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Original Paper

Examining the Effect of Personal Classroom Friendships with Online Learning

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Abstract

Friendships within learning environments have been established as valuable aspects of supporting student success. The literature clearly shows that: 1) a student can achieve a better grade depending on how he/she perceives the task in terms of level of difficulty, and 2) a student can perceive the level of difficulty to be more or less difficult, depending on who is in the room with him/her during the task. If task difficulty can be linked to perceived friendships in the room, then fostering friendships in a classroom could play a crucial role to improving performance. As universities continue to embrace online formats, an important question becomes how can friendships be fostered to improve student performance?

We surveyed students at Bryant University to study this question. The students had completed the same marketing course, in either a traditional classroom setting, or as an online course, taught by the same professor during the same semester. Students were asked about their perceptions of the course and performance, as well as their interaction with each other and the instructor. We found that this course was able to foster friendships, despite the format, and that students themselves perceived this as a component of their own success.

Keywords

online courses, perceived level of difficulty, personal classroom friendships, online education, student performance and classroom friendships

1. Introduction

Much has been written in the literature of psychology and education regarding the social emotional stability perceived by a student in a classroom and how it is linked to his/her cognition in the learning environment (Coan & Sbarra, 2015; Fried, 2011; Meyer & Turner, 2006). The literature clearly shows

that: 1) a student can achieve a better grade depending on how he/she perceives the task in terms of level of difficulty, and 2) a student can perceive the level of difficulty to be more or less difficult, depending on who is in the room with him/her during the task. The work of Schnall et al. (2008) shows that a student will see a task as less difficult, depending on who is in the room at the time and if that person is considered a friend. They found that even remembering a good experience can help a student complete a task more efficiently.

In a classroom, if task difficulty can be linked to perceived friendships in the room, then fostering friendships in a classroom could play a crucial role to improving student performance. Today many universities are embracing online learning and classrooms both at the undergraduate and graduate level (Allen & Seaman, 2010). If more and more students will be taking online courses, how can a friendship be fostered to help students improve their grades? Is an online course more difficult, because students may perceive that there is a high task difficulty? Can a friendship component or a friendly environment be created for students who are taking online courses in order to mitigate this greater perceived difficulty?

As professors, who anticipate the exponential growth of these courses, we want to examine the impact of friendship development (or lack-there-of) within an online course on perceived difficulty and student performance. We are interested in all university online courses, but in future research this inquiry could be particularly of interest regarding STEM courses. These courses often have a perceived heightened level of difficulty to non-STEM students, many of whom are choosing to take these courses in online formats to complete university requirements.

The following paper is an initial exploration of online courses and students' perceptions on the level of difficulty. We have started with a small study regarding two similar marketing classes, one online and one traditional, both taught by the same professor during the same semester. Thus, the analysis performed on perceptions with the mode of delivery, eliminated some variance regarding different professors and timing issues. In the future, we hope to have opportunity to capture data regarding this issue in more depth, with special attention to STEM courses.

2. Method

2.1 Literature Review

The impact of friendships on student learning has been well-studied. Bissell-Havran et al. (2009) published a well-documented paper examining whether eighth grade students and their friends had similarities in their level of achievement motivation and whether friendship support moderated the associations in mathematics and English classes with eighth graders. Their results supported the hypothesis that in more supportive friendships, students are more likely to be influenced to develop a sense of competence in the academic domain. However, an interesting result was that a large mean difference was found between students' perceptions of their friends' value for mathematics and English and their friends' actual reports on themselves. Perceived friendships in the classroom improved a

student's sense of competence, even if the friend in the classroom was not as academically savvy as the first student may have thought.

