LECTURERS' AND STUDENTS' ATTITUDES TOWARDS THE USE OF TECHNOLOGY IN LECTURES: No Taboos, More Thinking♦

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"Everyone has its peculiar folly" (Mackay , 2003)

Abstract

Globalization was observed within a wide spectrum in the field of education and all teaching related issues. Lecturers in this frame serve as the main facilitators enhancing the use of technology via their instructional methods. Research, technology and academic are three so closely interrelated counterparts that academic whose main responsibility is to do research and transfer it to the student can not even start his research without using such magnificent tool. Increasing demands created in the educational arena redefined lecturers roles in which leading the way in research and teaching via technology. The purpose of this study is to determine the existing faculty learning culture created by the lecturers from the dimensions of technology based taboos and totems. In order to scrutinize both groups' perceptions towards the use of technology in their lectures, two questionnaires were devised. One of which was applied to 124 lecturers and 1410 students respectively. To give more in depth understanding and updated data for the quantitative data focus group discussions were conducted with three groups at two universities. 39 PhD, Master and undergraduate students constituted the study group. Following questions were discussed in three sessions: "Do lecturers' perceptions towards the use of technology differ in accordance with experience and age variables? To what extend does is reflected on the students perceptions?, What kind of attitudes exist in the culture of university atmosphere related to using technology as a totem and taboo?, What kind of problems are reflected during lectures?" As for the findings regarding the infrastructure; lecturers and students believe that great number of students in each class does not allow them to use computers in their lectures. Almost all the students pointed out that they did not have internet access in their departments and can only use it either in the internet cafes or at their homes. Nearly half of the students indicated to have the opportunity to use a computer in their residences and less than the other half have a chance to use the internet and this again is an indicator of the economic restrictions. During the interviews, lecturers with administrative duties admitted that one of the reasons why all computers can not have internet access was the weak communication infrastructure of the city. Faculty administrators could solve problems inside the buildings but cannot overcome the obstacles related to the infrastructure. According to the research findings, even though lecturers held a positive attitude towards the use of technology in their lectures, they were unable to realize this most of the time because of the constraints created by either the faculties or the policy makers. Qualitative data obtained via focus groups gave insights on the taboos and totems created by the lecturers either in the form of "addiction or resistance". Nearly all the students agreed that talent in integration technology could be found only in few cases among the lecturers who were in the final phases of their careers and these were named as "exceptions". Focus group discussions revealed similar concerns regarding the use of technology in lectures. Technologic competency was determined to be one of the main barriers indicated by the students in the group discussions (15/39). Taboos and totems were categorized into two groups as a result of the analysis of the transcriptions. Faculty administrators should be aware of using technology in lectures might make difference although lecturers have some taboos related to being too demanding about using expensive technology in lectures indicate less effective lecturers.

Introduction

Taboo, Totems and Technology appear to be counterparts in the era of globalization although those concepts seem to differ in terminology. A taboo can be placed on an object, person, place or word that is believed to have inherent power above the ordinary. This power called mana, can only be approached by special priests. To give special distinction to special monuments in the life cycle, taboos are often declared at births, deaths, initiations, and marriages. Taboos are commonly placed on a clan's ancestral guardian, called the totem (Frazer, 1955). Technology being an obligatory issue in many fields penetrated into the world of education as a taboo or totem in some cases. The use of technology in classrooms has always been a problematic one for many reasons. There have been many discussions on the benefits of using technology in lectures.

There is no doubt on using technology in a classroom setting; however its integration into the curriculum brings about several conflicting views.

Technology in the classroom seem as a quiet revolution. Although many faculties still teach by means of traditional methods, many others are realizing the great potential of multi media, the internet, and other technology-based forms of instruction. Using technology in the classroom is beneficial because it;

- emphasizes active learning,
- responds to different learning styles,
- enhances collaborative learning,
- increases individualized learning and self-paced study,
- encourages greater student independence (http://www.eriche.org/crib/technincl.html).

