THE USE OF SMART TECHNOLOGY IN TEACHING AND LEARNING: A WAY TO ENHANCE ACHIEVEMENT

Rojanard Waramontri

Airline Business, SuanSunandhaRajbhat University, International College
Bangkok 10300Thailand
Email: rojanardw@gmail.com

ABSTRACT

Nowadays, students were born in a world of continuous evolution of technology. Technology is part of their daily life inside and outside their professional studies. One of the most important discoveries when it comes to technology is the internet which provides today the possibility for students to have access to all types of information and resources which are very useful in their studies activities. In addition, students are more technological than ever and are demanding new and innovative ways to learn. As a lecturer, one of the most promising approaches is based on design and development of smart universities and smart classrooms. Therefore,smart technology can empower teachers and learners, promote change and foster the development of twenty-first century skills. This research aims to investigate the current situation regarding using smart technology at the SuanSunandhaRajabhat University, International College. The results show that student learning and achievement have been affected when the teaching and learning processes are enhanced by smart technology which has motivated the students to get more involved in learning activities through which they became more active and more interested in learning. To exemplify my observations based on my own experience in teaching atSSRUIC, I chose both survey and experiment to students and academic staff. The students were asked to attend three lectures using traditional technique (white board), power point and smart technology. The findings of this study led to some suggestions to enhance students' achievements that can enable lecturersto adapt their teaching methods and teaching tools to their students' needs and of course to the evolution of technology.

Keywords: Smart Technology, Achievement, Learning Process

INTRODUCTION

The word technology is derived from the Greek word "techno" which means the willingness, skills, knowledge of the way, rule, skill, tools and "logos" which means sci- ence, word, learning, mental state. Technology can have a reciprocal relationship with teaching. Educational technology opens a perspective and usage in teaching; teaching technology is known as the implementation of learning models, treat of teaching methods and scientific knowledge in the educational process; learning technology acts as factor and element of change in teaching didactics. (Murati., Xh.. 2013, p. 24). In overall process of educational the teaching technology, aims to accomplish the two basic objectives which are: 1. The intensive aspect of learning, educational work; and 2. The extensive aspect of organizing educational work (Murati., Xh.. 2013, p. 25).

In addition, today it is impossible for any profession performs without the help of information technology. The computer and the Internet gives us endless possibilities and resources in improving the quality of work. Even in education, computer skills and additional equipment are needed, because they create great opportunities for teachers and inspire curiosity, imagination and interest of students. Computer use in education encourages changes in the concept of education, teaching contents, the teaching technologies and the relationship between teachers and students. Popular programs such as PowerPoint, FlashPlayer, Word, Excel, Access, Adobe, etc., have become a great help for teachers in teaching. The influence of information and communication technology increasingly becomes much comprehensive in many social spheres.Thus, enhancing student interest and input in a course is important for professors.

The purpose of this paper is to investigate the current situation regarding using smart technology at the Suan Sunandha Rajabhat University, International College by asking general research questions. These questions all focus on the attitudinal and behavioral aspects of students toward the use of Interactive Technology in the classroom and are as follows.

Research Question 1: Will students report a higher attitude score for the subject matter in a course after it is taught with Interactive Technology?

Research Question 2: Will students report a higher attitude score regarding the use of Interactive Technology after they have used it in a course?

Thus, this paper will discuss the use of Interactive Technology, address how faculty can utilize it to enhance classroom communication, and measure its effectiveness.

