

The Impact of Mobile Learning Methods on Graduate Student Engagement

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Introduction

Since the launch of ACU's Mobile Learning Initiative, faculty and students have been exploring the use of mobile technology for the enhancement of student learning and engagement. The majority of this research and exploration, however, has occurred at the undergraduate level. One might argue that graduate students are more engaged in learning than their undergraduate counterparts; they have chosen a particular field of study in which they hope to make their careers, and attending graduate school will help them to reach defined goals. So while preliminary research findings from ACU's Mobile Learning Initiative indicate increases in undergraduate student engagement, I wondered whether or not the use of mobile learning methods would make a difference in the engagement of graduate students. The purpose of this study, therefore, was to determine if there was a significant difference in student engagement between marriage and family therapy graduate courses in which mobile learning methods were used and those in which they were not.

Research Methods

Sample. The sample for this study consisted of 52 graduate students enrolled in the Marriage and Family Therapy program at ACU. Students enrolled in the program were invited to participate in the study and provided informed consent. The methods for this study were reviewed and approved by ACU's Institutional Review Board to ensure the ethical treatment of study participants.

Mobile learning enhanced courses. The researcher began to implement several mobile learning methods into her graduate-level marriage and family therapy courses:

- The researcher and her graduate assistant created a podcast series entitled "Better Know a Theorist" in which they conducted interviews with major theorists and researchers in the field of marriage and family therapy. These podcasts were used as supplementary course material.
- The researcher began course blogs consisting primarily of student-generated content.
- Students were given assignments that involved podcasting and blogging. Descriptions of these assignments are included in Appendix A.

Data collection and measures. Marriage and family therapy students were asked to complete measures comparing their experiences in mobile learning enhanced courses and courses in which mobile learning methods were not utilized. Data was collected at the beginning and the end of each semester during the 2009-2010 academic year. The researcher developed a short questionnaire requesting information about participant demographic characteristics, device usage, and perceptions of mobile learning methods. In addition, the Survey of Student

Engagement (Ahlfedt, Mehta, & Sellnow, 2005), a condensed version of the National Survey of Student Engagement, was completed. Measures are included in Appendix B.

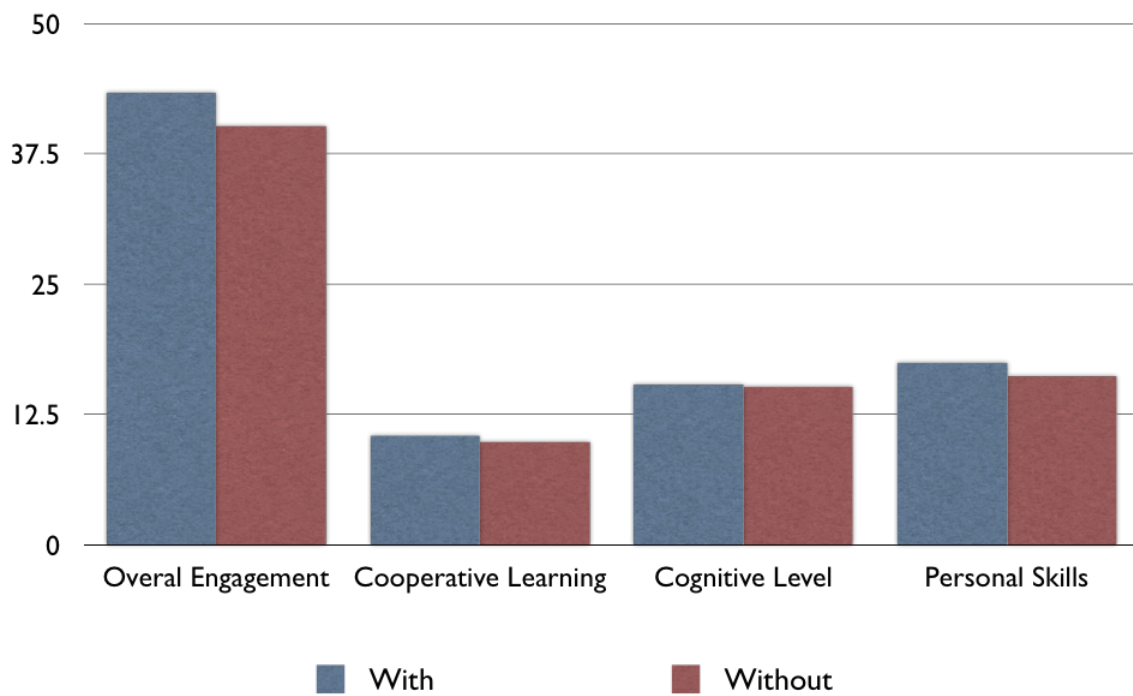
Results

Devise usage. Figure 1 shows that 59% of students owned a hand-held device with web access, while 41% did not. Of those who owned hand-held web devices, 67% used their device to access the web on a daily basis, 23% used it occasionally, and 10% rarely used their device for web access.