The rise of information technology introduces the possibility of new, individualized, cooperative, problem-solving, student centered learning and flexible learning approaches that have not been practically possible before. This has implications for the lecturer's role and "authority", particularly when many students are currently more computer-literate than their lecturers and where internet, e-mail, public access databases, networking, interactive programs provide fixed and enduring knowledge. Further, it is not difficult to envisage the role of the teacher changing from a deliverer of a fixed knowledge to a facilitator and supporter of student-centered learning. Learning becomes negotiated (Cohen, Manion, Morrison, 2000: 14). However, this picture turns out to be a "dystopia", where lecturer pretends to be addicted to the technology. Fabry and Higgs (1997) contend that technology has been shown to increase student perceptions of instructor originality and creativity; on the negative side, there is a general discrepancy between the expected and the actual integration of technology into the classroom by educators.

Application of technology appears to extend into two main roads, either in the form of "obsession or resistance like a taboo" which similarly diverges in two contrary directions. On the one hand, it means 'sacred', 'consecrated', and on the other 'uncanny', 'dangerous', 'forbidden', 'unclean'. Instructional technology in this respect perceived as a totem in the metaphorical sense which is defined as a rule an animal (whether edible and harmless or dangerous and feared) and

more rarely a plant or a natural phenomenon (such as rain or water), which stands in a peculiar relation to the whole clan (Wikipedia, 2007).

This idea is in parallel with Freud's (1913) ideas on totem which is seen as the common ancestor of the clan; at the same time it is their guardian spirit and helper, which sends them oracles and, if dangerous to others, recognizes and spares its own children within this frame "taboos and totems" could be perceived from two dimensions; former lecturers perceiving technology as tattoos and totems that must be used in every setting, latter lecturers denying the existence of innovative technology and perceive it hazardous. Both two polars are barriers to high quality teaching since creativity and interaction factors are disregarded. Within these limits, studies have emphasized social and cultural context, where information technology has shown to be determined by the culture of a country or organization. In cross-cultural research of Americans and Koreans it was shown that national culture plays a decisive role in the usage patterns of it (Kim and Kim, 2004).

There are many reasons why resistance to technology are experienced among the academic staff. Although the use of technology has many benefits for the educational system, it also creates a lot of burden both on lecturers' and administrators' shoulders. Lecturers' job descriptions are in a way redefined with this new approach which alters the role of a teacher from one who spoonfeeds the student to a collaborative working partner. While helping the students to use technology in their projects, lecturers need to show competency in using it. Administrators on the other hand, need to restructure their departments accordingly in order to meet the developments of the age.

Research, technology and academic are three so closely interrelated counterparts that academic whose main responsibility is to do research and transfer it to the student can not even start his research without using such magnificent tool. He or she needs to use technology again when transferring all those information to the students; therefore university should lead the way in technology to train candidate professionals, who are to gain contemporary skills as lecturers and students need to use technology more than others to produce research and share knowledge. It is at this stage that technology should not be presented as a totem, which must be used.

The potential for using technology in teaching and learning provides new opportunities for higher education to meet the full constellation of students' needs. In this context, well-qualified dedicated faculty members are at the heart of education and are essential to defining and

achieving what can be accomplished with technology. The rapidly changing pattern of students' experience with mastery of technology application provides both great opportunities and challenges (Gilbert, 2005). Technology within this limitless borders is attributed a new definition and applicability. Not only it is a means of learning tool but a main vehicle serving for the quality of the management systems since educational and administrative benefits provided by the technology tools through which collaborative work and learning is maintained in the higher education.

Morrison (2003) foresees the future of higher education in US from a different dimension, in which classes will be harmonized with on line and in class instruction. Instructors will no longer rely on predominant mode of instruction; rather group and individual project-based learning will be the pedagogical form. Information technology in a way transforms the world of administrators, lecturers and students. On the other hand, despite research and testimony that technology is being used by more faculty, the distribution of technological innovations for teaching and learning has not been widespread, not has it become deeply integrated into the curriculum (Jacobsen, 2007).

