

IMPACT OF A GROWTH MINDSET INSTRUCTION ON MOBILE LEARNING IN GRADUATE TEACHER EDUCATION

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ABSTRACT

Online education should foster a growth mindset to promote active mobile learning in graduate education. This proposal describes how the author has used a growth mindset to deliver his online graduate educational technology course in a midwestern public university in the United States in an eight-week course in fall 2023. The author with over 20 years experiences of online instruction will share how he has used several deliberate and structured practices to properly foster a growth mindset to engage and challenge learners to maximize mobile instruction and learning in graduate students in education. The presentation has potential implications for online education internationally.

KEYWORDS

Growth Mindset, Engage, Challenge, Online, Mobile Learning

1. INTRODUCTION

Online education has grown rapidly in recent decades. However, there is a misconception about online courses. That is, many learners think it is easier to take online courses. In fact it is not true, and online courses are harder and more time-consuming for both students and the instructor. As online adult learners, they will have to spend a fair amount of time studying weekly in order to successfully complete the requirements of online courses. Therefore, it's not surprising that there is a high dropout in online education, compared with the traditional in-person instruction.

Lots of research has indicated that online discussion has been widely used to encourage learners' interactive communication. Such an emphasis will not only help learners exchange information, but also enable and promote learners' reflection of their own understanding and connections between theory and practice or experience, as well as promote peer learning from each other (Gasparič & Pečar, 2016). However, according to Stott (2016), many online courses in higher education involving "poor levels of student engagement pose challenges to institutions, instructors and learners" (p. 51). Recent research has indicated that there are various ways to address the poor levels of student engagement in online courses in higher education.

This study emphasizes the examination of fostering a growth mindset technique to promote online graduate learners' learning. Based on Dweck (2015), fixed and growth mindsets are quite different mindsets, and they can be changed from fixed to growth. The growth mindset was intended to help close achievement gaps in learners, not hide them. When online educators face challenges in the course, they should ask students lots of related questions, then accept those related thoughts and feelings, work and keep working with and through them instead of avoiding them.

This study reports a practical action research project that aimed to examine how the author has fostered a growth mindset in his recent teaching to promote online learning in graduate students in education. The author has over 20 years' experience of online instruction. He has employed several deliberate and structured practices to properly foster a growth mindset to engage and challenge learners to maximize online instruction and learning in graduate students in education. Those are primarily related to the asynchronous online discussion on the discussion board and weekly blogs submissions in Blackboard for learners to complete course assignments. In addition, students were required to write term papers related to the course.

1.1 Research Questions

The purpose of this study was to investigate the impact of fostering a growth mindset to promote graduate students' mobile learning. The study analyzed related qualitative data to examine whether the author's weekly use of growth mindset instructional method had helped engage and challenge online graduate learners in mobile learning. Two specific research questions guiding the study were:

1. RQ1: How did online learners perceive the impact of the instructional strategy of growth mindset on their learning?
2. RQ2: How did the strategy of growth mindset impact online students' learning outcomes?

2. METHOD

2.1 Participants

Participants were from a graduate educational technology teacher education course at a midwestern public university in the United States in the first 8 weeks of fall semester 2023. The course entitled "Foundational Issues for Educational Technology Specialists" is one of the ten required courses in the master's degree. The students involved ten full-time in-service teachers. Seven were females and three were males. All were Caucasians. Their ages varied in the 20s to 40s. The author of the study was the instructor who taught the course and who had not taught the course previously since it was a newly added course to the curriculum.

2.2 Research Design and Instructional Intervention

The research design in the study was the individual's practical action research (Gay et al. 2012) since the author planned to improve the capacity and subsequent practices. The learning management system used in the course was the Blackboard. There was no required textbook. All course readings primarily included related journal articles, book chapters, and videos per week. Course assignments included weekly discussion posts and peer reviews, weekly blog posts, two separate reflection papers, and a final paper of educational technology philosophy.

Major instructional practices included, but were not limited to: the instructor required all students to read and electronically sign the Faculty Expectations Message (FEM) on the first class day in the Blackboard. Then, the online instructional approach started with learners' initial written reflection posts based on the assigned readings and personal experience, then followed by the instructor's challenging questions based on the Socratic method and learners' written responses to those questions. The questioning method was primarily based on Golding's (2011) community of inquiry model. This method included discipline-specific questioning, creating a community where learners replied to the instructor's and learners' questions through modelling and facilitation, as well as promoting the instructor's thinking-encouraging approach. In addition, for the weekly discussions and blogs, the author provided additional detailed thoughts and resources in the feedback for students to keep on thinking beyond the black box, rather than just provided students the correct or direct answers.

