

STUDENT'S PERCEPTIONS CONCERNING COMPUTER BASED LEARNING IN TOURISM HIGHER EDUCATION – A CASE STUDY IN DOKUZ EYLUL UNIVERSITY, IZMIR, TURKEY

Murat Usta

ABSTRACT

Nowadays, information technology (IT) represents a very important aspect in education as in every other area. As computer use is becoming widespread in education, its quality may be enhanced. The contribution of computers to tourism education could not be ignored. The Tourism industry, similarly to many countries, has a great contribution to the economic growth in Turkey. More specifically, for the deployment of young population, the importance of the tourism sector cannot be underestimated. Nevertheless, the dynamic feature of the tourism sector and the fluctuation of demand cause high turnover speed employee results for corporations in this specific sector. Consequently, students graduated from tourism schools are not able to last long in the sector and they end up with abandoning the sector and prefer other businesses to work at. While the use of computers is becoming widespread and its importance is increasing in all sectors, it bears a significant importance for students who would work in the tourism sector. Consequently, the importance of computer-supported education is becoming crucial. Dokuz Eylül University is one of the most important Tourism schools in Turkey. Dokuz Eylül University is an educational institution that has a leading position in Turkey in the area of tourism management education with its experienced instructors tutoring in the Vocational School, undergraduate, graduate and doctorate courses. The students of tourism management should also be supported with the advances in computer technology in their profession. In this specific paper, the first chapter would involve a general aspect and presentation of the tourism education, which would be accomplished, followed by the existing different levels of the structure of tourism education in Turkey. The aim of this specific study would be to examine the students' perceptions regarding computer – based learning, as far as the education and training for the tourism industry is concerned. This research would represent students' perceptions of the two existing different classes, the tourism and the hotel management class. In conclusion, it could be said that the findings of this research, would be used in order to present some suggestions and crucial success factors regarding computerized education systems.

KEYWORDS

Computer-supported education, university education, student perceptions, learning methods, interaction

INTRODUCTION

The use of computers and related technologies has its impacts increasingly on all areas of our daily lives. Computers are not only becoming evermore valuable source of information, but also have a significant role as assessment and feedback tools. Especially for the last two decades, the notion of incorporating computers to education has increased dramatically. The question of computers being useful or not in the learning process has been a topic of discussion since the 1950s. Computer technology has promised to revolutionize both teaching and learning in higher education. With the popularization of the Internet in the early 1990s, access to information, ease of communication, and the ability to become part of an electronic community, is among the multiple resources that have become widely available to students (Lowerison, Sclater, Schmid, Abrami, 2006). As the 1990s progressed so increased importance came to be attributed to student learning. Effective student learning became the

central theme and organising principle of university education (Milliken & Barnes, 2002). Computers are publicized as indicators of modernity or post-industrial gadgets that are evidence that their users really belong to the current age. They are **treated** as enabling new and different ways of teaching, learning, and thinking. As magical tools, through their use, they will reform schools and help teachers give up their old teaching habits that are already outdated. In that sense, no restructuring of schools may take place without them (Akindes, 2000). Nevertheless, the use of new technology can be used to improve both teaching and learning experience. There is no need to regard the lecture format of delivery as necessarily opposed to the use of new technology. While the traditional lecture can promote learning, technology can enhance the learning experience (Milliken & Barnes, 2002).

Learning is a complex process. It has a number of requirements: that a student is willing or motivated to learn, that a student is able to learn, that a student is in a social and academic environment that fosters learning and that the instruction is comprehensible and effective (quoted from Jonassen & Grabowski, 1993 by Jelfs & Colbourn) and also learning is a social and active process, where the focus shifts from teacher-directed to student-directed learning (Lowerison, Sclater, Schmid, Abrami, 2006). The demands to increase student numbers have led to the development of new ways of course delivery and teaching and, at the same time, there have been major developments in the specification and access to computing technology (Jelfs & Colbourn, 2002). During the last decade, as access to university education has increased, class sizes have expanded. At The University of North London enrolment in the Biological Sciences has increased by almost 300% in the last 5 years. Set against this background of increasing student numbers, traditional teaching methods are gradually being replaced by teaching methods with a greater emphasis on information and communication technology (Shaw & Marlow, 1999).