Method and the sample group

The purpose of this study is to determine the existing faculty learning culture created by the lecturers from the dimensions of technology based taboos and totems. In order to scrutinize both groups' perceptions towards the use of technology in their lectures, two questionnaires were devised. One of which was applied to 124 lecturers and 1410 students and was conducted at Marmara Univerity at the Faculty of Education during the 2001-2002 academic year. To give more in depth understanding and updated data for the quantitative data focus group discussions were conducted with three groups. 39 PhD, Master and undergraduate students constitute the study group. Three questions were discussed in three sessions as follows;

- Do lecturers' perceptions towards the use of technology differ in accordance with experience and age variables? To what extend does is reflected on the students perceptions?
- What kind of attitudes exists in the culture of university atmosphere related to using technology as a totem and taboo?
- What kind of problems is reflected during lectures?

Transcriptions obtained via focus group discussions were analyzed by using content analysis and concept mapping.

Demographic Findings

The details of the demographic data for the quantitative and qualitative study as below:

Quantitative Study

Lecturers

- 41% of the lecturers were female and 59% were male.
- 22% of the lecturers were below 30 years old, 34 per cent were between 31-40, 21 per cent were between 41-50, 20 per cent were between 51-60 and 3 per cent were 61 and above years old.
- 15 per cent of the lecturers were Professors, 8 per cent were associate professors, 20 per cent were assistant professors, 10 per cent were Lecturers with PhD, 30 per cent were lecturers and 17 per cent were research assistants.

Students

- 52 per cent of the students were female and 48% were male
- 17, 5 per cent of the students were freshman, 28, 8 per cent were sophomore, 18, 4 per cent were per cent were juniors and 35, 2 per cent were seniors.
- 23,7 per cent of the students accommodated in the dormitory, 34 per cent stayed with their parents, 7 per cent stayed with their relatives, 35,3 per cent stayed with their friends.
- 47 per cent of the students stated that they had an opportunity to use computer whereas 53 per cent did not.
- 37 per cent of the students indicated that they had a chance to use the Internet whereas 64 did not.

Focus Group (Qualitative Study)

- 39 respondents constitute the study group in the qualitative part of the study.
- 5 research assistants
- 9 PhD students studying in Educational Administration department
- 16 master students studying in Computer Instructional technologies Teacher Education department,
- 9 undergraduate students studying in Computer Instructional technologies Teacher Education department

Lecturers' Attitudes towards the Use of Technology Related to Experience and Age Variables

Comparative analysis regarding the title variable indicated lecturers' differing attitudes towards using technologies in their classrooms related to experience variable. Meaningfulness was observed between lecturers who had 1-5 years of experience and lecturers who have 21 and above years of experience (U: 292,500; p=0, 01). Lecturers experiencing career entrance phases appeared to be much keen on using technology in their lectures.

Mann Whitney U Test revealed the significance observed in the attitudes of lecturers towards the use of technologies in their lectures with regards to age variable. Lecturers 31 and below years of age indicated to have benefited from technology more than that of lecturers within the range of 51-60 and 61 and above age group (U=161,000; P=0,000; U= 15,500; P=0,000).

Similarly lecturers within the age range of 32-40 and 41-50 revealed significantly different responses when compared with the lecturers who were within the range of 51-60 age group (U=212,500; P=0,012). Younger ones again expressed their positive attitudes towards using instructional technology. Such meaningfulness could be interpreted as a bench mark indicating a certain turning point where lecturers might begin to be less willing to use new alternatives and approaches in terms of teaching (Bakioglu and Hacifazlioglu, 2004).

As for the data regarding the qualitative part, nearly all the students agreed on the impact of age variable on the successful use of technology. 5 students indicated how resistance to technology appeared as a taboo for lecturers above the age group of 50. They all agreed that talent in integration technology could be found only in few cases among the lecturers who were in the final phases of their careers and these were named as “exceptions”.

Although age and experience variables seemed to be the most important reasons that affected lecturers’ attitudes towards technology, there had been other elements as well which hindered the use of technology at universities. These constraints are listed below:

Constraints in Using Technology

Chart below reveals the constraints experienced by both lecturers and students in the questionnaires. These constraints were accepted to be the ones which hindered the use of technology at universities. Lecturers and students believed that great number of students in each class did not allow them to use computers in their lectures. Almost all the students pointed out that they did not have internet access in their departments and could only use it either in the internet cafes or at their homes. Nearly half the students had the opportunity to use a computer in their residences and less than the other half had a chance to use the internet and that again was an indicator of the economic restrictions (Bakioglu and Hacifazlioglu, 2004).

