Chapter 7
Needs Analysis of Student Use of Technology Focusing on Interactive Whiteboard During Classroom Presentations

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ABSTRACT

This study focuses on students' perceptions on needs analysis prior to developing and evaluating an oral presentation module using the interactive whiteboard (IWB). A development research method was selected based on ADDIE's Instructional Design Model. This chapter concentrates on the initial phase of ADDIE's model, which is a needs analysis of students' perceptions on the usage of the IWB for a verbal presentation. The results from a survey indicated that the IWB was an important interactive presentation tool to be introduced in the English classroom. In addition, the findings revealed that the students benefitted from the interactive presentation module introduced during the course when guidance and training were provided. Findings were used to improve the interactive presentation module among students at a tertiary level.

INTRODUCTION

Educational technology includes a wide range of tools to heighten teaching and learning approaches (What is Assistive Technology, 2012). With appropriate support and training, technology can become an important instructional resource to accommodate various teaching styles. For instance, the Interactive Whiteboard (IW) is a visual presenter and interactive teaching aid that can be used efficiently in the classroom if complemented with multimedia instruction (Turel & Johnson, 2012). It is a large interactive display which is used as an independent touchscreen computer to execute tasks or a connectable device used as a touchpad to control computers from a projector by downloading these software namely Multi- Touch Board Driver, Multi – Touch Board and Multi – Touch Lite Board into their laptops. Basically, it can be considered as an appliance, a visual presenter, and an interactive teaching aid for use in multimedia instruction (Turel & Johnson, 2012). The features of an IW that can effectively contribute to teaching and learning includes the following display of colours, annotation on the screen, inclusion of sound and video clips, drag and drop, cut and paste, flip chart pages, split screen, rotating objects and linking digital objects to the screen. Despite the numerous features that can be manipulated by students themselves to enrich their learning experience, the IW remains underutilised even in classrooms that are technology enabled.

There are numerous benefits of using the IW in the classroom. Compared to more older presentation modes such as whiteboard, chalkboard, overhead projector and screen, the IW allows students opportunities to manipulate the simple technology to participate in classroom teaching and learning in a more interesting and interactive way. Likewise, the teachers also use IW as instructional tool to improve the learning environment as it is more engaging (Turel, 2011; British Educational Communications and Technology Agency, 2003). Hence the use of tools like IW positions students and teachers in teaching and learning roles that promote mutual engagement in the lesson rather than a one way teaching where the teachers plays a central role.

Besides that, the IW also promotes whole class instruction. As the teachers and students are able to interact with one another using the numerous visual, verbal, and tactile modalities (Isman, Abanmy, Hussein & Al Saadany, 2012), the level of interaction is enhanced in tandem with the increased sophistication of the IW tool. The teachers and students can incorporate a range of multimedia and other digital resources to enhance content, support interactive and collaborative learning, and foster student control of learning. In fact, best practice literature supports interactive learning to engage students and to encourage higher order thinking and problem-solving skills (Dalgarno & Tinkler, 2010).

In teaching and learning in tertiary institutions, the IW supports the presentational approach which is widely used, even during English lessons (Toscu, 2013). The IW allows students to have good grasp of teaching materials and enhance their motivation to learn through collaborative teaching and learning (Hennessy, 2011). As teachers who use IW may agree, the tool offers substantial hands-on opportunities to work with multimedia expedients (Smart Technologies Inc., 2004). Teachers have been found to have good classroom control (Hennessy, 2011) and are able to engage the whole classroom during presentations (Jamerson, 2002). In other words, when teachers become well-acquainted with technology enabled teaching tools like the IW, there is more opportunities for elevating students' learning experience to harness greater learning outcomes as compared to using more traditional tools that may be limiting.

In Malaysia, there is a dearth of literature on teaching and learning using IW, especially on instructions for using it as a tool in the classroom in higher learning institutions. There is also inadequate research on module development especially for interactive module development method (Perinpasingam, Lee,

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