2.3 Data Collection

The author conducted an anonymous online mid-point course evaluation survey including three open-ended questions to collect qualitative data in the third week. The three questions were (1) "What have you learned so far?," (2) "What have you liked so far?," and (3) "Any suggestions for instructional improvement in the rest of the semester?" Six students responded to the survey. He then presented a summary of the midpoint survey for sharing in the Blackboard. Although some students mentioned that the course assignments were challenging and overwhelming, no major suggestions were offered. In addition, the author found some interesting and positive results from grading the course assignments including weekly posts, weekly blogs, and philosophy paper. Finally, results of the university's student evaluation indicated that students liked the

focused application to their current teaching careers, with the means of mostly 4 and 5 in all of the 10 multiple choice items.

3. RESULTS

The results from data mentioned previously were consistent. That is, overall, learners were surprisingly very positive about the online innovative reflection and questioning instructional methods used. The innovative instructional intervention used in the study was effective.

First, the qualitative data from the midpoint survey involved the thematic analysis, which is the most common form of analysis in qualitative research (Gay et al. 2012). Its results showed that all feedback was positive and no major suggestion was offered. So the author did not change any instructional strategies in the second half of the semester. Major related excerpts included as follows: "...I fully believe that Dr. L is interested in helping me learn..."; "...I have no concerns or advice for Dr. L. He is respectful and responsive to emails and questions. I have enjoyed taking courses with him as my professor...."

Second, based on students' course assignments, all students indicated that they learned a lot from the course although they felt the course was difficult. Sample excerpts included as follows: "...I feel like I'm learning a lot..."; "...I like how he has us read the information and finds many ways for us to retain the information. This includes the discussions boards and the weekly blogs. Therefore, I am very happy with this class..."; "...It is nice to have a professor who actually responds to messages in a timely manner and puts forth the communication needed for a class...."

Further, a careful analysis of the learners' qualitative data indicated two major themes below.

1. Learners worked hard to write and post the journal article and reading reflection essays and blogs online based on the topic and question prompts by the deadline. It is clear that learners enjoyed such assignments and were motivated to find additional articles and sources related to their own interests and to make connections between the articles/sources and their own experience or observations accordingly. A majority of learners' posts were of high quality and received a grade of "A" based on the assessment rubrics.

2. Learners enjoyed being challenged to work hard to address and reply to the content-specific challenging questions from the instructor and the peers accordingly every week. Generally, they exhibited higher order thinking in their peer reviewing and critiquing every week using reflection, questioning, organization, applications, connections, and synthesis. In addition, they engaged in critical reflections of their own work and work of their peers by giving and receiving positive and negative feedback that leads to furthering their thinking in the field. A majority of learners' responses to the instructor's and peers' questions every week were of high quality and detailed, as well as received a grade of "A" based on the assessment rubrics.

4. DISCUSSION

As indicated in the above "Results" section, both research questions were clearly answered. That is, first, most online learners favorably perceived the impact of a growth mindset instructional strategy on their learning. Most students not only liked positive challenging feedback, but they also got used to like constructive feedback about the assignments from the instructor and the peers. The constructive feedback including challenging questions was good at enabling dialog and reciprocity among the instructor and the students, connecting to learners' personal experiences and expressing their own opinions, as well as providing learners opportunities to comment on their own experiences led to more monolog exchanges.

Second, the strategy of a growth mindset positively and actively impacted online students' learning outcomes. All students made meaningful connections to their work while taking the course. Sample learning outcome excerpts from students included as follows. "...IT-590 was a class that I talked to my co-workers about daily. I shared pieces of information from articles, gave data that supported specific components of technology and even allowed me to discuss that research data is often tied back to what the researcher wanted...."

4.1 Limitations and Implications for Future Research

Similar to other studies, this study has its limitations too. The study only focused on one instructor in a small online graduate course among a group of homogenous participants in education. It primarily focused on the online learners' perception of the impacts of online reflection assignments and the instructor's growth mindset strategy. Therefore, further research is needed to better understand the long-term impact of such an instructional technique across the disciplines in the world.

5. CONCLUSION

Having recently used the growth mindset instructional method and witnessed its positive effects described previously, the author likes this approach more and more due to several reasons. First, it engages learners actively and deeply in discipline. The constructive and challenging feedback forced learners to go beyond traditional thinking and to think deeply and critically for alternative possibilities. Second, it is a rewarding experience as an instructor and a researcher to see how learners have grown professionally by being intellectually challenged in the class all the time. The results of student assignments indicated that the use of growth mindset instructional method was very effective in engaging and challenging online graduate learners. International implications for online college teaching across the discipline will result from the study. However, care should be taken when generalizing the results to other situations since this study was limited to one small graduate online course in education.

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