Items	*Lecturers*		*Students*	
	Mean	*Std*	*Mean*	*Std*
Number of students in each class	4,45	0,82	3,74	1,22
Internet availability	----	----	40% yes	
Material Availability	3,97	1,05	.....	.....
Limited economic opportunities for the lecturers	4,32	0,91	3,83	1,09
Teaching load of lecturers	4,25	0,89		
Total	N=124		N=1410	

These constraints could be presented as alternative reasons for lecturers' resistance to use technology, which will be also mentioned in the qualitative part. During the interviews, lecturers with administrative duties admitted that one of the reasons why all computers could not have internet access was the poor communication infrastructure of the city. Faculty administrators could solve problems inside the buildings but were unable to overcome the obstacles related to the infrastructure. According to the research findings, even though lecturers held a positive attitude towards the use of technology in their lectures, they were unable to realize this most of the time because of the constraints created by either the faculties or the policy makers (Bakioglu and Hacifazlioglu, 2004).

Focus group discussions revealed similar concerns regarding the use of technology in lectures. Technologic competency was determined to be one of the main barriers indicated by the students in the group discussions (15/39). Lecturers' resistance to technology and the incompetence serving as a hindrance was phrased by the students with these words:

Resistance and incompetence

> *"Lecturers do not seem very keen on learning how to use technology in their courses. This could be explained with their devotion to their habits. Younger ones are willing but the lack of technologic equipment appeared to be the main constraints" (7/39).*
>
> *"Lecturers who could be named as resistant to technology suppose technology as unnecessary. They have their formatted classical style and do not have the tendency to change it" (6/39).*
>
> *"Lecturers are scared of technology and this stops them to learn. Unfortunately they do not admit it" (1/39).*
>
> *"Most lecturers do not encourage students to prepare technology based assignments" (2/39).*

Lack of in service training

Lack in service training courses was mentioned as one of the main constraints by the students in group discussions. More than a quarter of the students (13/39) accepted it to be a necessary

vehicle for high quality teaching and successful technology integration in courses. Students' views regarding this topic are given in the following sentences:

> *"Most lecturers need to get in service training on the use of technology in their lectures".*
>
> *"I do not think they are able to assess whether one needs to use technology in particular subject. Why do you use projector instead of overhead projector?"*
>
> *"In order to use multi media presentation, they need to have basic computer literacy skills. Both lecturer and students need to know that".*
>
> *"During PowerPoint presentation, some fails to establish communication with students, participation of students remain limited".*
>
> *"Some students have problems in expressing their ideas, establishing good communication. They have no assistance from the lecturer. This limits self esteem".*

Existing Taboos and Totems within the Faculty Culture in terms of Technology Use

Taboos and totems were categorized into two groups as a result of the analysis of the transcriptions. Students' views regarding their lecturers' technology expertise and implementation were collected either as "resistance" or "addiction".

Technology as a Taboo for Addiction

Students indicated that in the era of globalization most lecturers fail in the mistake of feeling a sense of commitment to technology. In some cases this commitment appeared to be result in tragic cases where students feel themselves alienated in the classes. Such criticisms were put forward by nearly all the students (36/39) during the focus group discussions:

> *"Lecturers all believe that presentations should be via PowerPoint otherwise it wouldn't be acceptable or the quality would be less".*
>
> *"People believe that as they use technology the subject would be understood much better and the mission would be completed successfully".*
>
> *"Some private schools use technology as a symbol for quality"*

"Some believe that technology hinders students to express themselves. Some believe that it is a luxury. Both could be solved with a good thinking and planning the lectures".

"Some believe that everything on the net would be correct and valid".

"They believe that every problem could be solved via technology and everything would develop easily".

"We take the lecturer as a model and imitate whatever we observe in the courses".

Technology as a Taboo for Resistance

Findings of the study revealed that regarding the use of technology two contrary tendencies existed and demonstrated by the lecturers. As opposed to the ideas of obsession, students emphasized a group of lecturers' resistance and avoidance towards the acceptance of new technologies. This attitude was also presented as a taboo in the metaphorical sense (20/39).

"Some lecturers perceive technology, which limits communication and integration in lectures".