Student engagement. Student engagement was measured in four areas: overall engagement, cooperative learning, cognitive level, and personal skills. T-tests were conducted to compare student engagement between mobile learning enhanced courses and courses that did not utilize mobile learning methods revealed significant differences on each measure of student engagement:

- Overall engagement – $t=3.55$, $p=.001$
- Cooperative learning – $t=2.66$, $p=.009$
- Cognitive level – $t=2.07$, $p=.042$
- Personal skills – $t=3.65$, $p=.000$

Comparison between Means in Student Engagement in Courses with vs. without Mobile Learning



Perceptions of mobile learning. Students were asked questions regarding their perceptions of mobile learning methods:

- 60% reported increased participation
- 65% reported increased interest
- 65% reported increased class quality
- 90% reported the technology was easy to use.

Preferences for mobile learning. When asked about their preferences regarding mobile learning methods, 70% of students reported a desire to use mobile learning methods more frequently in other classes, and 80% said they would prefer more mobile learning in their graduate program. Ninety-five percent of participants reported an overall positive experience, and 100% believed that their classmates had a positive view of mobile learning methods.

References

Ahlfedt, S., Mehta, S., & Sellnow, T. (2005). Measurement and analysis of student engagement in university classes where varying levels of PBL methods of instruction are in use. *Higher Education Research & Development, 24*, 5-20.

Appendix A: Descriptions of Mobile Learning Assignments/Exercises

Concept Application Blog Posting

BMFT 601: Pre-Internship

TASK: Your task is to contribute to class discussion by making regular posts to the Course Blog. You will be assigned one concept that is discussed in the readings during the semester and will be responsible for posting a blog entry about that concept. In addition, you will be expected to post comments at least five times during the semester on your classmates' posts.

AUDIENCE: Your audience for this task consists of your peers/colleagues.

FORMAT: For your assigned blog post, you should include a description of the concept (with appropriate citations made) as well as a practical application. The application may consist of a YouTube video clip, an audio file, a photograph, or any other type of media. You should also include 2-3 discussion questions at the end of the post to which your classmates will be asked to respond. You may access the course blog by clicking on the Wordpress icon beside this course on myACU. A brief tutorial regarding how to make posts to the blog will be provided.

In addition to your assigned concept, you will be expected to post a comment at least five times during the course of the semester in response to your classmates' blog posts. Your comments must reflect critical thinking, and you will not receive credit for simply stating your agreement or disagreement with a post.

CRITERIA FOR EVALUATION: This assignment is worth a total of 10 points, distributed as follows:

- Accuracy of concept description – 1.5 points
- Application accurately displays concept – 2 points
- Critical thought displayed through discussion questions – 1.5 points
- Critical thought displayed through comments on classmates' posts – 5 points (1 point for each required post)

DUE DATE: Concept assignments and due dates are included in the table on the back of this handout. Your post should be uploaded prior to the start of class on the day that it is due. All comments on classmates' posts should be done by 5:00 pm November 29 in order to receive credit.

Therapy Guidelines Podcast/Movie Presentation

BMFT 601: Pre-Internship

TASK: Your task is to provide a 15-20 minute podcast/movie presentation on your assigned sections from *Elements of Counseling* by Meier and Davis. You will be informed of your group members, your assigned section of the text, and your due date on the first day of class.

AUDIENCE: Your audience for this task consists of your peers/colleagues.

FORMAT: You are encouraged to be creative in the way in which you present your material through the use of music, photographs, video or other media. Your group should plan your podcast/video and write a script before producing it. The staff of the Digital Media Center in the basement of the Library will be able to assist you in the production of your podcast. Groups may also check out the digital camcorder and/or snowball microphone from Dr. Goff's graduate assistant for use in producing their presentations. This equipment, however, must remain on ACU property. Students are responsible for the safe return of any equipment they check out.