Friendships can be critical to developing a sense of belonging—an important issue for minority students. Delgado et al. (2016) studied high school Latinos, across the subgroups: Mexicans, Cubans, Central/South American, and Puerto Ricans. They found that being nominated as a friend by peers and perceiving to have friends exerted both direct effects on school belonging and indirect effects on academic achievement. They suggest in their conclusion that being nominated by peers as a friend and perceiving to have friends are salient predictors for Latino student achievement, particularly because the perceived friendships fostered a sense of school belonging. This sense of school belonging correlated well with academic achievement. Latinos are the largest and fastest growing ethnic minority group in the U.S. public school systems. Sadly, the dropout rate is also high. If a sense of school belonging is an important feature to academic success, how will future online courses affect academic achievement in this particular ethnic group?

Xerri et al. cited many studies in their manuscript (2018) showing student-student relationships are effective in reducing students' negative perceptions of workload and increasing student engagement. They cited several works that maintained the building of student-student relationships was important in developing better academic outcomes for students. They highlighted a study of first year university students that found those who interacted with their peers in the learning community frequently were more engaged and less likely to depart the university. While the student-student relationship was deemed important, the literature also mentions how important it is to also have a positive teacher-student connection. Furthermore, the author noted that students who are highly self-motivated do well in any academic setting. Therefore, it's reasonable to expect highly motivated students to perform well in online courses regardless of their level of interaction with their peers or the instructor, but should these courses be designed with only these students in mind? Or should we be seeking to inspire and increase the motivation of lower-achieving students?

Others have explicitly demonstrated the negative impact that online courses can have on student experience. For example, Mays' manuscript (2016) was a qualitative study of 17 nonresidential students and two faculty members from two regional campuses of a public university. The students reported fewer friendships, a lack of a sense of community, and an increase in the mechanical nature of online courses as compared to other face-to-face, traditional courses. Mays refers to this as the "lack of social capital" in an online course. It is especially acute for nonresidential students who have fewer chances to enhance their own social capital at a university campus. The students also commented that networking on campus is an important feature of going to a university and having a campus life, which was more difficult to do if many courses were online courses.

The fact that students mentioned an increase in the mechanical nature of an online course is especially interesting as more and more online mathematics classes are developed. Mathematics classes are mechanical by nature, but educators must also explain the logical theory and deliver the inherent beauty

of mathematics for a true educational experience. This is traditionally accomplished through direct interactions with students in a classroom setting. In developing online courses, an important question becomes, how can we continue to convey the power and beauty of mathematics in a way that can reach our students.

There are ways to mitigate this negative effect. Powers and Mitchell (1997) discussed in their paper, delivered at an annual meeting of the American Educational Research Association, findings from a summer online course they taught at the graduate level. At the beginning of the semester, the students created and strongly participated in online chat rooms, and they created their own virtual community. The students often blogged how comfortable the online chat room was, and the chat room made them feel confident with the course work. However, as the semester went on and the coursework shifted from discussion to actual web design, the students blogged that they were disappointed the dialogues were then at a minimum. The chat rooms fostered a strong enough feeling of friendship and comradery that students noticed its absence later. With the growth of social media tools, how do we continue to foster these “virtual” communities for our online classrooms?

2.2 Classroom Surveys

The College of Business at Bryant University offers two versions of the same marketing course. One version was offered in a traditional in-person classroom setting, while the other was offered as an online course as part of the Bryant’s online MBA program. Both courses were taught by the same professor during the spring semester of 2019, and both had roughly the same number of students in each class (11 in the traditional and 12 in the online section).

The students were surveyed after completing the courses, and they were asked questions about their satisfaction and engagement with the course, their development of friendships within the course, and whether they believe that friendships contributed to their satisfaction or success.

3. Initial Results

In reviewing the overall experience comparing the two classes (see Figure 1), the following results were noted:

- All online students expected a high grade (between an A and a B+) while only about 64% of the traditional students expected a high grade
- Most online students (83%) felt they had high engagement with the class and the traditional students were evenly split between moderate and high engagement, with one outlier stating low engagement
- Most of the online students (83%) and approximately 82% of the traditional students felt that they were satisfied or very satisfied with the course. There was only one response of not satisfied, and that was recorded from a traditional student.