LITERATURE REVIEW

A number of authors (Clements and Sarama, 2003; Glaubke 2007; Dynarski et al. 2007) suggest that we should focus on five areas of software programs that have the potential to strongly influence children's learning experience:1. The educational value of the program,2.Its ability to engage children in learning, 3. Ease of use,4. Interactivity between the child and programs, 5.The possibility that a software program monitors the progress of the child.Digital games, whether computer-, game console-, or handheld-based, are characterized by rules, goals & objectives, outcomes & feedback, conflict/ competition/challenge/opposition, interaction, and representation of story (Prenksy, 2001) or more simply, "Purposeful, goal-oriented, rule-based activity that the players perceive as fun" (Klopfer, 2008). They are distinguished by two key elements: (1) an interactive virtual playing environment, and (2) the struggle of the player against some kind of opposition. Gaming is already a widespread activity in our culture —more than 45 million homes have video-game consoles (Feller, 2006). Therefore, one of the most obvious benefits to using these technologies for learning is that students are often already familiar with the tools. Other researchers have found that games improve skills in communication and collaboration, problem-solving, and various number-related skills (McFarlane, Sparrowhawk, &Heald, 2002).

Jenkins et al. note that these new capacities "almost all involve social skills developed through collaboration and networking. These skills build on the foundation of traditional literacy, research skills, technical skills, and critical analysis skills taught in the classroom" (2006, p. 19). These are all critical skills, often developed in conjunction with distributed learning environments—designed to leverage activities around principles of distributed cognition, and collective intelligence. These two skills in particular are based on the view that intelligence is more than just an attribute of an individual, but distributed amongst brain, body, and world (Clark, 1997); improved reasoning is made possible by the use of technology to "expand and augment human's cognitive capacities" (Jenkins et al. 2006, p. 37). Furthermore, "knowledge cultures" assembled in these online communities produce the capacity for cognition and accomplishment far beyond what one person alone could accomplish.

Kurdziel (2005) notes five reasons for educators to use an audience response system: (1) to address the limitations of traditional lectures; (2) to engage students; (3) to provide feedback to both students and instructors; (4) to effectuate learning gains; and (5) to realize improvements in attitudes. The key benefit of the technology is that it allows both students and professors to get instant feedback (Merritt, 2000).Students know that their opinions are being heard equally, and professors can get immediate feedback on the performance of the class as a whole while tracking individual students behind the scenes to pinpoint specific concerns (Terreri and Simons, 2005) and determine if more time is needed to on a specific topic (Cohen, 2005). Carnaghan and Webb (2005) note the benefit of increasing interactivity regardless of class size, and that the use of Interactive Technology allows professors to focus on problems revealed by the students' responses. Taylor (2007) describes the benefit of utilizing Interactive Technology in large lectures to increase students' active involvement. Finally, Hoffman and Goodwin (2006) note the following benefits of Interactive Technology: ensures interaction, keeps students focused, increases participation, promotes discussion, and increases retention.

The purpose of this paper is to examine the impact of Interactive Technology in the classroom especially the students' learning and achievement have been affected when the teaching and learning processes are enhanced by smart technology. To exemplify my observations based on my own experience in teaching at SSRUIC, I utilize research questions. These questions all focus on the attitudinal and behavioral aspects of students toward the use of Interactive Technology in the classroom and are as follows.

Research Question 1: Will students report a higher attitude score for the subject matter in a course after it is taught with Interactive Technology?

Research Question 2: Will students report a higher attitude score regarding the use of Interactive Technology after they have used it in a course?

