RUNNING HEAD: ARE YOU SMART? LET’S GET BOARD

Literature Review

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REVIEW OF THE LITERATURE

 The literature chosen to support our thesis “Is smartboard technology increasing the way students learn in the classroom?” was largely derived from articles and scholarly journals which focused on pedagogical methods used in secondary education. Initially, our research was to be conducted in classrooms with students who are minors. Because of privacy concerns and a lack of time to acquire the necessary permission, our research instead centered on the use of smartboards and adaptive technology on the college and university level.

 Interestingly, that is where a lack of scholarly research material exists, which suggest it is an area ripe for investigation. Similarly, the volume of information concerning usage in primary schools is further analyzed in sub-sets such as; whether the technology is more beneficial in teaching music, (Baker, 2007), or with particular learning or developmental disabilities, (Xin, Sutman, 2001).

 Our group conducted research from volunteer participants in three different areas of academia; mathematics, physics and computer engineering/sciences. The premise being that these are concentrations where the students themselves and the instructors are comfortable with technology. Moreover, today’s technology savvy students, particularly in those studies these sciences expect to be taught with techniques and technology they will actually use and encounter in the real world.

 Nine instructors participated in a round of individual, semi-structured, interviews. Each professor were asked a list of six, simple, open-ended questions. Prior to each interview, our subjects were walked through an informed consent process and answered a set of questions regarding their training, their background and demographic information. After the regular questions were asked, subjects could further elaborate on their answers and the student researchers could engage in follow-up questions or ask the professors to expound further.

 Since this is a pilot research project, data was collected by we did not extrapolate qualitative findings. Time, knowledge and experience were factors in this decision. However, an abstract on our research topic has been accepted at a national conference. Prior to our presentation in February we will derive inferences from what we have collected and present those findings and conclusions at the conference.

 Anecdotally, we learned that the university professors had a plethora of very expensive smartboards and other technology at their fingertips yet seldom use them. Some lamented the practical applications, such as, math professors need a larger space to write algorithms, others claim the technology interrupted the flow of the lecture and so on. The majority simply did not use them because of a lack of training. Professors noted that the technology was only as good as the person using them and the amount of accessible hands on training provided by any given university given the time and constraints of a university level instructor’s demanding schedule. This common complaint is supported by a number of articles which differentiate the culture and the complexities of a university classroom from a secondary level setting and the conditions under which technology is more easily integrated into the class (Zhao, Pugh Sheldon & Byers, 2002).

 While the research does not specifically point to the amount of time spent with students as a variable necessary for successful outcomes, it is inferred (Guzman, Nussbaum, 2009). Naturally, a teacher who spends every day with the same set of students will pick up a more fascile understanding of the technology and will learn *with* their students as they both become accustomed to it, college level professors don’t regularly see the same set of students and use the same set of information, the lesson plan and curriculum demand a faster pace and less opportunity to pick up shortcuts you might encounter during routine use.

 It appears that this technology used merely as a tool (Guzman, 2009), is in and of itself not a radical pedagogical shift but used to integrate information via the internet, social media and to capture class dialogue has great potential.

 Additionally, instructors both in the literature and in our research interviews indicated a desire to see adaptive technology integrated into the curriculum where there can be a two-way flow of information. I-pads, if fiscally feasible, would provide an opportunity for students to pull in outside references during the course of discussion during, say, a political science class or to better facilitate group assignment communication, (Wieder, 2011). Tablet style and hand held technology can have drawbacks such as expense, but over time it is believed the initial cost is absorbed and justified whether it be reducing the cost of paper textbooks or our footprint on the environment. Education experts hold a common belief that students who are put in the driver’s seat will ultimately be far more ready for advanced study and for the workforce, (Melago, 2007).

 It is critical for professors to meet students where they are, (Moran, Seaman & Hester, 2011). Today’s millenials are best engaged through technology and may in fact, be the best method of ‘training the trainers’.