Government and industry alike are pressuring educational institutions to adopt the computer as an educational medium. Although calls for instruction suitable for an information society continue to be heard, efforts to construct and use educational software have proven disappointing, and instruction in computer literacy has not yet merited a place beside basic literacy skills (Barnes, 1999). Over the last decade a host of countries have made considerable policy commitments to the development of educational technology infrastructures on a hitherto unprecedented scale. For instance, the Clinton/Gore administration's \$2 billion 'Technology Literacy Challenge' and \$2.25 billion 'E-Rate' initiative in the USA have been mirrored abroad by the £1 billion UK 'National Grid for Learning', the DM160 million 'Schulen ans Netz' in Germany and the S\$2 billion Singaporean 'Educational Masterplan for computer supported education'. This government commitment aside, the level of institutional expenditure on educational computer supported education is also booming. For instance, the UK primary school sector (K-6) alone is now estimated to be spending £680 million per annum on information technology (quoted from Bannister, 1998 by Selwyn 2000).

Pennington's (1994) research into students' perceptions of learning, referred to earlier, questioned the use of lectures as the chief means of delivering course content. He concluded that there was "an over-reliance on the traditional lecture as the major vehicle for course presentation and [that there were] indications that these (sic) were not always well planned or effectively utilised" (quoted from Pennington, 1994 by Milliken & Barnes, 2002).

Papert (1993) and Negroponte (1995), argue that learning by interacting with computer-simulated models is superior to learning by reading a book. This argument is reminiscent of Dewey's (1916) argument that learning through experience is the best method of education. Papert (1993) argues that the computer supports experiential learning and problem solving. Therefore computers enhance the learning process (quoted from Papert, 1993 & Negroponte, 1995 by Barnes, 1999).

Johnson (1982) has reported the following ideas that pertain to the importance of computer use:

1. Information technology is essential to students, faculty, and administrators.
2. A major challenge is to provide education, training, and awareness in the use and potential of information technology (quoted from Johnson, 1982 from Al-Mwandieh, 1999).

Students are generally very positive about the use of technology in their classes when: A common argument for the promotion of computers in schools is the new economy and its global character. New workers need to be team workers, they must be flexible, and they must have computer skills to find jobs (Akindes, 2000). The structured method to teaching the module generated by the computer-based approach attracted a positive response from students, with the exception of the ease of learning (Milliken & Barnes, 2002). Its use is perceived as improving student learning; computer skills are perceived as beneficial for future careers (Shuell & Farber, 2001); or generally its use has a value-added component (Harris, 1999), (quoted from Shuell & Farber, 2001, Harris, 1999 from Lowerison, Sclater, Schmid, Abrami, 2006). This is true in adults' personal lives, where the use of information technology may be a valuable enhancement to their way of life. The use of information technology is also increasingly common in the workplace. A strong foundation in technology-related education will help students to develop an understanding of the nature of technology and its appropriate selection and use (Lawson, 2005). This degree of familiarity with an innovation focus makes it possible and reasonable to ask participants directly about their perceptions of an innovation at an early stage of the process. This is the approach used in this research and has been adopted in the majority of studies focusing on the adoption of technology over recent years (Van Braak & Tearle, 2006).

Reflection on teaching and how to improve student learning should be important aspects of every lecturer's job (Milliken & Barnes, 2002). Teachers are the actors of the process and they have to subscribe to the constructivism principles assimilating the new information technologies and communications as an essential tool in their work (Cantero, M. O., 2002). The belief is that computer technology has the potential to transform a passive learning environment into one that is more active and under the control of the learner. However, this is largely dependent on how the computer technology is used (Lowerison, Sclater, Schmid, Abrami, 2006). Redesigning an education system is a relatively easy exercise changing one's own method of teaching, especially when it has been acclaimed as successful by all the old standards, is very much harder (Roberts, 2004). It is usually difficult for teachers to decide to use an innovation as a replacement for usual instruction or as a supplement to instruction. In most cases, the decision depends on which approach can provide more effective outcomes (Kuang & Liao, 2007). The diffusion process, people's individual characteristics which impact on their adoption of an innovation, people's perceptions of the characteristics by which an innovation can be described, and the pattern of the changing rate of adoption of an innovation as it passes through different stages (Braak & Tearle, 2006). Computers do have the potential to help teachers reflect and transform their work. The question is not so much the amount of technology a teacher uses. It is how he or she is able to engage students (and him or herself) in a process of self-transformation and help them transform the immediate environment (Akindes, 2000). According to Volery and Lord (2000), lecturers need to upgrade their technical skills and change the role of the academic from 'the intellect on the stage' to that of a 'learning catalyst' (Jelfs & Colbourn, 2002).