These findings imply that, by any measure of student “success”—engagement, satisfaction, or expected grade—the online format for this course better served students.

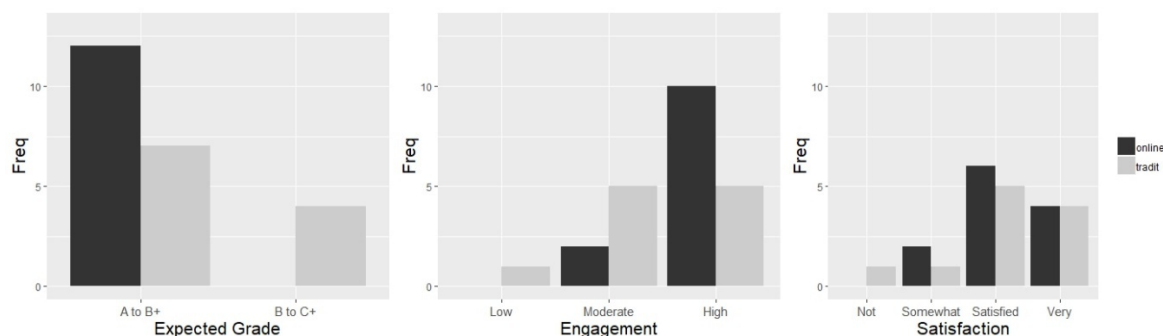


Figure 1. Overall Student Performance

The students were asked to respond to their perceived relationship with the professor (see Figure 2):

- 75% of the online students felt comfortable contacting their professor, while 91% of the traditional students replied in the affirmative
- 25% of the online students stated that they interacted with the professor with in-class questions, 17% said that they interacted with the professor during office hours, and 83% interacted through email
- On the traditional side 73% said they interacted with the professor with in-class questions, 9% stated that they interacted during office hours (which was only 1 student out of 11), and 64% interacted via email
- The difference in percentage of students who interacted during in-class interactions between the two formats was found to be statistically significant (p-value=0.04) using Fisher’s Exact.

Not surprisingly, students experiencing the course in a traditional format received more “traditional” interaction with their professor through in-class discussion. However, the online students appear to compensate for this by reaching out through office hours and email. Notably, there was no statistically significant difference between their level of comfort interacting with their professor.