"Some lecturers perceive technology as a tool which passives active learning among the students and the lecturers".

An interesting finding appeared in this study was lecturers' reluctance to use instructional technologies in order not to make any mistake while using the "so called precious tool". Nearly a quarter (8/39) of the respondents expressed lecturers' concern experienced in using it without causing any technical problems. Below mentioned views clarify such anxieties:

"Some lecturers feel tension on whether they could give harm to technologic equipment, because of lack of self confidence".

Results and Discussion

Technology within these borders serves as a manipulator in educational arena and has the power to create an artificial demand among the lecturers who lack creativity and talent in their teaching practices. Instructional technology has contributions and drawbacks as it was defined by Mackay (2003) with these words: "Every age has its peculiar folly".

Higher education professionals generally work in an information and communication technologies rich environment. There are expectations that the existence of technology benefits them, their students, and the overall learning environment, where these factors can be key in enhancing the capacity of the higher education teacher to engage positively, collaboratively and critically with the growth of learning technologies *(*Unwin, 2007). This is a key focus which determines the quality of the course as well as the nature of the lesson content and implementation. Lecturers' expertise in using technology without converting it into a taboo depends on the lecturers' expertise and talent in both teaching and the use of technology. The questions arises in this circumstance is whether technology serves education, or education serves technology as it is emphasized by Komph (2005). He indicates that the use of technology in everyday life as germinated in classrooms for a variety of well-intentioned but often misguided and wrong-headed reasons. The hopes, dreams, and drama that form the core issues arise from a deeper "who's steering the boat tension?"

This picture is quite similar to Freud's (1913) work conducted on neurotic patients, where he used the concepts of "projection and ambivalence". As in the case of king, he considers two levels of functioning to be the "ostensible" (being honored) and "the actual" (being tortured). In our study students' views showed that some lecturers fail into this mistake and behave to move in two opposite borders, accepting technology as good or bad without considering its pedagogic use. Schusser et al (2007) assert that it is necessary for lecturers to possess an understanding both of their students' academic and social needs as learners who are using technology and of the technology itself. Both components must be present for lecturers to integrate technology in classrooms effectively.

Although many cyberspace visionaries have asserted that technology inevitably brings decentralization and choice to the world, this analysis of institutional isomorphism suggests that the opposite might be closer to the truth. In order to use technology constructively, educators may have to reinvent it, reconceiving what it means to define an ontology, to standardize practices, and to fit modular components into a whole. At a minimum, it should weighed as fully as possible the potential consequences of each individual standard (Agre, 1999).

In this study one PhD student categorized lecturers into three sub groups depending on their technology competency levels:

- Traditionals: Lecturers who resist to use technology
- Semi Traditionals: Lecturers who try to keep up with the trend for the sake of fashion
- Professionals: Lecturers who believe that using technology is not the sole purpose but the means for high quality teaching.

These categories all imply the hidden cultural beliefs of taboos where people totally devote or deny. It was observed in the group discussions that lecturers limit their level of integration and creativity in their courses either by depending too much on technology or avoiding from it. This is summarized by the students with these words:

> *"Using too much slides force students to read and take notes rather than thinking and asking questions or making contributions during the course".*
>
> *"Reading from power point slides does not mean teaching. Even though the teacher is not in the class you can play the sound as the background and give the course without any interaction".*
>
> *"The belief that high technology would benefit the student and enrich the course content is accepted unquestionably by certain lecturers".*

Similarly, undergraduate students' responses in Hacifazlioglu et al's (2007) study revealed the hidden power steering the lesson. This constraint created by the faculties is expressed by one of the students with these words:

> *Administration should not insist on the use of technology. Lecturers should be given the initiative to decide whether to use it or not. Lecturers should also be careful when using technology and allowing themselves a space to maneuver within the class.*

It might be concluded that most of the lecturers support student centered learning and autonomy via the internet and technology but in practice they cannot fully achieve this aim. Results indicated that lecturers' attitude towards technology are affected by age and experience variables and the internal and external constraints which are inevitable. Furthermore unavailability of materials, equipment and support serve as barriers, which limit lecturers' use of technology (Bakioglu and Hacifazlioglu, 2004). Policymakers can help the lecturers to overcome these constraints by providing them with ample time to design their courses. Similar results were

found in another study (Wang, Holt, 1997), which also highlighted the need restructuring the educational computing courses. Anderson and Harris (1997) found in their studies that out of 300 lecturers, 45 per cent reported the benefit of internet as professional activities; 16 percent as the personal and instructional activities.

