THE CIRCUMSTANCES OF USING TECHNOLOGICAL APPLICATIONS INSIDE AND OUTSIDE OF THE FACULTY BY PHYSICIAN AND NURSE CANDIDATES

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Abstract

In this study the aim is to determine which technological applications are used by physician and nurse candidates; where, why and how they are used, based upon the technologic and educational context. This research is considered as a case study. The study group was determined by "easily accessible case sampling" and consisted of 78 freshman, sophomore and junior physician candidates from the Faculty of Medicine of Hacettepe University; 50 freshman, sophomore, junior and senior nurse candidates from the Nursing Program of the Faculty of Medical Sciences in Başkent University. A questionnaire and a semi-structured interview form created by the researchers were used in this study. The content analysis method was used in the data solution. Research participants stated that technological applications they used in daily life and for classes were different. This situation can be considered as an indication that we could not yet integrate technology into education. It was determined in the research that students used search engines and office programs the most. As a result of the research, results of the students who take distance learning courses was higher than those who formal learning. Moreover students presented positive attitudes towards distance learning.

In conclusion, the finding regarding students' willingness to take distance learning courses and use of social networks should be carefully dealt with. Especially considering the high numbers of students attending faculties that school health professionals, alternative teaching methods and procedures should be conceived. Student participation should be encouraged along with mixed learning platforms, and students who are crammed into the lecture halls should be supported in terms of education.

Introduction

Fast growing technological developments have significant effects in the educational context. In cases of providing students with opportunities that enable them to use information technologies efficiently and effectively, it is seen that their perceptions of information literacy and self-sufficiency regarding the fields that they study have improved (Usluel, 2007). Recently thanks to these technological applications used commonly for educational purposes, students can communicate with whomever they want to, share/receive files and correspond within a short span of time. These technologies include social networks and other electronic communication tools. All these technologies can be categorized under Web 2.0 (David, 2010). Web 2.0 technologies are determined to be used efficiently by especially university students (Pempek et al., 2009; Quan-Haase & Young, 2010; Toğay et al., 2013).

Informal learning is defined as the learning formed according to self-performances of an individual by interacting with other individuals on a social platform (McGivney, 1999). With the help of Web 2.0 technologies utilized frequently in educational environments in the recent period, students have been integrating into such environments and taking individual responsibility for learning (Milheim, 2007). However Web 2.0 platforms are used efficiently and effectively in the formal education environment as well as in the informal education environment. But if studies are conducted with the participation of students in terms of how to benefit from these technologies in both of these educational environments, opportunities can be created in efficient learning with a more realistic point of view (Solomon & Schrum, 2007; Atal & Koçak-Usluel, 2011).

There are several studies (Cotrell & Robison, 2003; Neumann & Hood, 2009; Fernandez, Simoa & Sallana, 2009; Johnson, 2002; Taradi et al., 2005) indicating the positive impact on students when technological applications and tools are used to assist face-to-face education. The important thing is to create awareness of these technologies' positive effects on students in the educational context. In this study the aim is to determine which technological applications are used by physician and nurse candidates; where, why and how they are used, based upon the technologic and educational context. In accordance with this primary aim, the answers to the three questions below are required:

1. Which technological applications do the physician and nurse candidates use in their daily lives and why?

2. Which technological applications do the physician and nurse candidates use in the educational context and why?

3. Out of the technological applications that the physician and nurse candidates use in their daily lives, which ones do they prefer to use in the educational context and why?

Method

Research design

This research is considered as a case study. Case studies are survey arrangements aiming to make judgments related to a specific section in population after analyzing it in detail (Hays, 2004; Karasar, 2005). There are no generalization purposes in these kinds of studies. The main purpose is to discover typical situations of each case (Yıldırım & Şimşek, 2008). As in the case studied in the scope of this research, not only physician and nurse candidates' use of technology both in their daily lives and academic purposes (in the educational context) and their reason for that but also their views in terms of their expectation in using technological application for their classes were analyzed individually and approached as a whole; multiple case design was used (Fraenkel & Wallen, 1996; Yin, 2003).

Participants

The study group was determined by "easily accessible case sampling" and consisted of 78 freshman, sophomore and junior physician candidates from the Faculty of Medicine of Hacettepe University; 50 freshman, sophomore, junior and senior nurse candidates from the Nursing Program of the Faculty of Medical Sciences in Başkent University.