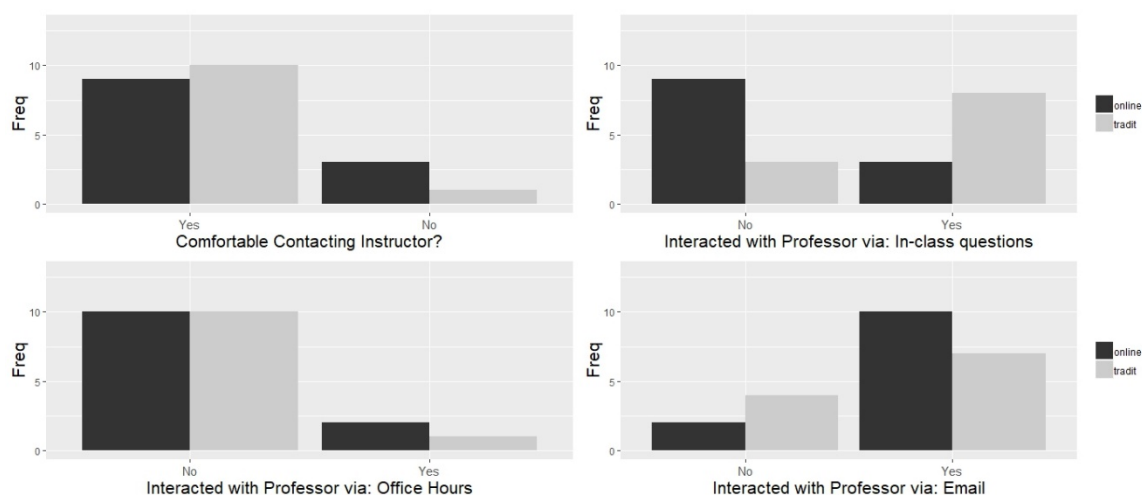


Figure 2. Student-Instructor Interactions

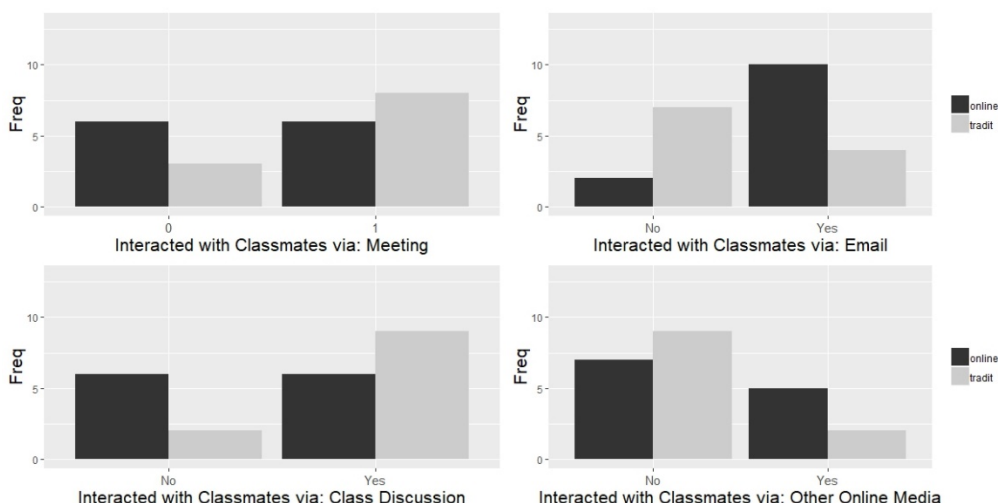


Figure 3. Modes of Student Interaction

We were interested in relationships that students formed with their fellow classmates in both settings (see Figures 3 and 4) and whether the online format had any impact on their ability to form relationships with each other:

- For both groups 100% stated that they interacted with their peers via group work (no surprise); 50% of the online students connected with their peers with meetings compared to 73% of the traditional students; 83% of the online students interacted with their peers through email versus only 36% of the traditional students did; class discussions played a smaller role for online students, with only 50% citing this as a way that they interacted with peers versus 82% for traditional students
- Not surprisingly, a larger percentage (42%) of the online students stated that they use other online media to contact their classmates than the traditional students (18%)
- When asked about the friendships they formed as a result of this class, 67% of the online students felt that they made friendships in the course and the other 33% thought that “perhaps” they had made friendships, which was quite positive. With the traditional students, 82% responding in the affirmative to forming friendships with others but 18% stating that they had formed no friendships

Interestingly, classroom formats did not appear to impact the permanence of these friendships, with 83% of the online and 82% of the traditional stating that they planned to stay in touch with their classmate