All group members should contribute equally to this project. Group members will provide feedback to the professor about the level of involvement of their colleagues.

Presentations will be viewed/listened to during class time on the day on which the presentation is due. They will also be posted to iTunes U and/or the Course Blog so that students may access them at a later date.

CRITERIA FOR EVALUATION: This assignment is worth a total of 15 points, distributed as follows:

- Each guideline presented accurately – 3 points
- Creativity and quality of presentation – 7 points
- Length of presentation - 2 points
- Individual group member contribution – 3 points

Theological/Spiritual Aspects of Marriage: Course Blog Discussion

BMFT 610: Premarital & Marital Therapy

TASK: Your task is to engage in civil discourse with your classmates around the theological/spiritual implications of marriage through the course blog platform. You will be assigned one question to which you must respond via a blog posting of at least 300 words. In addition, you will be expected to post comments at least five times during the semester on your classmates' posts.

AUDIENCE: Your audience for this task consists of your peers/colleagues.

FORMAT: For your assigned blog post, you should respond to your assigned question with at least 300 words. Due to the nature of this discussion, much of your response may be based on your own values and beliefs. You may refer to Biblical passages and must cite at least three other spiritual/theological writings in support of your thoughts. You should also include 1-2 additional questions at the end of your post designed to generate additional conversation. You are responsible for moderating the discussion generated by your post which includes responding to questions and continuing the discussion. In addition to your assigned concept, you will be expected to post a comment at least five times during the course of the semester in response to your classmates' blog posts. You may access the course blog by clicking on the Wordpress icon beside this course on myACU. A brief tutorial regarding how to make posts to the blog will be provided.

CRITERIA FOR EVALUATION: This assignment is worth a total of 15 points, divided as follows:

- Length of post and inclusion of at least three additional references (not including Bible) – 2 points
- Demonstration of critical thinking in original post – 5 points
- Respectful moderation of discussion generated by your post – 3 points
- Critical thought displayed through comments on classmates' posts – 5 points (1 point for each required post)

DUE DATE: Assigned questions and due dates are included in the table on the back of this handout. Your post should be uploaded prior to the start of class on the day that it is due. All comments on classmates' posts are due by 5:00 pm on November 30 in order to receive credit.

The Making of a Therapist Blog Posting

BMFT 602: Internship I

TASK: Your task is to contribute to class discussion by making regular posts to the Course Blog. You will be assigned a chapter from *The Making of a Therapist* and will be expected to respond to the chapter on the course blog. In addition, you will be expected to post comments at least five times during the semester on your classmates' posts.

AUDIENCE: Your audience for this task consists of your peers/colleagues.

FORMAT: For your assigned blog post, you should include a summary of the main points of the chapter as well as a personal/professional response. You should also include 2-3 discussion questions at the end of the post to which your classmates will be asked to respond. You may access the course blog by clicking on the Wordpress icon beside this course on myACU. In addition to your assigned chapter, you will be expected to post a comment at least five times during the course of the semester in response to your classmates' blog posts.

CRITERIA FOR EVALUATION: This assignment is worth a total of 10 points, distributed as follows:

- Summary of main points in chapter – 1 point
- Thoughtful personal/professional response – 2 points
- Critical thought displayed through discussion questions – 1 point
- Critical thought displayed through comments on classmates' posts – 5 points (1 point for each required post)
- Respectful moderation of discussion generated by your post – 1 point

DUE DATE: Chapter assignments and due dates are included in the table on the back of this handout. Your post should be uploaded prior to the start of class on the day that it is due.

Course Blog Posting

BMFT 651: Sex Therapy

TASK: Your task is to contribute to class discussion by making regular posts to the Course Blog. You will be assigned a chapter/article from the course readings and will be expected to respond on the course blog. In addition, you will be expected to post comments at least five times during the semester on your classmates' posts.

AUDIENCE: Your audience for this task consists of your peers/colleagues.

FORMAT: For your assigned blog post, you should include a brief summary of the main points of the chapter as well as a personal and professional response. Your post should be professionally written, utilizing correct grammar and APA format (5th edition) for citations. The post should be at least 500 words. You should also include 2-3 discussion questions at the end of the post to which your classmates will be asked to respond. As the original author of the post, it is also your responsibility to moderate the online discussion generated by your post. You may access the course blog by clicking on the Wordpress icon beside this course on myACU. In addition to your assigned chapter/article, you will be expected to post a comment at least five times during the course of the semester in response to your classmates' blog posts.

