

## A STUDY OF TEACHER UTILIZATION OF SMARTBOARD AT PAN-ASIA INTERNATIONAL SCHOOL BANGKOK

Qun Chen<sup>1</sup>

**Abstract:** The current study was carried out how smartboard can motivate the students to learn more effectively and how smartboard has been used in each subject. Smartboard is an expensive teaching facility. To have it in the school, the teachers should have enough ability to use it and use it properly. Smartboard is a new technology especially in education, not only the teachers are facing to the new technical problems, the students also face to the challenge of new technology. The quantitative research approach was employed by means of a survey questionnaire. Data obtained from 67 teachers were statistically analyzed in order to identify the frequency of smartboard used at Pan-Asia International School and at the same time, to examine gender and grade levels differences in teachers' utilization to use smartboard. The result of data analysis revealed the following: (a) every subject teacher use smartboard to teach at Pan-Asia International School, almost 4 to 10 hours per week; (b) there is no difference in teachers' ability to use smartboard regarding teachers' gender at Pan-Asia International School Bangkok; (c) there is no significant difference in teachers' ability to use smartboard regarding the grade levels of teaching at Pan-Asia International School Bangkok.

**Keywords:** Smartboard, Pan-Asia International School Bangkok

### Introduction

Along with the development of information technology, people's thinking and learning style has changed and the major progress of information technology was born out of the multimedia technology education mode. It also made a profound influence for the modern education and makes course of content more on multi-media. Information technology makes the teaching work break through the original old patterns, and it can transcend time and space limit. Through the network teaching, the interactivity between teachers and students or students and students was achieved.

Modern education teaching depends on teaching courseware. The courseware which developed under multimedia technology environment which achieved

the combination of the sound and color, excellent pictures and texts, so that teachers can fully mobilize students' various senses, and greatly stimulate the student's study interest. As to improve the teaching efficiency, Knezek (the CEO of the International Society for Technology in Education) said "If in 1970 you had knee surgery, you got a huge scar. Now, if you have knee surgery you have two little dots." He compares education without technology to the medical profession without technology. It means that the technology have an important position in the society and from the time pass by, the technology step forward so fast. The development of society needs the best technology.

According to Shenton and Pagett (2007), smartboard can enable classroom teachers to meet the needs of the students with all different kind of leaning styles. The influence of the teaching process by modern education technology, the research objective to education is the learning process and learning resources, emphasize the point of view of the learners, utilize the method of system to organize the teaching process, optimize the teaching resources of the institution. Modern education technology can be divided into education media technology and education design technology, the former is tangible materialized state of technology, mainly involves the hardware and software in the education technologies, including the communication and transmission technology of education, the technology in storage and retrieval of education information, the technology in processing and processing, display and copy techniques of education information. The latter is invisible intelligent technology, mainly involves how to select materials and equipment, arrangement of teaching activities planning, group, teaching process control, evaluation, management and strategy, including education system technology, education psychology technology and education planning technique.

The modern teaching process are made by teachers, students, teaching content, teaching media those four basic elements, teachers through the teaching media transmission information (teaching content), students through teaching media accept information (learning content), four elements have a mutual influence and mutual restriction relationship. The utilization of modern education technology in the education has a profound influence in the process of teaching, teacher, student, and teaching content. Teaching media have four elements.

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<sup>1</sup> Master Candidate in Curriculum and Instruction, Graduate School of Education, Assumption University, Thailand  
chenqun317@hotmail.com

First, change the teacher's role, make teachers to become students' learning guidance in traditional teaching, emphasizing the teacher's "leading role", the student is the owner of relative knowledge and the teacher was a symbol of authority, with teachers-centered education mode, it has neglected the student-centered as an important role in the study, and make students become negatively passive when they accept the knowledge. When modern education technology into the classroom teaching, teacher's role has changed from its characteristics, function and so on, the teacher is no longer the only way students can obtain knowledge source. Teacher's role has changed from the pure teach knowledge transformation to teaching designers, student activities director, guide in acquiring knowledge. Students stay in the background of certain social and cultural, the certain scene, and under the guidance of teachers, using the necessary learning resources, through the construction of meaning way to acquire knowledge, learn how to learn and actively explore the knowledge. At the same time, the teachers as to be the guidance of students should strengthen the students' learning methods, so that the students changed from negative knowledge receiver gradually to active knowledge explorer and motivator. Teachers should design the teaching software/courseware according to a curriculum and the students' needs. Second, change the students' status, students' learning are depend on teachers organization, arrangement and requirement, students were negative passively listen to teachers' knowledge and always in a passive position to accept implants. Students only can master the knowledge by teacher's explanation; rely on the teachers' evaluation to know their own progress. Modern education technology get into the classroom, it change the situation like student is attached by the teachers. Audio, video, computer software, CD, multimedia technology (such as virtual reality, hypermedia technology), network and other modern teaching media which has their own unique advantages to provide a variety of external stimulation and abundant learning resources for the students, and to provide for students a variety of participation opportunity and make students have the opportunity to participate actively, to discover, to explore knowledge. Third, transforming the teaching media effect, make the teaching media become students' cognitive tool in traditional teaching. Teaching media is a tool which teacher use to complete the teaching mission and impart knowledge. When modern education technology get into the classroom, it provide the new teaching means based on the computer as the core of the information technology, communication technology, network technology and has injected the new vitality, it also change the traditional media and teaching mode.

