Aspects of Students about Information Technology Courses in Social Science

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Abstract

Information Technology (IT) is used in almost every area of higher education. However, it can be clearly seen that number of courses intended to teach the use of IT in social science is quite low in Turkey. There is a gap between generations who design curriculum and who take classes at universities. If we consider digital natives will attend universities soon, it is very important to redesign the curriculums including topics about IT. Besides the number of IT courses in science curriculum is more than the number of IT courses in social science curriculum.

In this study, authors aimed to determine the aspects of students about IT courses in social science. In this scope, a questionnaire is conducted to fourth grade students of Philosophy Department at Istanbul University who have taken Logic and Computer Practices II class. The questionnaire consists of 19 questions and it is conducted to 140 students.

According to study results, students expressed that IT courses are vital for their future professional life and workplace. They believe that it is necessary to add various IT courses such as office programs, information management, web design, database, and programming languages to curriculum in social science at higher education institutions.

Keywords: Higher education; IT courses; philosophy education; social science.

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1. Introduction

Human needs sometimes can be considered as critical factors which acts in shaping the social processes. Today, information and technology become important almost in every field and also society is now referred to as information society. Information Technology (IT) which consists of integration of computer and communication technologies, and especially effects on developments in communication technologies infrastructure (Tahirov, 2009), has been one of the important and effective sub branches of today's world of technology. IT is defined as tools that helps to produce, collect, accumulate, process, retrieve, disseminate and protect information (Akkoyunlu, 1998).

Rapid developments in IT, has led to a shift and remodeling in social structure (Çalı̇k and Sezgin, 2005). Furthermore, the existence of individuals who can use IT effectively will provide the ability of benefiting from this technologies at the highest level. However, goals toward becoming an information society, deficiencies and inadequacies related to user skills about usage of IT tools and digital literacy level of users cause ineffective usage of information and communication technologies (ICT) and hinders utilization of overall effect sufficiently (TBMM, 2012). Therefore, developed countries are intended to be literate, to access information, to gain and to develop their skills of using and assessing to information including all members of society until reaching the 21st century which is the age of information and technology (Önal, 2010).

Only in the last 10 years, changes and developments in the internet and mobile technologies affected business and services in various fields to perform their operations online. Furthermore, our daily and professional life is changed because of these changes in the requirements of contemporary society (Hamiti et al., 2014). Many tools that we use in our daily life is changed with technological development. We can give many examples of this change such as from the box office where we buy tickets to machines which we fill our cards, from queues at banks to internet and mobile banking, from phones which sent images as its biggest function to smartphones which give opportunity to almost every transaction.

Working life is not much different than daily life. Today, developments in IT, especially increment of internet infrastructure and usage network, significantly effect every sector; economic integration, which has occured with the disappearance of borders between countries, has changed quality and structure of provided services significantly with these developments (Özbilgin, 2003). In addition, advances in technology entails redefinition of professional requirements at the organizational level the workplace environment, health and safety at workplace reorganizing and restatement of business plans, job descriptions (Göktürk, 2007). Therefore, the new job descriptions which will be organized according to technological progress or new regulations in existing fields will create new jobs. However, at this point providing competitive edge will depend on effective use of IT tools.

Education is defined as the process of changing behavior of individuals in the desired way (Genç ve Eryaman, 2008). At the same time, considering the purpose of education which is educating individuals towards needs of the community, it is clear that education has quite important role in bringing up students for this IT era (Varol, 2002). High schools have an important role to provide IT education for students and to make them ready for global IT workforce (Csapo, 2002 in Randall and Zirkle, 2005). In schools large amounts of money is spent for computers/computer technologies but the more important issue is educational effectiveness of these technologies after integration to classrooms (Wilmore and Betz, 2000). The use of technology in education has increasingly gaining importance as technology education. In recent years, particularly the use of mobile technology in education is widespread. However, social sciences are considered to be less of studies in this field. Shih et al. (2010), specify that the use of mobile learning technologies for social sciences are reported less frequently than for the other sciences has technique-oriented content that develop the structural or systematic knowledge or skills of students.