How and how much do schools integrate technology to their curriculum? With the acknowledgement of the importance of the quality of technology use on student learning, more policy emphasis should be placed on promoting technology uses that have positive impacts in schools (Lei, Zhao, 2005). A recent study by Shuell and Farber (2001) raised the question of how student perceptions of technology implementation affect learning. Their results indicated that students view technology as beneficial in facilitating learning, as well as increasing motivation to learn (Lowerison, Sclater, Schmid, Abrami, 2006). Although computers may be a more physically interactive medium than a book, they add another level of abstraction to the learning process because students are working with simulated rather than real objects (Barnes, 1999).

This is true in adults' personal lives, where the use of information technology may be a valuable enhancement to their way of life.

Six dimensions to student attitudes toward computer-supported learning were identified as follows; 'comfort', 'interactivity', 'self-satisfaction', 'value new technology', 'experience' and 'context'. Students exhibited low scores in the attitude dimensions of 'value new technology', 'interactivity' and 'context'

indicating that they were uncomfortable with computers, were unhappy about the lack of personal contact and would prefer to learn in a more traditional mode (Shaw & Marlow, 1999).

Also Van Braak & Tearle’s research denotes some results about the computer supported education. Table 1 shows us the effects of computer-supported education that Van Braak & Tearle explored.

Table 1. Description of the nine computer attributes for learning

Relative advantage	Use of a computer improves the quality of learning
Effectiveness	Use of a computer for learning helps one to achieve their goals
Observability	When a computer is used for learning, others can see the positive results
Preferability	It is better to use a computer for learning than not to use one
Applicability	The use of a computer for learning serves several different goals
Flexibility	Thanks to computers learning activities can be undertaken with more flexibility
Economic advantage	Investing in a computer for learning is worth the cost
Specificity	When a computer is used for learning, goals can be reached which could not be reached otherwise
Necessity	Use of a computer for learning is a necessity

However, more technology use may cause more harm than good (Lei, Zhao, 2005). While the study shows us similar results like recent research that computer has positive effects to learning efforts, contrary to beliefs students have also mentioned, some disadvantages exist about computer supported learning in this study.

This study would like to find out students’ thoughts about computer-supported education by means of qualitative approach, which is a nominal group technique. Yet, there is also an equally pressing need for more qualitative approaches to educational computing research to be adopted. Unlike the vast majority of other areas of social science research, education technology has remained peculiarly impervious to qualitative methodology and analysis. In this way, qualitative findings can be used to ‘illuminate’ quantitative data (quoted from Parlette & Hamilton, 1972 by Yuksel, Hancer and Yuksel, 2006). Although an overt reliance on qualitative methods is as constricting as a purely quantitative approach, the addition of a qualitative dimension to education computing research allows a focus on what does happen (as opposed to what has apparently happened or what could happen) when computers are used in educational settings (Selwyn, 2000).

STUDY (METHODOLOGY)

This study aimed to explore students’ perceptions on using computer technology for supporting the courses given in their school. In order to understand their views’, Nominal Group Technique methodology is adopted. Three questions posed to the students.

- What may be the advantages and disadvantages of computer supported learning?
- What can be done for computer-supported education to get the most out of it?
- Which courses may be more convenient for computer-supported education?

NOMINAL GROUP TECHNIQUE

APPLICATION OF NGT PROCEDURE (26.01.2007)

The NGT group was composed of 8 tourism undergraduate students. A nominal group technique (NGT) was conducted. The NGT is essentially a six-step approach to decision making (quoted from Claxton, 1980 by Yuksel, Hancer and Yuksel, 2006):

- 1 participants are presented with an initial statement of the topic to be discussed;
- 2 individual work precedes group discussion (i.e., silent generation of individual

- ideas by group members);
- 3 round robin feedback of ideas generated during the silent generation period;
- 4 unstructured group discussion and group clarification of the ideas;
- 5 a polling procedure to converge to a specific solution (i.e., individual voting to rank the ideas) and,
- 6 discussions of the results from the voting process.