Modern technology such as smart board helps the students learn more effectively (Bell, 2002). It was achieved the new concept of modern technology that creates an interactive environment between the teachers and the students. (SMART Technologies Inc, 2004) describes how a smart board can be used in a learning environment. Learning activities with a smart board may include taking note in digital ink, creating the digital lesson, using presentation tools built into the smart board software to enhance learning materials.

### **Significance of the Study**

The significance of the current study was be the guideline for the school admin to plan for makes decision on smartboard using and also the school was know what the facility needed in order to motivate the students to learn. The future researcher in other schools will know whether they need to invest smartboard as their teaching facility and whether smartboard can achieve the interactive classroom performance.

### **Research Objectives**

The general purpose of this research is to examine the utilization of smartboard in Pan-Asia International School Bangkok. Furthermore, this study aims to meet the following specific objectives:

1. To identify the frequency of smartboard using for each subject per week at Pan-Asia International School Bangkok.
2. To identify the teachers' ability to use smartboard regarding the teachers' gender at Pan-Asia International School Bangkok.
3. To identify the teachers' ability to use smartboard regarding the grade levels of teaching at Pan-Asia International School Bangkok.

### **Theoretical Framework**

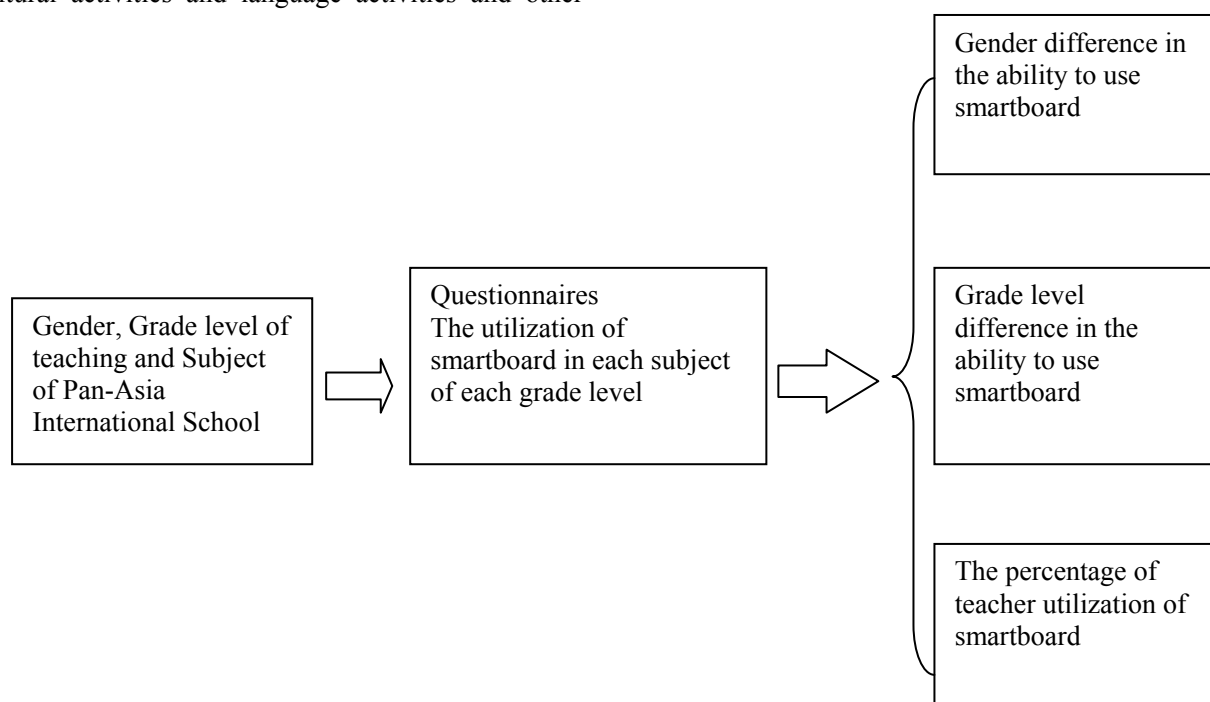
Smartboard is one kind of multimedia, so a cognitive theory of multimedia learning is one of the theories that support this study. Multimedia is the "use of multiple forms of media to make a presentation" (Schwartz & Beichner, 1999, p. 8). This is the function that smartboard has and the students were used this function to make the presentation. Multimedia is the "combination of use several media, such as movies, slides, music, and lighting, especially for purpose of education or entertainment" (Brooks, 1997, p. 17). And multimedia is information in the form of graphics, audio, video, or movies. A multimedia document includes a media element other than plain text (Greenlaw & Hepp, 1999, p. 44). Multimedia includes a computer program that have "text along with at least one of them: audio or sophisticated sound, music, video, photographs, 3-D

graphics, animation, or high-resolution graphics” (Maddux, Johnson & Willis, 2001, p. 253). In multimedia learning, the students engaged three important cognitive processes. The first process, selecting, is applied to incoming verbal information to yield a text base and is applied to incoming visual information to yield an image base. The second process is applied to the word base to create a verbally-based model of the to-be-explained system and is applied to the image base to create a visually-based model of the to-be-explained system. Third process, integrating, it happens when learner builds connections between corresponding events in the verbally-based model and the visually-based model (Mayer, & Moreno, 2001) Smartboard is the media that can achieve this effect.