CRITERIA FOR EVALUATION: This assignment is worth a total of 20 points, distributed as follows:

- Summary of main points in chapter – 5 points
- Thoughtful personal/professional response – 7 points
- Critical thought displayed through discussion questions – 2 points
- Critical thought displayed through comments on classmates' posts – 5 points (1 point for each required post)
- Respectful moderation of discussion generated by your post – 1 point

DUE DATE: Chapter/article assignments and due dates are included in the table on the next page. Posts are due by 5:00 pm on the day prior to the chapter being discussed in class. This is so that the professor and your classmates may review your post before class.

Appendix B: Research Instruments

Dear Potential Research Participant:

You are being asked to participate in a short research study conducted by faculty and students in the Department of Marriage and Family Therapy at Abilene Christian University. The purpose of this research is to investigate the impact of mobile learning methods, such as podcasting and course blogs, on student engagement and outcomes.

If you volunteer to participate in this research study, we would ask you to complete the following research instruments: a demographic questionnaire, the Survey of Student Engagement (completed at the beginning and end of each semester and/or prior to graduation from the MFT program), and a course evaluation. These inventories should take you approximately 15-20 minutes to complete.

No known physical, emotional, social, legal, or other risk is expected from participating in this research. Your decision to take part in the study is voluntary. You are free to choose not to take part in the study. Your decision whether or not to participate will in no way affect your relationship with Abilene Christian University or the Marriage and Family Therapy program. There are no direct benefits from your participation in the research, although you may find that participating provides a useful opportunity to explore your own thoughts and experiences regarding your engagement as a student.

You will be asked to sign this consent form to indicate your agreement to participate in this study and to place your name on the questionnaires you complete. Upon your completion of the questionnaires, however, the researchers will assign each participant a number for tracking purposes. Your name will in no way be associated with the data that is reported in professional forums. Everything we learn about you in the study will be confidential. All completed questionnaires will be stored securely in the Marriage and Family Institute. If any portions of this study are published or presented, you will not be identified in any way.

If you have any questions or concerns about the research, please feel free to contact me at (325) 674-3722 or jaime.goff@acu.edu.

Your signature on the following page indicates your willingness to participate in this research.

Sincerely,

Jaime D. Goff, Ph.D.

Assistant Professor

Dept. of Marriage and Family Therapy

Abilene Christian University

INFORMED CONSENT FOR PARTICIPATION IN A RESEARCH STUDY

I, _____, have read and understand the preceding letter informing me of my rights and responsibilities as a research participant. By signing my name below, I am agreeing to participate in this research as outlined above. I understand that choosing to participate in this research in no way affects my relationship with Abilene Christian University or the Department of Marriage and Family Therapy. I also understand that I may choose to withdraw from participation in this research at any time. I affirm that I have received a copy of the Letter of Informed Consent for my personal records.

Signature of Research Participant

Date

Signature of Primary Researcher

Date

SURVEY OF STUDENT ENGAGEMENT IN MOBILE LEARNING

Thank you for your willingness to complete this survey about your engagement in learning as it applies to the use of mobile learning methods. Please read the instructions before each set of questions carefully. Throughout the survey, “mobile learning methods” refers to course-related activities such as blogging, listening to/producing enhanced and video podcasts, and using web-integrated mobile devices. This survey should take approximately 10-15 minutes to complete.

Part I: Demographic and Device Usage Questions

Please answer the following demographic and device usage questions by circling one of the answer options.

1. What is your biological sex?
 - a. Male
 - b. Female

2. When did you graduate from college?
 - a. Within the past year
 - b. 1-5 years ago
 - c. 6-10 years ago
 - d. 11-15 years ago
 - e. 16+ years ago

3. What is your age?
 - a. 18-24
 - b. 25-35
 - c. 36-44
 - d. 45-55
 - e. 56-64
 - f. 65+

4. What is your race/ethnicity?
 - a. African American
 - b. Asian American
 - c. Caucasian
 - d. Hispanic
 - e. Native American
 - f. Other, please specify: _____

5. How often do you use social networking sites such as Facebook, MySpace, and Twitter?
 - a. Daily
 - b. 2-3 times per week
 - c. Once per week
 - d. Every few weeks
 - e. Monthly or less
 - f. I do not use social networking.