Eight students participated to NGT in order to obtain in-depth perspectives on the research purpose. In the first step; the students were asked below mentioned questions.

1st Step of NGT

8 participants were explained the purpose of the study, their role within this study and the process of the technique. Participants were convinced that there is no right or wrong answers. The participants took time as a group to listen, ask questions, and clarify the issue. The participants were invited to computer laboratory for the second step.

2nd Step of NGT

Questions and answers that were asked to participants were asked to be typed by using computers. Participants were asked to quote quietly about the questions and write down all their ideas without discussing them. The first question was; *“What may be the advantages and disadvantages of computer-supported learning?”* The second question was; *“What can be done for computer-supported education to get the most out of it?”* The third question was; *“Which courses may be more convenient for computer-supported education?”* This first step of NGT took about half an hour. The picture of this step is presented below.



Figure 1. Participants of NGT performing the second step

After this step, participants were invited to coffee break

3rd Step of NGT

Participants were invited to discussion rooms. A ‘round robin’ contribution of ideas took place. Participants were given enough time to explain their reasons briefly so as to clarify what they meant. Pictures of the nominal groups are presented below.



Figure 2. Participants of the first nominal group in discussion room

4th Step of NGT

The groups had been explained that the aim was discovering all the reasons of computer-supported education; consequently; participants were asked to suggest additional ideas to add to those listed. Third and fourth steps took about 90 minutes in total.

5th Step of NGT

Participants were invited to come together in a conference room. They were requested to answer which ideas or opinions were the most important ones for them.

6th Step of NGT

8 participants of NGT were asked if they would add some critics or final opinions. Lists of opinion were requested to students to reorder opinions from the most important to the least important and than they were requested to internalize by voting the most important results.

FINDINGS AND THE RESULTS

According to Lojoie & Derry, computer technology may also serve as a cognitive tool by supporting, guiding, and extending the thinking processes of students (Baylor & Ritchie, 2002, 400). When computers are used as a tool to help students analyze, compare, contrast, or evaluate resources, the computer facilitates the student's internal cognitive processes by serving as an extension to their intellectual capacity (Baylor & Ritchie, 2002). Similar to Van Braak & Tearle and similar to Baylor & Ritchie, this study has also similar students' responses supporting recent findings.

It is apparent that computers are one of the most important parts of educational unity. Tourism organizations as a member of the service sector certainly need well qualified and equipped employees. Thinking the impact of the usage of computers in every sector, tourism organizations also need the elasticity, speed, and power that computers provide.

In this study, the aim is to find out the thoughts and expectations about the computer supported education. NGT provides an opportunity for the students to discuss their own ideas and experiences in the light of the posed questions.

When the process concluded, the results show us significant findings. When their thoughts are compared, the advantageous and disadvantageous points of computer supported education can be easily seen and it is listed on table 2 and table 3.

While assessing the 1st question we can see following responses about the advantages and disadvantages of computer support while learning:

Table 2. Advantages of The Computer Support While Learning

	Mean after rating
1. Computers mean doing practice. Doing practices increase learning capacity	4,875
2. It will provide me to be more successful in the field (work life).	4,625
3. Courses are more attractive with computers, it increases attendance during courses	4,125
4. To reach the information, internet is a necessity, by implication computers are a necessity	4,125
5. Computers are speeding up the course process speed is the necessity of our era	3,875
6. Computers can transform theoretical knowledge to the practice because of this reason computer supported education can provide consistent information	3,875
7. Increase the ability to interpret what we are seeing	3,75
8. I don't think that computer supported learning don't have any disadvantages if its use is proper to the subject and with the commencement to use a computer at the early ages.	3,625
9. It's an advantage to improve the interpretation ability	3,5
10. The use of data show material remove the necessity to take notes so remove the waste of time by implication it is a useful way to listen the course with full of concentration.	3,375

Table 3. Disadvantages of The Computer Support While Learning

	Mean after rating
1. The copy-paste routin decrease the creativity	4,25
2. Decrease power of imagination and conform to lazy	3,75
3. Computers remove exertion	3,5
4. Instructor couldn't pursuit their student, generally instructor couldn't follow the process and couldn't check. Between instructor and student relations disappear day by day and this lead the lack of interaction	3,5
5. Who can judge that who worked a lot? Cos one button access to collect information is the easiest way	3,375
6. Generally the only disadvantages of computer support education is leading students to be a learning parrot fashion.	3,25
7. Computers remove the creativity while students prepare for a course	2,5

When the advantages of computer support are analyzed, we can see that The group responses show us that students in general, have significant positive ideas. *“Computers mean doing practice. Doing practices increase learning capacity”* is one of the most notable expressions. The students consider that computers serve student the opportunity to do more exercise during courses. According the students thoughts, this proves that computers are essential part of learning.