Instruments and data collection

A questionnaire and a semi-structured interview form created by the researchers were used in this study. In the creation process of both the questionnaire and the form, expert opinions were requested and necessary corrections were made. In the final form of the questionnaire, open-ended questions regarding the students' circumstances and purposes for using technology in daily life and in classes were included. In addition, the semi-structured interview form was prepared in accordance with the questionnaire questions, and interviews with the participants were held to get more detailed information. The data collected after the interviews with students were coded by two scientists and then the credibility of data was calculated with the formula "Credibility=Consensus/Divergence+Consensus x 100" (Miles & Huberman, 1994). The coefficient of credibility is determined to be over acceptable limits (> 80%).

Data analysis

The content analysis method was used in the data solution. In this study, the researchers applied the coding using the "coding according to concepts in the data" method. The researchers and the two other scientists coded separately. Then themes were created; frequency and percentages were calculated.

Findings

In this part of the research findings were included under separate topics in accordance with the research questions.

Which technologies do the physician and nurse candidates use in daily life? Why?

When the results obtained in accordance with this sub-question of the research were examined, it was determined that the physician and nurse candidates used the social networks the most (79.6%) in daily life. When other applications were examined in order, it is seen that they used office programs (69.8%), e-mail applications (57.1%), search engines (55.1%) and educational software (16.0%). Purposes for using these applications were introduced below:

Social networks

The students' answers to the question about the purpose of their social media use in daily life were placed under four categories. It was determined that students use social networks to communicate (69.5%), to make friends (52.3%), to satisfy their curiosity (34.8%) and to play games (24%). It was assessed in the focus group meetings that students use social networks to relieve the stress of life and to have a good time.

> *A.P.: Classes are intense and I follow social networks when I can spare myself some time from this intensity. I always stay in touch with my friends via constant notifications thanks to my smart phone.*

> *H.T.: I communicate with long-distance friends about classes and socially via social networks. Of course, if I can find some time outside of classes.*

Office programs

The students' answers to the question about the purpose of their office programs use in daily life were placed under three categories. It was determined that students use office programs to create class reports (83.8%), to keep the electronic records of hospital visits (52.6%) and to create academic study plans (29.7%). It was ascertained in the focus group meetings that students use office programs because they have to use them when writing class reports and they are unable to do any homework without a computer.

> *S.A.: We almost forgot how to write with a pen. Everything is performed with a keyboard. In the near future we will have electronic tests. It would not be wrong to say I can't manage anything without office programs.*

> *Y.T.: I use my computer just for writing in Word. Courses are so intense that office programs constitute a part of life.*

E-mail applications

The students' answers to the question about the purpose of their e-mail applications use in daily life were placed under two categories. It was determined that students use e-mail applications to communicate with friends and family (88.3%) and share files (74.5%). It was assessed in the focus group meetings that students use e-mail applications to communicate with friends and to send/receive files.

> *U.R.: I check my mail at least 10 times a day to see if there are any notifications from my family and friends. I don't use social media so I get the news via e-mail. But I can't be informed of lots of things just because I don't use social media.*

> *Y.T.: I use e-mail applications to video chat with my family. Other than that I'm not too involved in it.*

Which technologies do students use for classes? Why?

When the results obtained in accordance with this sub-question of the research were examined, it was determined that the physician and nurse candidates used search engines the most (83.9%). When other applications were examined in order, it is indicated that they use office programs (79.6%), e-mail applications (67.1%) and social networks (23.8%). Purposes for using these applications were introduced below.

Search engines

When responses of the students when asked why they used search engines were analyzed, it is seen that the students use search engines to do research for projects and classes (84.5%) and to get additional professional information (47.2%). It was assessed in the focus group meetings that students use search engines to frequently research about project subjects that they are given, and as assistance to class materials.

> *Y.R.: We are very busy with projects and homework. Now I can access everything thanks to the search engines considered as virtual libraries.*

> *Y.T.: I benefit from Internet for my professional development. Google opens every door.*

Office programs

It is ascertained that students use office programs to write assignments (69.2%) and summarize the book chapters before exams (36.4%). It was assessed in the focus group meetings that students use office programs to prepare assignments needed to be handed in and summarize foreign books electronically.