The use of internet was found to be significant when compared to other teaching related activities. Students in the focus groups (10/39) reported that lecturers were able to access studies in their related fields and this was reflected as a time and energy saving in their academic studies. However such advantage does not guarantee high quality teaching in the course setting. Lecturers need to reflect their talent in integrating technology into the curriculum to maintain internalized learning among the students. Similarly in the quantitative part of this study, 11-20 years of teaching experience was found to be a period of time when lecturers were more enthusiastic to try new challenges. Lecturers who had more than 30 years of teaching experience showed less interest in using technology. Qualitative data regarding this dimension supported evidence as well. All the research assistants came an agreement on the following finding:

> "Lecturers prefer to use technology to make their teaching activities easier. Pre prepared slides and transparencies are used for a long time without making any changes. Most of the experienced academics feel reluctant to alter their methodologies since they do not want to devote more time and energy. A dilemma occurs between the use of a new technology and sticking to the traditional values".

In support of this finding, the final 10-15 years of a career was determined to be the phase of greatest expertise in teaching, accompanied by the potential for increased personal health and family concerns. Yet it may also be the time of greatest "conservatism" (Day and Bakioglu, 1996; Day, 1999).

Similarly lecturers in Bakioglu and Hacifazlioglu's study (2001) significance was observed with regards to experience variable. Lecturers who appeared to be in the career phases on "initiation and plateau" differed significantly with the lecturers who were on the disenhancement phase. The first 5 years were found to be the most accelerated period in lecturers' career in the mentioned study. The reason why this period of time was perceived as their most accelerated phase might be found in lecturers' sheer willingness to do research because of the satisfaction they receive after getting their degrees. This finding seems to overlap with the data obtained in relation to technology driven lesson planning and application. Lecturers enthusiasm in using

technology in the 11-20 and 21 and above experience group might also be interpreted in terms of career phases as it was previously scrutinised by Huberman (1995) and Day (1999) previously where the middle phases of the career cycle (7-18 years) were determined to be more diverse than earlier or later ones.

> *This diversity will relate to career advancement, school culture and the way in which lecturers respond to the well-established annually repeated cycle of students and colleagues which provides security but, may paradoxically, lack the variety, challenge and discovery of earlier years. It is a time when many lecturers are likely to seek new challenges, either by taking new responsibilities in the same school or by moving school for the purposes of promotion (Day, 1999).*

This idea was also supported in Hacifazlioglu et al.'s (2007) study where experienced lecturers' first reaction towards the use of new technologies was resistance and phrased with these words: "*We will definitely lose our credit and prestige!"* In the mentioned study, lecturers' first negative reaction was determined especially within the group who were 50 years and above. Yet it was mentioned that in a month time, with the support of the orientation programs and training courses this sense of resistance was overcome.

In support of this finding Summers (1990) found that lack of knowledge and experience in the computing area is one of the most common reasons for lecturers' negative attitudes towards computers. Similarly Yuen, et al (2002) asserted that lecturers are generally resistant to using computers in classrooms, the development of lecturers' positive attitudes towards computers is considered to be a key factor in fostering computer integration and the enhancement of quality learning and teaching using computers.

Infrastructure, limited economic opportunities and heavy teaching load were found to be the other constraints that prevent lecturers from using new technology. A well-planned programme would allow the lecturers to benefit from the use of it at a high level. This has particularly important especially in the developing universities where the infrastructure and economic problems are inevitable (Bakioglu and Hacifazlioglu, 2004). This result seems to contradict with a previous study conducted at a foundation university, where physical conditions were perceived to be satisfactory at the faculties in our study. It was highly emphasized by the students in the in depth interviews and focus group discussions that not every academic performed high levels of competency and expertise in harmonizing the technology with the curriculum and the ideal

teaching related activities and such ideas were defined by the students with these words *(Hacifazlioglu et al. 2007):*