The following statements;

- *It will provide me to be more successful in the field (work life).*
- *To reach the information, internet is a necessity, by implication computers are a necessity*

- *Computers are speeding up the course process speed is the necessity of our era*

emphasize both the speed that computers provide and the importance to reach information with the aid of internet rapidly. According to students, the belief

“To be more success in the field” that computer supported courses will provide is also one of the advantages.

The following statements on the table reflect the advantages of computer support and lead to different important points

- *Courses are more attractive with computers, it increases attendance during courses*
- *Computers can transform theoretical knowledge to the practice because of this reason computer supported education can provide consistent information*
- *Increase the ability to interpret what we are seeing*
- *It’s an advantage to improve the interpretation ability*

The items above drew attention to course performance that computers affect. According to the students’ attendance to courses, the speed, and consistent information that computers provide make courses more attractive, and interesting. It can be said that students are more involved to courses with the aid of computers.

Statements indicated above are the reflections of positive circumstances but the reality is two fold. There are also negative circumstances that destroy the welfare of the computer support for courses

When the disadvantageous findings are analyzed, the top negative statements are;

- *The copy-paste routine decrease the creativity*
- *Decrease power of imagination and conform to lazy*
- *Computers remove exertion*
- *Instructor couldn’t pursue their student, generally instructor couldn’t follow the process and couldn’t check. Between instructor and student relations disappear day by day and this lead the lack of interaction*

The most significant disadvantageous item emphasized by students focuses on *copy-paste routine*. The following top rated findings *“Decrease power of imagination and conform to lazy”* and *“remove exertion”* are giving countenance to the first item. It can be said that computers could lead and could familiarize the student to be lazy. The lack of interaction between students and instructors is also one of the most important disadvantageous finding that students emphasized. It can be commented that computers construct a wall between students and instructors.

When the last disadvantageous statement is taken into consideration, it is apparent that it is rated very low which shows they are not assumed as important as the others. As it is seen on the table 3 *“Computers remove the creativity while students prepare for a course”* is rated as 2,5 which is quite below the mean. This means that the students don’t believe they lose their creativity.

Examining the responses about the 2nd question (What can be done for computer supported education to provide more benefit?), there are also useful thoughts that students mentioned.

Table 4. Students Thoughts about computer supported education to provide more benefit?

	Mean after rating
1. Both students and instructors have to be trained about computers support	4,375
2. Convenient mental infrastructure is a necessity	4,125
3. The use of computers in general both students and instructor convict to the classroom. Some courses may be done on the grass.	3,75
4. Instructors should balance the use of computers. The support of computers should be limited.	3,75
5. With the aid of visual aspects courses becomes more permanent. Yet, drama concept can be integrated to the course contents	3,75
6. Instructors should incorporate itself accumulations, they shouldn't be dependent to computers	3,625
7. Workshop technique is more common than computers support on the courses	3,375

The level of the ability to use a computer is essential for both students and instructors. According to students, the mental infrastructure of an instructor is important, because if he/she is well equipped about computers, they believe that courses could become more fluent. Another point that students had mentioned they don't want to be addicted to computers during courses. If it generalized; the third, fourth fifth sixth and seventh items show us that students don't want to belong to computers. It can be seen that they demand other learning techniques along computers.

Finally for the 3rd question (*Which courses may be more convenient for computer support?*), they agree with, computers can be integrated for all courses that they are learning as a Tourism Student.

CONCLUSION

Computers in fact play a vital role in the learning process. As the students have indicated through NGT discussions, they are common that computer is a necessity but if they are used properly. They want to be well equipped for their working lives. They thing, lessons which supported via computers can bring them equipment rapidly and they believe it will be useful for their work lives.