According to these ideas, new education strategies and programs should be developed, IT should be used effectively as an education instrument (Gülseçen and Kubat, 2006), because, educational life without IT or IT tools is no longer possible for students and even for lecturers especially at higher education. Registration operations, searching book on a library, attending online courses and exams, communicating with the course lecturer, etc. are some simple examples in terms of students. On the other hand, lecturers are trying to adapt IT for their courses and follow the developments for their students.
2. General Rationale and Hypothesis

Specifically universities, which are the most important institutions contribute a country's development and which provides the needed international qualified manpower by performing high levels of education and training activities at programs organized its internal structure training (Günay, 2004), is now trying to do own share in this new structure. In the process of restructuring, importance of acquiring the skills needed for higher education for individuals is increasing day by day (Saatçioğlu et al., 2003) and IT usage is one of these skills. These developments and new applications are quite proper, because one fact that we should take into account is nature of science that requires collaboration between researchers whether they are working at the same area or not. For example, a researcher who works at the business administration department, can need a software which helps to analyse data about customer behaviours and also the researcher need to know how to use this software. Another fact is sometimes students in higher education can be not curious enough to search about their studying area. In such cases only key is lecturers who can guide them to meet IT and IT tools. Moreover, it is important to decide which IT courses should be added to the curriculums.

At this point, when curriculum contents at universities in Turkey are examined, it is seen that fundamentals of IT courses are already existed. However, again we have to ask ourselves following questions: Are these courses enough for students?, Are students thinking that the IT courses that they have taken necessary for their business life?, How should IT education be according to students? and related to previous question what are student expectations from universities? Authors are inspired of these questions and the questions have become the start line.

In this study, it is accepted that IT education is disregarded at social science little more than science in Turkey. For this reason it is aimed to present aspects of social science students about IT courses at higher education in Turkey. Accordingly, a questionnaire is conducted to Istanbul University Faculty of Letters 4th grade Philosophy Department students to find out their opinions about IT.

3. Method

Participants
The sample of the study consists of 140 forth grade students (102 female and 37 male at average age of 23) from the Department of Philosophy who had taken the course named “Logic and Computer Practices II”.

Data Collection Tool
Questionnaire (see Appendix), which is prepared by authors, is used as data collection tool. The questionnaire is consisted of 19 questions. Two of them are demographic questions, 8 multiple choice questions are prepared to determine IT usage and IT education at universities and finally it has 9 open ended questions.

Data Analysis
Percentage and frequency tables are used to analyse data. Data analysis is performed with IBM SPSS Statistics 22.

Internal Validity of the Study
The questionnaire used as a data collection tool has been applied to students one to one. There has not been any redirection. There was not any question that has a clue about identity of the students. Age and gender were the only demographic questions of the questionnaire. Authors analyzed responses by themselves.

External Validity of the Study
Considering research group of the study, we can say that the results can be generalized limitedly. Generalizability of the results is possible with students who have the same education and features. A brief information about questionnaire is given to students before it is conducted.

4. Findings
One hundred and forty students have responded the questionnaire, but participants have left blank some of the questions. 73% of them (102 students) is female and 27% of them (37 students) is male. Ages of students are between 21 and 42, the average is 23. 94% of students (131) has and only 6% of them (8) has not computer. Table 1 shows IT usage, general success rates and class assessments of students who participated this study.
Table 1. IT usage, general success rates and class assessments of the students

| Questions                                                                 | N  | Minimum | Maximum | Mean  | Std. Deviation |
|--------------------------------------------------------------------------|----|---------|---------|-------|----------------|
| How many years have you been using computer?                             | 138| 1       | 24      | 9,678 | 3,7337         |
| How many years have you been using internet?                             | 136| 1       | 24      | 8,426 | 3,3871         |
| How many hours do you spend time on internet?                            | 128| 1       | 24      | 3,316 | 2,7125         |
| What is your Weighted Grade Point Average (AGNO) at the end of the 7th term? | 118| 1,80    | 3,53    | 2,7208| 3,5644         |
| Please evaluate your “Logic and Computer Practices II” course performance. | 138| 1       | 10      | 6,772 | 1,6535         |

Responses of “How do you describe yourself when it comes to technology?” question are given with frequency and percentage rates in Figure 1.

