

Project #3: Survey Research Proposal

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### **Description of Study**

Evidence suggests that online discussion forums are beneficial in the development of critical thinking skills in students (Hamann, 2012) and that online and hybrid courses utilizing discussion forums produce learner outcomes that equivalent or greater than those of face to face courses (Botsch, 2001). In addition, studies in ethnic, gender, and academic performance disparities report various degrees of interaction and benefit among students in online forums (Wolfe, 2000; Hamann, 2009; Wilson, 2007). Critical thinking can be thought of as

Critical thinking is that mode of thinking — about any subject, content, or problem — in which the thinker improves the quality of his or her thinking by skillfully analyzing, assessing, and reconstructing it. Critical thinking is self-directed, self-disciplined, self-monitored, and self-corrective thinking. It presupposes assent to rigorous standards of excellence and mindful command of their use. It entails effective communication and problem-solving abilities, as well as a commitment to overcome our native egocentrism and sociocentrism. ("Our Concept and Definition of Critical Thinking, n.d.")

This study will explore the self-expressed process of critical thinking skill development in online learners at an urban Hispanic Serving Institution (HSI).

### **Sample**

Students enrolled in an online master's level educational technology course at New Jersey City University will serve as the participants in this qualitative research study. Access to this convenience sample (Patton, 2015) will be provided through the Chair of the Department of Educational Technology, Dr. Laura Zieger, as well as the director of the particular course. The sample shall not exceed thirty students as per the requirements of the school. Upon approval of the study by the Institutional Review Board at New Jersey City University, students will be able to be contacted through email addresses provided by the course director and/or the Office of the Registrar.

Prior to joining the study, the students will be provided with information on the study which will include the purpose, potential risks, benefits, contact information on the investigator, and information on the right to withdraw without academic risk. It is anticipated that there will be little to no risk to the students and student identifiers will not be collected during the survey. As a result, an expedited IRB is expected. It is possible that low student engagement may take place resulting in an inability to make the data significant and transferrable beyond the particular case. If this is the case, extension to a second term may be necessary.

### **Research Questions**

The purpose of this phenomenological study is to explore how students describe their development of critical thinking skills through interactions in an online discussion forum platform enhanced with artificial intelligence (AI).

Central question:

- In what way do students respond to AI feedback provided by a discussion forum platform?

Sub-questions:

- What does AI feedback reveal to a student regarding their understanding of the course content?
- How are study behaviors changed in response to AI feedback?
- How has the perception of content mastery changed in response to AI feedback?

### **Methodology**

A qualitative research approach will be taking to study with a phenomenological approach where the focus will be on students at an HIS enrolled in an online course utilizing an AI enhanced discussion forum. This methodological approach will be utilized in order to

explore the experiences of a small group of students experiencing AI feedback in an online course with the expressed purpose of giving voice to their unique lived experiences (Creswell & Poth, 2018).

Data on student experiences will be collected through the use of an online survey tool. The survey tool will be used to ask the students a series of open ended question and Likert type questions on their responses to AI feedback in the discussion forums. Additional data will be collected from the course director and will include existing historic course GPA and course evaluations as well as corresponding data for the cohort under study.

### **Question Sample**

Three categories of questions will be asked of students through an online survey.

1. Demographic information will include:

- Gender – M/F/Other
- First generation college attendee – Y/N
- Transfer student – Y/N
- Race – Caucation, Hispanic, Black/African American, Asian, Pacific Islander, Other, Prefer not to answer

2. Open ended question describing their attitudes towards critical thinking.

- How has the automatic feedback in the discussion forum impacted your approach to learning the content?
- Describe how your studying habits have changed during this term as a result of the discussion feedback.

3. Five point Likert style questions based on Kirkpatrick's levels of evaluation (Kirkpatrick, 2005) ranging from strongly disagree to strongly agree.

- I enjoy receiving the automatic feedback on my post. (Reaction level)
- The automatic feedback helped me present my ideas. (Learning level)
- The automatic feedback in the discussion posts helped me study better in my class.  
(Behavior level)
- I believe the automatic feedback help me gain a better understanding of the course material. (Results level)

## References

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