Engineering, University of Life Sciences in Lublin, Poland in academic years 2009/10 and 2013/14. The structured questionnaire was used as the tool for collecting data. The results indicate there was a dynamic raise of students with their own computers and with direct access to internet. There was a complete swap in the number of desktop units in comparison to laptops. Social media became the most popular application of internet. However, the students used also internet and computers for class preparation. The data collected indicated that the respondents used internet and its available services in every day life.

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Peer-review under responsibility of the Sakarya University.

Keywords: information technologies, internet, higher education, students, internet communication

1. Introduction

Communication revolution is the term used to describe a rapid development of communication due to improvement of new information technics and technologies. Information and communication technologies (ICT) have become common in all aspects of life. That includes education although ICT impact has not been as massive as in other spheres of life. It is obvious that the improvement in information transfer technics determines interactions within communication community and intercultural communication (Bugajski, 2007).

Internet can be defined as a worldwide, dynamically changing system of computer networks. It offers a lot of services such as remote login, transfer of files, electronic mail, World Wide Web (WWW), discussion groups etc.

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Internet has gradually become dominating telecommunication method equal to telephones and television in terms of popularity and speed (Grzenia, 2008). Nowadays internet is common and omnipresent so current students think that it has been forever. Despite those believes the creation of internet was an accurately defined process, both in terms of time and location. Moreover, this process was precisely planned and also controlled and coordinated. In the last decade there has been a tremendous increase in the number of internet and ICT users. In Poland, in 2012 71% of the households had access to internet whereas 64% of population, in the age 16-74, used computers. However, the last number is still lower than the EU average which was 73%, while in the Scandinavian countries it was above 90% (Społeczeństwo informacyjne, 2012).

It appears that the media which not that long ago was mainly of interest to scientists has not become accessible to increasing number of users, with young people forming the frontrunners (Szczepanowska & Fiedler, 2010). Internet has become a new social space, which provides for most of people’s needs, including higher education (Kirkup & Kirkwood, 2005; Kamal & Banu, 2010; Patel et al., 2011; Sysło, 2012). With the introduction of specialised learning software such as WebCT and Blackboard, Questionmark Perception, and I-Assess ICT has also started to change the way students learn (Akkoyunlu & Erkan, 2013; Uziak, 2009). Internauts, the users of internet, can satisfy their higher needs such as belonging or affiliation, respect and self-esteem by means of blogs or WWW. The provision can be extended to more hedonistic needs thanks to network games or the possibility of shopping via internet. The individuals in cyberspace can satisfy both individual and social needs.

Internet communication is based on the usage of a sign, an image or an icon, which replaces or limits the use of words. It also allows on the transfer of symbols, i.e. information, concepts, values, norms or statements (Juszczyk, 2011). Communication is a crucial process developing with human race since the dawn of time. However, the methods, opportunities and needs have been changing with time. Information, but also the speed of obtaining it as well as its transfer, is crucial in the current society. Indeed those features are fundamental reasons why internet is currently so important in the life of society; the additional features such as worldwide span, its multimedia aspect and interactivity are also significant. It is observed that the role of internet in the social communication, in its broad understanding, increases together with the extension of available services (Pawlowska-Mielech & Bocek, 2006).

There are three types of interpersonal communication within internet (Grzenia, 2008).

1. Conversation or chat, represented by all types of internet dialog.
2. Correspondence or mail, covering all types of communication based on electronic letter; that includes e-mail, groups, lists and discussion fora.
3. Hypertext, which represents texts available in WWW (also texts without hyperlinks) and not covered under the first and second type above.

However, the engagement of young people using internet is not always proper and may lead to many problems, including health issues. Although in comparison to other users university students excel in the level of computer knowledge and skills it does not stop that group from having serious issues with proper use of available technologies (Yau & Cheng, 2012; Lis, 2010). It is also not uncommon that their skills are shallow and use of internet is unsophisticated (Tutkun, 2011).

2. Objective, data and methodology

The objective of this study was to assess the changes in the use of the computers and internet, and specifically internet communication, by students. The study included bachelor’s and master’s degree students from the Faculty of Production Engineering of the University of Life Sciences in Lublin, Poland. The data collected covered years 2009-2014 (Lorencowicz & Kocira, 2012; Lorencowicz et al., 2013).

The method of a diagnostic survey was used in the collection of the data. The technique employed was survey and the questionnaire was used as the tool. Diagnostic survey is one of the most popular methods in social studies research. The method allows to collect information about functional and structural features and also the dynamics of social processes, opinions and views of a specific group of people. Surveys are almost always based on examining specifically selected sample of the general population. The aim of the study is a particular social phenomenon. The method of a diagnostic survey applies many techniques, including survey, interview or analysing the documents. The method implies and determines the selection of the appropriate research technique (Szczepanowska & Fiedler, 2010). As indicated before, the questionnaire was used in the current survey.
3. Results

The basis for the deductions in the current study was the empirical data collected through the questionnaires administered in the academic years 2009/10 and 2013/14. The study included a total of 325 (in year 2009/10) and 418 (in year 2013/14) students. Of the study group, the students from the rural areas constituted 61.85% in 2009/10 and 52.63% in 2013/14. In terms of the programme of study, the largest group represented Management and Production Engineering; 24.31% in 2009/10 and 70.57% in 2013/14. Agricultural and Forestry Engineering totalled 14.15% in 2009/10 and 6.94% in 2013/14, of all students participated in the survey. Programme in Transport was represented by 10.46% students in 2009/10 and 10.53% in 2013/14 (Fig. 1).