![Figure 1. Attitude of the research group on technology.](image)

Responses of “Do you think that IT courses which you have taken at university are sufficient?” and “Do you think that IT courses are necessary for your business life?” questions are given with frequency and percentage rates in Figure 2 – A and Figure 2 – B respectively.

![Figure 2. Aspects of students about IT education.](image)

Responses of “What do you do on internet?” question is given with frequency and percentage rates in Table 2.
As it is seen at Table 2, most of participants (90.7%) are using search engine, 87.9% of them are using email and 88.6% of them are using social media. Usage rates of blog (20.7%) and Learning Management System (14.3%) are lower.

Responses of “What do you prefer to use in your educational life?” question are given with frequency and percentage rates in Table 3.

As it is seen, most of the students (90.0%) prefer to use office software (Word, Excel, PowerPoint etc.) whereas 27.9% of them prefer to use programming language (C, PHP, Java, etc.).

Responses of “Which course/courses do you prefer to take during your educational life at university?” question is given with frequency and percentage rates in Table 4.

Responses of “Which of the following device/devices do you prefer to connect to internet?” question is given with frequency and percentage rates in Table 5.

It is obtained that when students are divided into groups according to their own description when it comes to technology, three groups have nearly the same average about evaluation their “Logic and Computer Practices II” course performance: I like technology (6.8), I have no idea (6.8), I am afraid of technology (6.7). Male and female...
students are both maximum 5 minute wait to open a web page. Average of the percentage of time that female students spend on the internet for research is 29% and average of the percentage of time that male students spend on the internet for research is 24%.

As Table 7 shows the results of the Independent-Samples T Test which compares computer ownership (Q9) and internet usage in years (Q13), there is obvious to see that in both Equal variances assumed and Equal variances not assumed cases the Sig. (2-tailed) < 0.05. Therefore, internet usage of students who have computers is different from students who do not have computers. In addition, if we look at Table 6, we can see that students who have computers have been using internet more than students who do not have computers.

| Q9. Computer ownership | N  | Mean   | Std. Deviation | Std. Error Mean |
|------------------------|----|--------|----------------|-----------------|
| Q13. Internet usage (in years) |    |        |                |                 |
| Yes, I have            | 129| 8.636  | 3.3135         | 3917            |
| No, I don't have       | 7  | 4.571  | 2.3705         | 8959            |

Table 7. Independent Samples Test.

|     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     |     |     |     |     |

5. Discussion and Conclusion

Considering demographic information of students, they have been using computer approximately for 10 years and internet for 8 years. They spend time on internet 3.3 hours per day. Students usually access internet via notebooks or smartphones (Table 5). Although average of AGNO is 2.7, their self-performance assessment of “Logic and Computer Practices II” course is 6.7 (1: The worst, 10: The best). Most students (81%) like technology (Table 1). For this reason, the sample group consists of students who mostly like technology, use computer and internet, can be classified as experienced and are above average in both general and course cases. Most of the students (67%) thinks that IT courses, which they have taken at university, are not sufficient. Furthermore, 90% of the students do not think that they will need this information for their business lives.

On one hand, most of the participants are using email, social media and search engines (Table 2). They also want to use these technologies during their educational life and their preference rate is higher when it comes to file sharing and communication with more than one person (Table 3). On the other hand, Table 3 shows that usage of blogs, Learning Management System and forums is lower. It is thought that the reason of this low rate has arisen because of their lack of information about related subjects (At Table 2, it can be easily seen that students are using them less than others).

Courses which students prefer to take during their educational life at university are respectively (from the most wanted): Office software (word, excel, powerpoint etc.), web programming, hardware, programming language (c, php, java, ..), information management, database, statistics software (for example SPSS, …) (Table 4). Many organizations are looking for office software usage skill today so it is normal to be at the top of the list for Office software. However, it is expected that information management and statistics software (for example SPSS, …)
should be at the top of the list. This order is formed with lack of information about these terms more than requirement analysis.

If we consider students at universities are generation Y and generation Z is about to start university life, it is obvious to see that it is necessary to shape education contents according to IT needs in social science as well as other sciences urgently. This study can be extended to student who study at other departments in social science or to students who study at same department but from different national and international universities, so expectations of students can be determined clearer.

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