They don't regret the efficiency of computers for learning but they thing it should be balanced. They are so willing to do courses with other learning techniques. Students also mention that *"the computer equal to the internet."* They couldn't think computer without internet. But, same time they think that internet is an *"information trash"* considering students.

They also think that *"computers speeding up the course process"*. Yet, *"the use of data show material, remove the necessity to take notes so remove the waste of time by implication it is a useful way to listen the course with full of concentration."* are in the most important results that student underlined

One of the most significant negative effects of the computers for learning is that computers lead students to be lazy. Furthermore they are complaining about the lack of interaction. Besides they emphasizes that *"both students and instructors have to be trained about computers"* and *"the workshop technique is more common than computer support on the courses"*

In addition, the students indicated some new ideas about the education life as well. The way to do courses on the grass is one the new ideas. What they believe is that courses have to be supported with computers and also the use of computers should be balanced by instructors else students denoted that for whole courses computer support can be used

Consequently, computers are an essential learning tools. looking to the findings of the study we can say that in general computers have very important place for learning activities. It is vital to speed up the learning process. Also computers may be harmful if they are used off the misapplication.

REFERENCES

Milliken J., Barnes L. P., (2002). Teaching and Technology in Higher Education: Student Perceptions and Personal Reflections. *Computers and Education: An International Journal*, 39, 223-235.

Cantero, M. O., (2002). Computers in Education: the Near Future. In M. Ortega & J. Bravo (Eds.), *Computers and Education in the 21st Century* (pp. 3-16). Hingham, MA: Kluwer Academic

Akindes S. A., (2000) "Did Somebody Say Computers?" Professional and Ethical Repercussions of the Vocationalization and Commercialization of Education, *Bulletin of Science, Technology & Society*, 20 (2), 90-99.

Lowerison G., Sclater J., Schmid R. F., Abrami P. C., (2006) Student perceived effectiveness of computer technology use in post-secondary classrooms, *Computers & Education*, 47, 465–489.

Barnes S. B., (1999) Education and Technology: A Cultural Faustian Bargain, *Bulletin of Science Technology & Society*, 19(1), 11-16.

Van Braak, J., & Tearle, P., (2006). The computer attributes for learning scale (CALs) among university students: Scale development and relationship with actual computer use for learning, *Computers in Human Behaviour*, doi:10.1016/j.chb.2006.08.014.

Selwyn N., (2000). Researching computers and education - glimpses of the wider picture, *Computers & Education* 34(2), 93-101.

Jelfs A., Colbourn C., (2002). Do Students' Approaches to Learning Affect their Perceptions of Using Computing and Information Technology?, *Journal of Educational Media*, Vol. 27 (1-2), 41-53.

Shaw G., Marlow N., (1999) The role of student learning styles, gender, attitudes and perceptions on information and communication technology assisted learning, *Computers & Education*, 33(4), 223-234.

Lawson K. G., (2005). Using eclectic digital resources to enhance instructional methods for adult learners. *OCLC Systems & Services: International Digital Library Perspectives*, 21(1), 49-60

Roberts T.S., (2004) *Supported Collaborative Learning in Higher Education*. Hershey, PA, USA: Idea Group Publishing, United Kingdom

Kuang Y., Cliff L., (2007). Effects of computer-assisted instruction on students' achievement in Taiwan: A meta-analysis, *Computers & Education*, 48(2), 216-233

Yuksel, A., Hancer M., Yuksel F. (2006). Building a Long-Term Share Perspective for Destinations in Stagnation: The Visioning Experience of Kusadasi. In Terry V. Liu (Ed.), *Tourism Management: New Research* (pp. 1-27). : Nova Science Publishers.

Baylor A.L., Ritchie D., (2002). What factors facilitate teacher skill, teacher morale, and perceived student learning in technology-using classrooms?, *Computers & Education*, 39, 395-414

Lei J., Zhao Y., (2005), Technology uses and student achievement: A longitudinal study, *Computers & Education*, doi:10.1016/j.compedu.2005.06.013

Al-Mwandieh, A.B., (1999), The Use of Computer Technology Among The Higher Education Administrators At The University Of Jordan, Ohio University, Ohio.

Murat Usta
Faculty of Business
Department of Tourism Management
Dokuz Eylul University
Kaynaklar Yerleskesi Tinaztepe
Buca / İzmir
Email: murat.usta@deu.edu.tr