

Survey Research Proposal
EDTC 809 Assessment and Evaluation
New Jersey City University
Sunday, October 30, 2016
Dwayne Davis

1. Give a brief description of your study.

Studies show that humans tend to have a higher capacity to remember and focus on negative experiences, rather than positive experiences. This phenomenon affects future experiences and attitudes towards technology (William, 2014). Studies also suggest that it is likely that a human's belief about technology changes as times goes on. Studies using the technology acceptance model (TAM) and other models show that user perception and attitudes are key determinants to technology use (acceptance) and long-term use (continuance) (Bhattacharjee, 2004). Bhattacharjee's acceptance-discontinuance anomaly theory describes how changing human beliefs and behaviors towards technology undermine an organization's efforts to exploit the full potential of technology.

Numerous studies have been carried out to examine and explain the effects of the negativity bias theory in the field of technology. Negativity bias is the tendency for humans to pay more attention, or give more weight to negative experiences over neutral or positive experiences. Even when negative experiences are inconsequential, humans tend to focus on the negative aspect of an experience more than the positive. (Loranger, 2016) Studies show that negativity bias can manifest itself in many forms, such as user's experience on a website, attitudes towards instructional practices, and beliefs about technology.

The tendency for human beliefs and behaviors towards technology to change over time, teamed with higher capacities to focus on negative experiences, suggests that human are generally less likely to adopt or use new technology. When this occurs in the classroom, the potential for technology to improve engagement, increase student achievement, and provide high return on investment is significantly reduced. If this theory holds true, teachers who have negative biases toward technology are less likely to adopt and more likely to discontinue use of

technology in the classroom. Teacher biases (positive and negative) presence a significant area of focus as it pertains to technology implementation, as teachers are key drivers for effective use of technology in the classroom.

This study will use qualitative methods to examine the two psychosocial phenomena presented by focusing on two essential areas of technology adoption and use in the classroom. The first area of focus will be the study of how teachers' technology biases impact technology adoption and continued use in an urban classroom. The second area of focus stems from the first focus and will explore how, positive and negative teacher-biases relate to teachers versus administrators' perception of technology adoption and continued use in an urban classroom. A major barrier to technology adoption and use is user resistance at the implementation level, due to limiting beliefs and anxiety that stem from past experiences (Williams 2014 & Gina, 2005). This study will work to uncover patterns, themes, and connections related to technology adoption and use in urban classrooms to help school administrators better implement sustainable technology systems for students that need the most academic support.

2. Who will be the participants, how will you select them, how will you contact them, do you see any potential issues?
 - Participants of this study will be 3rd through 8th grade teachers in a Newark Charter School
 - Participants will also include school leaders, principals, assistant principals, dean of students, and technology coordinators in an urban school in Newark New Jersey
 - Participants will be purposefully selected to ensure knowledge individuals and essentials demographics are captured in the study

- Using my connection with well know and growing urban schools in Newark, I will contact administrators from University Heights Charter School to gain approval to conduct this study using participants in their upper elementary and middle school
- I previously worked for University Heights Charter School for six years in various instructional, operational and administrative technology capacities.
- To gain approval, I plan to leverage my prior connection with University Heights, to schedule a meeting with the Executive Director of the school and principals in grades 3-8

3. What are your research questions? (Write them out...use the Creswell format)

This study will be framed by two central research questions. The central questions are broad questions that ask for an exploration of the central phenomenon or concept in a study (Creswell, 2013). In addition, eight sub-questions will be used to narrow the focus of the study but leave open the questioning. The central and sub-questions for this study are as follows:

Central Question 1: How does teachers' technology biases impact technology adoption and continued use in an urban classroom.

- **Sub Question 1.1:** How does positive teacher-biases relate to teachers' perception of technology adoption and continued use in an urban classroom.
- **Sub Question 1.2:** How does negative teacher-biases relate to teachers' perception of technology adoption and continued use in an urban classroom.

- **Sub Question 1.3:** How does positive teacher-biases relate to administrators' perception of technology adoption and continued use in an urban classroom.
- **Sub Question 1.4:** How does negative teacher-biases relate to administrators' perception of technology adoption and continued use in an urban classroom.
- **Sub Question 1.5:** How do administrators address the biases teachers hold towards technology that affect adoption and use?
- **Sub Question 1.6:** How do teachers address barriers to adoption and use presented by negative experiences?
- **Sub Question 1.7:** How do administrators address barriers to technology adoption and use presented by negative experiences?
- **Sub Question 1.8:** What unique factors in an urban environment affect how teachers experience technology and how are their perceived behaviors affected overtime?

Central Question 2: Can the information uncovered through this study generalize an urban classroom population and afford administrators valuable information to improve teacher adoption and of technology in the classroom?