> *We do not want to continue a lesson via a power point presentation. What we really look for is to interact with the lecturer, who skillfully manipulates all the dimensions of the learning process via technology (3/7).*
>
> *I learn better with the sound of the "chalk", which is dictated into my brain (2/7).*

The reason why lecturers appeared to be reluctant towards implementing new technologies could be interpreted with the additional burden put on their shoulders, especially in the initiation phase of the new system. A study administrated on lecturers working at Foundation University revealed significance observed between the lecturers' title and the degree of difficulty experienced in the pre-teaching process from the basis of technical equipment. Lecturers reflected higher levels of concern about the pre teaching process while this was not seen as a problem for the research assistants. Lecturers holding PhD did not mention it either. This could be interpreted as a reflection of the hidden hierarchical system established at faculties. The reason why pre preparation process before the actual lesson was not seen as a concern could be explained with the job descriptions of the research assistants. Perceiving that preparation process as a part of their duty might cause them to be more pleased with the technology related preparation tasks (Hacifazlioglu, et al, 2007).

Result findings revealed not only lecturers' positive attitude towards computer assisted instruction but also the students' willingness. Similar findings were observed in another study. Computer based instruction increased students' interest in school and learning in general. Students described an increase in satisfaction of learning with immediate responses (Grant, Jamilla, 2002). Therefore it could be said that to have a positive attitude towards technology does not contribute much to students' learning on its own but lecturers should be effective users of it and they should lead and encourage their students to use computer while preparing their projects, or in their autonomous learning, as well. Schussler et al (2007) insist that lecturers must be first aware of how technology relates to their learning goals.

Burge (1999) suggests "challenging and using critique, showing respect and being relevant" as the key factors in enhancing creative thinking within the lectures. He emphasizes the importance of projecting different perspectives, interrogating beyond the surface level of a statement and

questioning assumptions about ownership of technology and how it plays out in students. He recommends lecturers

> *to show respect for the realities of learners' lives, for the strength and pervasiveness of the barriers faced by many learners and would be learners, for the heroic efforts some make to stay in courses and gain access to technologies .... be relevant means providing a mix of learning technologies that are relevant to different learning styles. It means online messaging, meetings and broadcasts that synchronize with the learners' life rhythms: it means breaking learning work into manageable chunks of time and effort".*

Globalization seems to affect every aspect of the academic life and technology in this context serves as the main vehicle to integrate the learner groups. In this circumstance, the use of computer and technology makes it necessary for faculties to formulate their own teaching policies. Otherwise it would be impossible to maintain standards both in terms of teaching and curriculum design. Although the use of technology has many benefits for the system in general, it also creates a lot of burden both on lecturers' and administrators' shoulders. It is at this point that technology is accepted or rejected as a taboo or totem from the dimensions of two career groups. Jacobsen (2007) suggests investigating why the integration of technology for teaching and learning is so appealing to some faculty and not to others especially in an era of globalization where the investment in instructional technology for higher education and the demand in distance education have been increasing.

Computer technology is currently used in the areas of research and development, communication, information access in libraries and all teaching and learning processes. This wide spectrum had been extended with the internationalization process. Lecturers' job descriptions are in a way redefined with this new approach which alters the role of a teacher from one who spoon feeds the student to a collaborative working partner. Administrators on the other hand, need to restructure their departments accordingly in order to meet the developments of the age. From this perspective, written communication serves as a vehicle, which would pave the way for the integration process while creating a challenging setting for the lecturers and administrators during the pre-implementation process (Bakioglu and Hacifazlioglu, 2007).

Students in Bakioglu and Hacifazlioglu's (2007) study conducted on 3500 undergraduates supported a view of satisfaction parallel to our study. In the mentioned study, students who were better prepared academically and who devoted more effort to their studies interacted more

frequently with faculty members. It is neither in the mentioned study nor in our study whether this is because such students were more assertive in seeking out faculty members or whether faculty members invited students who performed well academically to make contact. Therefore, special importance is needed to be attributed for the research collaboration during the internationalization process. As it was previously emphasized, cultural exchange could be maintained not only through social integration but also through the academic projects, works and collaborations. Therefore higher education institutions involve the "quality culture" from many perspectives. As in the case of interaction with the faculty administration, academic staff has an important role to enable exchange students' integration. Technology within this internationalized frame serves as a facilitator in academic and social integration, which underline faculty administrators new roles rescued from certain taboos and limitations. In line with this idea Gilbert (2005) contends that as the trend continues for students from different locations, ages, and life situations to enroll in the same college course, faculty need training and support in using technology to identify and meet the range of students' needs.