METHODOLOGY

The purpose of this paper is to examine the impact of Interactive Technology in the classroom. The researcher conducted this study with one section of the course utilizing Interactive Technology and the other section not using it. Both sections were to have the same instructor with identical material, in-class questions, and tests. Through the use of post measures taken at the end of the semesters using Interactive Technology. The two research questions were addressed in two different ways: through pre- and post-survey measures done at the start and the end of the semester for the sections of the Subject IAC1204 Personality Improvement and Grooming course where Interactive Technology was utilized, and through additional post-survey measures at the end of the semester for those sections where Interactive Technology was utilized. Survey items were utilized to measure the research questions. The majority of these pedagogical measures combined items either created by the authors or adapted from other pedagogical research. Several of the items came from a working paper by Carnaghan and Webb (2005), who measured the impact of the use of Interactive Technology in accounting education. Several items from Kurdziel (2005) looking at the impact of Interactive Technology in large biology lectures were also utilized. Another source was Seay, Rudolph, and Chamberlain (2001), who used items measuring perceptions of interactive television instruction. Finally, some of Massey, Brown, and Johnston's (2005) items measuring the impact of using games (such as crossword puzzles and Jeopardy) to review materials were also adapted. This approach examined research questions one and two (attitude towards the subject matter and attitude towards the use of Interactive Technology in the course) for the three sections of Subject IAC1204 Personality Improvement and Grooming that were taught after Interactive Technology was utilized. Attitude towards the subject matter was measured by comparing attitude scores towards the subject of Subject IAC1204 Personality Improvement and Grooming pre (the first day of class) and post (the last day of class). The thirteen-item attitude measure was adapted from that used in Economics (Agarwal and Day, 1998) with the subject "Personality Improvement and Grooming" substituted for "Economics" and scored on a five-point Likert scale. Attitude Contemporary Issues In Education Research – Third Quarter 2009 Volume 2, Number 3 34 towards the use of Interactive Technology was measured with twelve items; seven adapted from Carnaghan and Webb (2005) along with five items created by the authors.

The sample consisted of students in three sections of a Subject IAC1204 Personality Improvement and Grooming course. The group members were given pre- and post-surveys to measure the research questions. The pre-survey was given during the first week of class and the post-survey was given the last week of class. A total of 97 students completed the questionnaire at both stages (pre/post). Approximately 75% of the respondents were females. The respondent sample engaged in approximately 2-4 hours of study time per course per week. On being asked how often these students prepare for any course, the highest percentage of response was "often (60%)" followed by "sometimes (40%)."

RESULTS

Research question one related to whether students report a higher attitude rating for a subject that is taught using Interactive Technology. This was measured by comparing the attitude of students about the subject matter of IAC1204 Personality Improvement and Grooming course at the start of the course utilizing Interactive Technology to their attitude at the end of the term. The mean scores (standard deviation) for attitude toward the subject matter at the start of the semester was 3.56 (.50) and the mean score (standard deviation) at the end of the semester was 3.72 (.59). The differences between the two time periods was measured using a t-test and the t-value was 2.834 which was significant. This indicates that the attitude towards the subject matter in a course utilizing Interactive Technology increased over time.

Research question two examined whether students reported a higher attitude rating for Interactive Technology after utilizing it for a course. The mean scores (standard deviation) for attitude toward Interactive Technology prior to using it was 3.927 (.639) and after using it was 4.176 (.724). The differences between the two time periods was measured using a t-test and the t-value was 3.034 which was significant. This indicates that the students' attitudes towards utilizing Interactive Technology increased after they have had used it for the semester.

CONCLUSION

The results suggest that there are significant benefits to adopting Interactive Technology. Moreover, the benefits of Interactive Technology exceed the costs, particularly when considering the enjoyment of students in class and developing an active learning environment (Hoffman and Goodwin, 2006). Through the use of pre- and post-survey measures at the start and end of the semesters using Interactive Technology, the result showed that the students' attitude toward both the subject matter and the use of Interactive Technology is increased. Through the use of post measures taken at the end of the semesters using Interactive Technology, the researcher provided a benchmark that suggests, on average, students agree that a course using Interactive Technology is more interesting, more attention getting, and more satisfying. Finally, teachers have to be motivated to use the same because the use of educational technology in teaching provides better interaction with students, better reception of information because the students receive knowledge visual, auditory and kinesthetic way. Among other things, an educational technology motivates students to work independently where the student is more motivated to return to learning and working because modern technical equipment is widely available at any given moment.

RECOMMENDATION

From all of this is presented above we can conclude that the use of information and communication technology today has special importance, especially in education and in teaching where students take advantage of new knowledge. Information technology is a continuation and extension of previous knowledge in this field and has to do with the acquisition of knowledge and necessary skills for successful and independent use of technology with standard software applications used in everyday life. Teachers should not oppose change and must carefully plan the use and integration of technology in teaching. The use of technology will positively improve results faculty and students.

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