4. What is the need of this study?

Studies suggest that proper use of technology in the classroom can serve as powerful tools to improve students' performance and enhance the classroom environment. Wenglinsky (1998) studied the relationship between educational technology and student achievement in mathematics. Although Wenglinsky's study could not determine that technology does contribute to higher achievement scores in mathematics, Wenglinsky was able to show that urban students were less likely to be exposed to higher order level of technology use than sub-urban or more wealth students. Wenglinsky attributes the lack of exposure to higher order computer skills to the professional development experience of urban teachers. Wenglinsky suggests that better use of technology in the classroom impacts student achievement (Wenglinsky, 1998).

Similar to Wenglinsky's study, Barkatsas, Kasimatis, and Gialamas, (2009) investigated the complex relationship between students' mathematics confidence, confidence with technology, attitude to learning mathematics with technology, affective engagement and behavioural engagement, achievement, gender and year level. Using secondary students from state co-educational schools in Metropolitan Athens, Greece, Barkatsas found that technology use in the classroom had a positive effect on mathematics achievement in the classroom for students that approached technology use with a positive mindset.

Jay Sivin-Kachala (1994) conducted a quantitative study that examined the effects of educational technology on student achievement. Sivin-Kachala found that students in technology rich environments: experienced positive effects on achievement in all major subject areas; showed increased achievement in preschool through higher education for both regular and special needs children, and improved their attitudes towards learning and self-concept (Sivin-Kachala, 1994).

Teachers and administrators spend a considerable amount of time implementing new technologies in the classroom to enhance the learning experience. Urban classrooms generally have students that are affected by various socio-economic issues that create achievement gaps. Effective adoption and use of technology in the classroom could provide tools to improve engagement, students' attitudes towards learning, and ultimately student achievement. This study will help urban teachers and administrator understand key components of teacher biases, experiences, and behaviors to improve adoption and use of technology in an urban classroom to enhance the learning environment.

5. Will your research be quantitative, qualitative, or mixed methods? Give details why.

- According to Martin Marshall, qualitative research studies aims to provide illumination and understanding of complex psychosocial issues. Additionally, Marshall state that qualitative studies are most useful for answering humanistic 'why?' and 'how?' questions (Marshall, 1996).
- The central question in the study explores how teachers' technology biases impact technology adoption and continued use in an urban classroom.
- The term "how" expresses the desire to understand.
- Therefore, a qualitative research method is the most appropriate method to conduct this study.
- This study seeks to understand and psychosocial phenomenon related to teacher biases and technology adoption in an urban classroom. Therefore, a constructivist philosophical framework will guide the qualitative methods of this study.

- The constructivist approach believes in seeking subjective meaning and understanding from the experiences individuals and interactions of objects (Creswell, 2013). The goal of a constructionist framework is to rely on the participants to construct meaning from broad and general open questions.

6. Give a brief description of the types of questions that you will ask.

- This study will employ qualitative methods guided by a constructivist framework to develop central and sub-questions
- The type of questions that will be asked are open-end, prompt-type, and subjective questions. The more open-ended the questioning, the better, as the researcher listens carefully to what people say or do in their life settings (Creswell, 2013).
- Participants will be asked to answer open-ended, prompt-type, and best-fits response questions via a survey instrument
 - An example of a best-fit response questions is, “Before implementing a new technology in your classroom, you typical feel, very optimistic, optimistic, neutral, pessimistic, very pessimistic
 - Explain your response
- Throughout the survey, the researcher will ask the participants questions and give prompts to develop open responses. An example of a prompt response is as follows:
 - Read the two scenarios, select the teacher that most closely describe your experience, perception, or behavior with technology and explain why.
- Each question or prompt will be designed to explore the central and sub-questions of the study

References

- Barkatsas, A. T., Kasimatis, K., & Gialamas, V. (2009). Learning secondary mathematics with technology: Exploring the complex interrelationship between students' attitudes, engagement, gender and achievement. *Computers & Education*, 52(3), 562-570.
- Creswell, J. (2013). In Knight V. (Ed.), *Research design: Qualitative, quantitative, and mixed methods approaches*. 1 Oliver's Yard, 55 City Road London EC1Y: SAGE Publications.
- LORANGER, H. (2016). **The negativity bias in user experience**. Retrieved from <https://www.nngroup.com/articles/negativity-bias-ux/>
- Schacter, J. (1999). The impact of education technology on student achievement: What the most current research has to say.
- Sivin-Kachala, J., & Bialo, E. R. (1994). Report on the effectiveness of technology in schools, 1990-1994.
- Williams, R. (2014). **Are we hardwired to be positive or negative?**. Retrieved from <https://www.psychologytoday.com/blog/wired-success/201406/are-we-hardwired-be-positive-or-negative>