Social constructivism consider that the individual acquire knowledge is not only in a process of personal construction, but also the inner socialization process, cultural activities and language activities and other

kind of teaching affect the future development direction of education through theory, practice and methodology. According to Vygotsky, there are two levels of children’s psychological development: firstly, the existing development level: firstly, a fundamental role in the development of cognition, on the individual level. Children can achieve the level of problem solving by the help of adult. Secondly, Zone of proximal development: a level of development attained when children engage in social behavior. The range of skills that can be developed with adult guidance or peer collaboration exceeds what can be attained alone (Kearsley, 2004). Smartboard teaching is the student-centered teaching media, so this theory also support in this study. Teaching is the human developments, teaching leads development, create the zone of proximal development.

### Conceptual Framework



**Figure 1: Conceptual Framework**

social factors influence the individual learning. Social constructivism to have two kinds of representative views: Piaget’s social cognitive theory and Vygotsky’s social development theory. Social constructivism analysis the process of knowledge construction through the classroom teaching, peer interaction and speech Angle. In the practical application of contemporary curriculum reform, including cooperative learning and interactive teaching, situational teaching, interdisciplinary study, the education evaluation and education reform. This

### Population and Sample

The population is all the teachers who use Smartboard to create the learning activity in any international schools at Bangkok. The sample is the academic year 2012 Pan-Asia International School Bangkok teachers from Kindergarten to Grade 12. The total number of the teachers from Kindergarten to Grade 12 is 67. So the study was involved a target sample of Elementary level 32 teachers, middle level 19 teachers and high level 16 teachers at Pan-Asia International School Bangkok.

### Summary of the Research Process

Research Objective	Source of Data or Sample	Data Collection Method or Research Instrument	Data Analysis
1.To identify the frequency of smartboard using for each subject per week at Pan-Asia International School Bangkok	All the teachers from Kindergarten to Grade 12	Questionnaire	Means Standard Deviations
2. To identify the teachers' ability to use smartboard regarding the gender at Pan-Asia International School Bangkok	All the teachers from Kindergarten to Grade 12	Questionnaire	Independent t-test ( two tailed)
3. To identify the teachers' ability to use smartboard regarding the grade level of teaching at Pan-Asia International School Bangkok	All the teachers from Kindergarten to Grade 12	Questionnaire	One-way ANOVA

### Findings

*Personal information:* The result of descriptive statistics revealed that, with regard to gender, the majority of respondents were female teacher (n=34 or 50.7%). The remainder consisted of 33 male teachers (n=33 or 49.3%). With regard to grade levels of teaching, the majority of respondents were elementary school teachers (n=32 or 47.8%), followed by middle position, the respondents were middle school teachers (n=19 or 28.4%). The smallest group respondents were high school teachers (n=19 or 23.9%).

*Smartboard usage per week:* It was found that the different subjects, teachers' usage per week also different. Business subject was used the most often subject (10 hours per week), followed is biology subject (9 hours per week). The subject that use least often is Values and Thai Culture subject (4 hours per week), followed by English subject (5.7778 hours per week).

*Teachers' Ability to use smartboard by Gender:* Independent Sample t-Test was applied to test the teachers' ability to use smartboard according to teachers' gender, there being two variables involved-male and female. The result of data analysis revealed that males and females do not differ significantly in teachers' ability to use the smartboard ( $\text{sig}=.260 > .05$ ). In response to the first hypothesis, there is no significant difference in teachers' ability to use the smartboard between teachers' gender.

*Teachers' ability to use smartboard among grade levels of teaching:* One-way ANOVA was applied to test teachers' ability to use smartboard among teacher's grade levels of teaching. There being three variables involved: elementary school, middle

school, high school. The result of data analysis revealed  $\text{sig} = .686 > .05$ . In response to the second hypothesis, there is no significant difference in teachers' ability to use smartboard regarding the grade levels of teaching at Pan-Asia International School Bangkok.

### Recommendations

In the findings of this investigation, the following recommendations are offered for certain individual and groups who may interested or affected by outcomes of this study:

1. for Pan-Asia International School Bangkok, the school may arrange more development training about how to use smartboard;

2. for middle school and high school teachers who use smartboard, try to create the useful courseware through smartboard, while the teacher is teaching by smartboard, the students also leaning beside how to use it;

3. for students, smartboard is a good application to learn how to use it and it will be helped in the future, the world is getting in progress now, so human also need to move forward to gain and learn new technologies all the time;

4. for the schools or any institute places, if people want to make the investment about smartboard, be make sure people know people have enough ability to use it;

5. for teaching different grade levels of students, the teachers can share with each other their own courseware.

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