Similarly argument Christensen, et al. (2001) notes that there will be an increasing percentage of working college students (versus the traditional full time student) and these individuals have greater outside commitments that create barriers to "traditional" education. This idea is confirmed by Morrison's study (2003) in which he emphasizes the changing demographics and technology, which alter the context of higher education. Lecturers within this new perspective will see themselves as the designers of learning experiences for an increasingly diverse population with diverse needs and expectancies.

A compensatory relationship exists between academic and social integration in Mannan's study (2007), in which students' integration in the academic and social issues are differentiated with regards to their subject areas of studies and their years of studies.

Taking the size of investment in instructional technology for higher education, the increased demand for distance education, and the demonstrated effectiveness for some educational outcomes, it seems reasonable to investigate why the integration of technology for teaching and learning is so appealing to certain lecturers while others still resist to it. The issue of using technology without turning it into taboos and totems could be maintained with the active contribution and commitment of the lecturer. Following phrases cited from Day's "A Passion for Teaching" (2004) summarizes the whole idea of passionate teaching and passionate lecturers:

> *Passionately committed lecturers are those who absolutely. Love what they do. They are constantly searching the more effective ways. To reach their children, to master the content and methods of their craft. They feel a personal mission… to learning, as much as they can about the world, about others, about themselves – and helping others to do the same* (Zehm and Kottler, 1993 cited in Day 2004).

Recommendations

Developing critical thinking should be the main target at the lectures, by reflecting provocative questions with the help of the technology when necessary. In order students to ask provocative questions internet surf might widen their horizons.

Interviews with the students revealed constraints experienced within the teaching process as technology is used in the lectures. Longitudinal studies could be implemented to examine the degree at which teaching objectives could be obtained by the lecturers, as they use technology.

Internet connection, development of technical facilities to enhance the use of instructional technologies should be taken as faculty priorities. Interactive implications would sustain more effective lectures.

Teaching should be one by one interaction with students, this develops students' thinking and enlarge their horizons and should be used if it is necessary depending the nature of the lecture content. Technology should be viewed as a "tool" and a way to rethink curriculum and instruction.

Lecturers within this challenging setting need more support in terms of technology application and they should be given in-service training which will meet the needs of each individual academic in preparing their lectures, this enabling them to serve as ideal role models for their students. Career phases regarding the age and experience variables should be used as an indicator when devising special support programs for the lecturers.

Leaders and faculty administrators should be engaged in an ongoing process of identifying appropriate technology applications and their educational uses that should be made available to all learners and lecturers.

Internet connection, development of technical facilities to enhance the use of instructional technologies should be taken as faculty priorities. Interactive implications would sustain more effective lectures.

Commitment to technology effectiveness should be maintained not only among teaching related activities but also administrative activities. Faculty should present a determined attitude towards sustaining continuous quality in the teaching and learning processes.

Students must access to support services through which they could reach online resources, faculty access, maintain peer interaction and benefit from other advantages provided within the campus (Garson, 2007).

The effective use of technology needs to be related how learners learn. As it was mentioned by the students in the study: "Expecting technology to enrich the lesson and demanding too much from it could be seen as the projection of one's hopelessness not the technologies' fault". Lecturers in this respect need to encourage creativity and critical thinking in their lectures through the effective and skillful use of technology. Goh et al (2007) asserted that the idea of computer mediated communication could promote critical among learners through internalization within a community of learners.

It becomes more evident that critical reflection and contextual awareness lead to a learner view of course design and measured approaches to technology use (Burge, 1999). Like teachers, lecturers should put more thinking in their lecture planning and should question their teaching repertoire and renew it by not being a victim of the technology by thinking more about the taboos they have or the departments have. It should be noted that critical thinking should be associated with problem solving skills going beyond computational mechanics to consideration of complex causal and value systems (Garson, 2007).

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