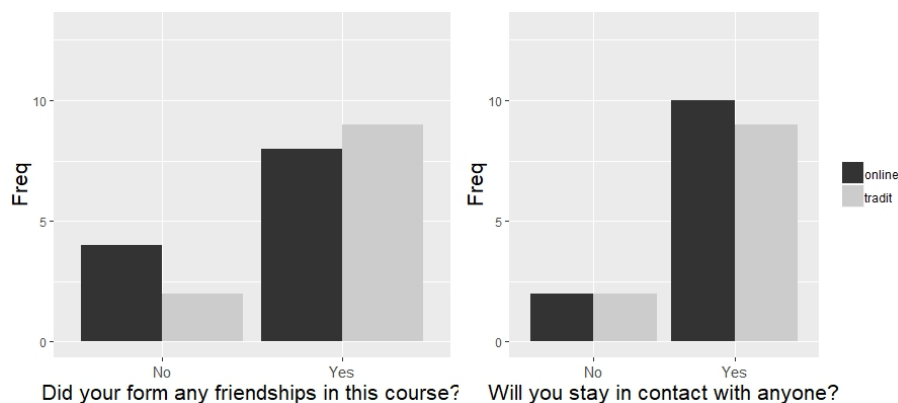


Figure 4. Formation of Friendships

Finally, we also surveyed students about their experiences and attitudes toward friendships in general. We were particularly interested in determining whether students electing to take the online course were generally more comfortable or inclined to form or maintain friendships through social media (as opposed to in-person interactions).

We thought it was important to specify different levels of friendship when investigating this topic. We defined three categories for students to classify their friendships as the following:

- i. Friendships of pleasure: relationships where both people simply enjoy spending time together
- ii. Friendships of usefulness: relationships where both people benefit somehow from the friendship, and usually characterize “work” friendships
- iii. Friendships of virtue: relationships where both people feel a deeper connection with and a mutual respect for each other, and this type of friendship often characterizes life-long friendships.

We asked students to identify how many of these friendships they currently had and asked what portion of these friendships they maintained primarily through social media. We also asked students questions about their comfort with social interaction, both in person and via social media (see Figure 5). The results were somewhat contrary to our expectations.

- 67% of the online group and 82% of the traditional group said that they considered themselves to be social, but surprisingly only 33% of the online students and 18% of the traditional students felt that one could make friends through social media
- We werenot able to identify any statistically significant differences between the attitudes towards forming and maintaining friendships of students enrolled in traditional versus online classes.
- Despite the category of friendship, neither type of student relied more on social media as a means to maintain these relationships.

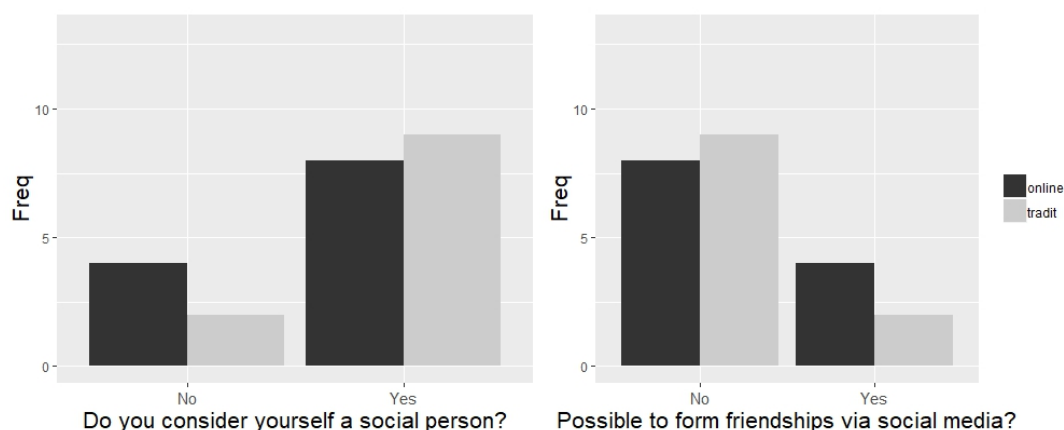


Figure 5. Social Comfort and Social Media

We also asked students whether having or developing friendships in a class impacts your enjoyment or performance. A strong majority (83%) stated that friendships improved their enjoyment of a course, with near identical results across the two class types. However, when it came to performance, 33% of online students stated friendships could improve their performance—half of the 66% of traditional students that valued friendships for improving their performance in the course. We asked students to elaborate on their responses to this final question about the importance of friendships with regards to performance, and received some insightful explanations:

“Developing a friendship means comfort and security with that person. This allows the ability to openly ask questions and review things that you might not feel comfortable asking someone that is not considered a friend. This creates a more enjoyable atmosphere in the online course setting to have another person you trust as a reference.”