6. Do you have your own blog and/or write notes on Facebook/MySpace?
 - a. Yes
 - b. No

7. If you answered “Yes” to #6, how often do you update your blog/notes?
 - a. Daily
 - b. 2-3 times per week
 - c. Once per week
 - d. Every few weeks
 - e. Monthly or less

8. Do you own a web-integrated mobile device such as an iPhone, iPod Touch, Blackberry, Palm, etc.?
 - a. Yes
 - b. No

9. If you answered “Yes” to #8, how often do you use your device to access web content?
 - a. Daily
 - b. 2-3 times per week
 - c. Once per week
 - d. Every few weeks
 - e. Monthly or less
 - f. I do not use my device to access web content.

Part II: Survey of Student Engagement

During the classes in which mobile learning methods **are used** and those in which they **are not used**, about how often have you done each of the following? Please circle your answer using the following scale:

4 = Very Often 3 = Often 2 = Occasionally 1 = Never

	Used				Not Used			
10. Asked questions during class or contributed to class discussions	4	3	2	1	4	3	2	1
11. Worked with other students on projects during class time	4	3	2	1	4	3	2	1
12. Worked with classmates outside of class to complete class assignments	4	3	2	1	4	3	2	1
13. Tutored or taught the class materials to other students in the class	4	3	2	1	4	3	2	1

To what extent have your courses in which mobile learning methods **are used** and those in which mobile learning methods **are not used** emphasized the mental activities listed below? Please circle your answer using the following scale:

4 = Very much 3 = Quite a bit 2 = Some 1 = Very little

	Used				Not Used			
14. Memorizing facts, ideas, or methods from your course and readings so you can repeat them in almost the same form	4	3	2	1	4	3	2	1
15. Analyzing the basic elements of an idea, experience, or theory such as examining a specific case or situation in depth and considering its components	4	3	2	1	4	3	2	1
16. Synthesizing and organizing ideas, information, or experiences into new, more complicated interpretations and relationships	4	3	2	1	4	3	2	1
17. Evaluating the value of information, arguments, or methods such as examining how others gathered and interpreted data and assessing the accuracy of their conclusions	4	3	2	1	4	3	2	1
18. Applying theories and/or concepts to practical problems or in new situations	4	3	2	1	4	3	2	1

To what extent have your courses in which mobile learning methods **are used** and those in which mobile learning methods **are not used** contributed to your knowledge, skills, and personal development in the following ways? Please circle your answer using the following scale:

4 = Very much 3 = Quite a bit 2 = Some 1 = Very little

	Used				Not Used			
19. Acquiring job or career related knowledge and skills	4	3	2	1	4	3	2	1
20. Writing clearly, accurately, and effectively	4	3	2	1	4	3	2	1
21. Thinking critically and/or analytically	4	3	2	1	4	3	2	1
22. Learning effectively on your own, so you can identify, research, and complete a given task	4	3	2	1	4	3	2	1
23. Working effectively with other individuals	4	3	2	1	4	3	2	1

Part III: Perceptions of Mobile Learning Methods

Please indicate your level of agreement with the following statements by circling the number that corresponds to your answer using this scale:

1 = Strongly Disagree

2 = Disagree

3 = Neither Agree nor Disagree

4 = Agree

5 = Strongly Agree

24. Mobile learning methods have increased my level of class participation.	1	2	3	4	5
25. Mobile learning methods have increased my interest in course content.	1	2	3	4	5
26. I would like to see mobile learning methods used more frequently in other courses.	1	2	3	4	5
27. Mobile learning methods have increased my engagement with course content.	1	2	3	4	5
28. The use of mobile learning methods has contributed to the overall quality of the courses in which they were used.	1	2	3	4	5
29. Podcasts and course blogs were accessible and easy to use.	1	2	3	4	5
30. If given the choice, I would prefer mobile learning methods to be included in more of my graduate coursework.	1	2	3	4	5
31. The use of mobile learning methods enhanced the development of collaborative relationships between my peers and me.	1	2	3	4	5

32. Other students view the use of mobile learning methods positively.	1	2	3	4	5
33. All things considered, I think that using mobile learning methods as part of my graduate school experience has been positive.	1	2	3	4	5

Please provide additional thoughts about mobile learning methods by answering the following two questions.

Specifically describe how mobile learning methods have enhanced your course experience.

What suggestions/improvements would you suggest for the use of mobile learning methods in your courses?