> *S.R.: Now as we have to prepare everything on computer, office programs are indispensable for me.*

> *Y.T.: We translate thick medical course books on computer by sharing among each friend, then we collect and use them in classes.*

E-mail Applications

The students' answers to the question about the purpose of their e-mail application use in daily life were placed under three categories. It is determined that the students use e-mail applications to share files (92.3%), to exchange opinions with friends (67.9%) and to communicate with instructors (44.5%). It was assessed in the focus group meetings that students use e-mail applications to share various documents with friends and to exchange information before exams.

> *S.R.: My friends and I share and archive the academic files we come across on the Internet via e-mail.*

> *Y.T.: We send potential exam questions to each other.*

Social Networks

The students' answers to the question about the purpose of their social network use in daily life were placed under two categories. It was determined that students use social network to share files (79.2%) and exchange opinions with friends (62.0%). It was assessed in the focus group meetings that students do not use social networks a lot. However the ones who do use them for exchanging files and chatting with friends especially about classes (especially before exams).

> *U.R.: I do not generally use social media for educational purposes. But when I do it is to discuss questions before exams.*

> *Y.T.: Social media is the best way to share files because all my friends have an account.*

Which technological applications do students use for classes? Why?

It is established that students use distance learning programs (88.5%) and social networks (76.6%) for classes. The reasons for their use of these two applications are stated below.

Distance learning programs

When responses of the students when asked why they used distance learning programs were analyzed, it is indicated that they use these for watching lectures later (86.2%), participating in some classes without going to school (58.3%) and following other instructors' lectures in another university (23.4%).

Social networks

Students state that they need to use social networks at least to communicate for classes. This is especially true for physician candidates because there are so many students; they explain that they often get disconnected with each other and instructors. When their opinions were analyzed, it is seen that they use social networks for sharing information about class cancellation/class hour changes (88.3%) and for sharing files (66.7%).

It was assessed in the focus group meetings that students stated that they use distance learning programs for making up for classes, accessing course materials later and following some classes without going to school. They said they used social networks for file exchanges and to get information on cancelled classes and class hour changes.

> *U.R.: It makes great sense that some of the classes are provided with distance learning. We squeeze into lecture halls. Sometimes we can't find seats. It would be nice if there were a distance learning option for courses without going through that and then everyone would follow the lectures at home.*

> *Y.T.: They put up announcements on a board. But it would be nice to give up these kinds of traditional procedures in this electronic era. After all everyone has an e-mail or a social network account.*

Conclusion and discussion

Research participants stated that technological applications they used in daily life and for classes were different. This situation can be considered as an indication that we could not yet integrate technology into education. This case, which is described as digital inconsistency, unveils the need for recreation of teaching approaches in faculties (Clark et al., 2009; McLoughlin & Lee, 2007). Thus, the fact that almost every student has a social network or an e-mail account cannot be counted as a benefit in terms of education. The clearest indication for this is that according to the research results, even if all the students have a social network account they do not turn it into an academic advantage. It is no doubt that faculty administrations should consider this situation as a contributing factor for creating a positive learning platform with some arrangements.

It was determined in the research that students used search engines and office programs the most. When the related domain was examined, it was found that social networks could easily be used in educational context (Atal & Koçak-Usluel, 2011; Clark et al., 2009; Jones et al., 2010) and this would contribute to teaching, improving and sharing of class materials, and extracurricular group studies (Ajjan & Harsthone, 2008; Toğay et al., 2013; Yuen & Yuen, 2008). Similarly, Yuen and Yuen (2008) state that classes where undergraduate students are present have positive contributions on academic success, motivation and self-monitoring. According to the study conducted by Toğay et al. (2013), supporting social networks in the

educational processes has a positive impact on students' learning and facilitates and improves the learning processes.

In the study conducted by Özkul and Aydın (2012) with the participation of new undergraduate students, students' willingness to use distance learning was analyzed. As a result of the research, it is ascertained that students were willing to support their formal training with distance learning and they preferred distance learning to formal learning. In the research carried out by Suanpang, Petocz and Kalceff (2004) with the participation of undergraduate students, attitudes towards distance learning and academic success were examined. As a result of the research, results of the students who take distance learning courses was higher than those who formal learning. Moreover students presented positive attitudes towards distance learning.

In conclusion, the finding regarding students' willingness to take distance learning courses and use of social networks should be carefully dealt with. Especially considering the high numbers of students attending faculties that school health professionals, alternative teaching methods and procedures should be conceived. Student participation should be encouraged along with mixed learning platforms, and students who are crammed into the lecture halls should be supported in terms of education.

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