“Having a friend in class plays as a support system and gives me the opportunity to share my thoughts and feelings with someone who is going through a similar experience.”

“Developing relationships with fellow students provides a group of people who encourage, inspire, motivate, support and even challenge each other to be the best person they can be. This can make the difference if a person must consider continuing their course or dropping out.”

4. Discussion

We acknowledge that the sample size of this initial survey was small. However, it was a compelling selection of students to examine due to their participation in nearly identical courses—allowing us to draw distinctions between student experience and attitude based mainly on the format of the course.

We were surprised to find very similar responses from both course types. Despite the format, students were able to form new friendships, and many do plan on staying in contact. Online students appeared able to form more of these sorts of relationships, which was somewhat contradictory of the lower percentage of online students considering themselves to be “social” people.

One particularly surprising finding was that only 9% of traditional students made use of office

hours—which seemed low. At a small university like Bryant, our small class sizes are usually expected to encourage more interaction between students and their professors. Similarly, it was revealed that a low percentage of traditional students stay in contact with peers via email or other online media. We expected students—particularly those in the online course—to have a higher opinion of forming friends on social media. However, based on their own reflections, it appears that many of the online students were able to form meaningful relationships through this course—evidenced by their intention to remain in contact.

Overall, we believe this study validates the importance of friendships within the undergraduate and graduate setting to support student success. It also provided evidence of the ability of online formats to foster these friendships, despite the lack of traditional in-person contact. This further underlines the critical need for student interactions to be taken into consideration when designing online courses and curriculum.

References

- Allen, I. E., & Seaman, J. (2010). Class differences: Online education in the United States, 2010. *Sloan Consortium (NJ)*.
- Bissell-Havran, J. M., & Loken, E. (2009). The Role of Friends in Early Adolescents' Academic Self-Confidence and Intrinsic Value for Math and English. *Journal of Youth and Adolescence*, 38(1), 41-50. <https://doi.org/10.1007/s10964-007-9266-3>
- Coan, J. A., & Sbarra, D. A. (2015). Social baseline theory: The social regulation of risk and effort. *Current opinion in psychology*, 1, 87-91. <https://doi.org/10.1016/j.copsyc.2014.12.021>
- Delgado, M. Y., Vest Ettekal, A., Simpkins, S. D., & Schaefer, D. R. (2016, June). How do My Friends Matter? Examining Latino Adolescents' Friendship, School Belonging, and Academic Achievement. *Journal of Youth and Adolescence*, (45), 1110-11125. <https://doi.org/10.1007/s10964-015-0341-x>
- Fried, L. (2011). Teaching teachers about emotion regulation in the classroom. *Australian Journal of Teacher Education (Online)*, 36(3), 1. <https://doi.org/10.14221/ajte.2011v36n3.1>
- Mays, T. (2016). Social Capital in Online Courses. *Mid-Western Educational Researcher*, 28(2), 162-186.
- Meyer, D. K., & Turner, J. C. (2006). Re-conceptualizing emotion and motivation to learn in classroom contexts. *Educational Psychology Review*, 18(4), 377-390. <https://doi.org/10.1007/s10648-006-9032-1>
- Powers, S. M., & Mitchell, J. (1997, March). *Student Perceptions and Performance in a Virtual Classroom Environment*. Annual Meeting of American Educational Research Association.
- Schnall, S., Harber, K. D., Stefanucci, J. K., & Proffitt, D. R. (2008). Social support and the perception of geographical slant. *Journal of experimental social psychology*, 44(5), 1246-1255. <https://doi.org/10.1016/j.jesp.2008.04.011>

Xerri, M. J., Radford, K., & Shacklock, K. (2018). Student Engagement in Academic Activities: A Social Support Perspective. Higher Education. *The International Journal of Higher Education Research*, 75(4), 589-605. <https://doi.org/10.1007/s10734-017-0162-9>