By analysing data from the survey it was concluded that there was a dynamic raise of students with access to internet, which reflected the general improvement in digitization and computerization in Poland. Among the study group the access to internet in 2009/10 had 86.77% and it increased over 12% to 99% in 2013/14. With the increment in the direct access to internet there was a decrease in the number of students accessing internet: using the university network by 3.45% (from 3.45% to 0.24%), hot-spots or internet cafés – 2.05% (2.39% to 0.34%) and via friends’ access – 6.73% (7.15% to 0.42%).

There was an increment of 18% in the number of students possessing their own computer; in 2009/10 more than three quarter of the students (78.15%) declared having their own computer whereas in 2013/14 almost all students had their own units (96.17%). At the same time the number of students not owning a computer dropped from 5.85% to 0.48%. There was also decline in the number of students sharing a computer with their siblings (from 14.15% to 3.35%). There was also a swap in number of laptops and desktops; the number of desktops dropped from 59.38% in 2009/10 to 19.38 in 2013/14 while the number of laptops increased spectacularly from 19.38% to 75.84%. The students affirmed owing also other computer hardware (Fig. 3).
The results indicate that there was an increment in the additional computer equipment (Fig. 3). The increment was observed for all the equipment; printers, scanners and multifunction units. Reasonable and relatively low prices are obvious reasons for such a trend.

Fig. 4 shows the type of use of internet by the students. The graph indicates the general raise in the use of internet. The percentage increase of students using internet for seeking information was 15%. A similar trend (but the increase was only by 5%) can be observed in using internet in order to search for information related to students’ programmes, courses and generally information related to their studies.

More students use internet for shopping and for general internet surfing. Different types of internet communicators are also very popular among students. That includes Skype but also ‘Gadu-Gadu’, the most popular
Another important type of internet application was electronic mail, which allows for a quick and convenient method of communication. The use of blogs is limited to only 2% of the analyzed population with most of the students not using it at all. It may be attributed to lack of time required to run a blog on a daily basis.

The highest raise in application can be observed in social media. Within 4 years its popularity more than doubled, from merely 30% of students using it in 2009/10 to over 80% in 2013/14. Fig. 4 indicates that internet communication has become an important element in the life of students’ population. It may indicate that the traditional form of communication, such as phone or old-style mail, will be gradually replaced by modern and swift communication forms. Collected data indicates that students consider internet to be very useful in their studies; 10% increment in the last 5 years. The above can be attributed not only to the general rise in the internet use but also with the number of learning, teaching and other information placed on different webpages. Additionally, internet provides for faster contact with friends, fellow students and acquaintances either through e-mail or social media. In the academic year 2013/14 there were no students who considered internet as redundant.

Fig. 5 shows the use of different software. It can be seen that there was an increment by 4% of users of Windows. The number of users of Ms Office, among the analyzed population, increased by almost 7% and reached a value of above 90%. The use of other spreadsheets, text editors and graphics software each dropped by 2%. The above proves an expansion and domination of Windows as an operating system and MS Office as a suite of desktop applications.

![Fig. 5. Use of different software](image)

Interestingly, less and less students write their own programs; programming dropped from very low 5% in 2009/10 to 2.5% in 2013/14. That is despite the fact that the analyzed population consisted of students from engineering programmes.

The type of use of computers in everyday life is presented in Fig. 6. There was an overall rise in the use of a computer by students in all examined categories. The highest increase was in general net surfing; by 26%. A big group of students (over 50%) used a computer for listening to music and for watching movies.
Although computer games were less popular nevertheless the percentage was still high at almost 18%. It is also important to observe that students were using computers for class preparations, text writing and editing and also for calculations. However, the level of computer use for calculations was relatively low for engineering students (less than 8%), the same applies to technical drawings (ca. 3%).

4. Summary and conclusion

The data collected indicated that the respondents used internet and its available services in every day life. Internet usage was for the students natural and something which would be difficult to live without. It was also established that it was relatively easy to get dependant on the net. Internet is very popular and omnipresent and had big influence on students’ life. Especially popular was internet communication, in the forms of mail and internet communicators, and also social media. In the period under review (between academic year 2009/10 and 2013/14) there was tremendous increase in the use of social media (more than 80%) whereas the usage of mail and internet communicators stabilized (both around 45%).

The actual reasons for the ever growing role of internet as the tool for social communication are its specific features, such as speed, growing access, scope and range of applications. It confirms the statement by Oliver (2002), made already in the beginning of the century, that the progress in information technology generates the necessity of new skills. The future development of new technologies depends on the progress of computer knowledge and skills of the society.

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