

The Effects of Online versus In-Person Psychology Courses on the Students Overall Grade in the Course

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Abstract

Technology has come to be heavily depended on in terms of communication as it brings ease to many different aspects of our lives, especially in college education. With advancing technology in communication, courses once restricted to be completed in person are now available through fully online settings. Psychology courses specifically make for an easier subject to be transitioned to the online setting as compared to other subjects like biology since there aren't as many labs or group work needed. Regardless of subject, throughout continued research there is a lack of emphasis on the specific academic success achieved by the students taking the different style courses. In-person courses could be beneficial to students due to a set time frame resulting in better time management and better communication opportunities with professors and peers. However, it can also be argued that online courses consist of straightforward assignments and an opportunity to learn at the student's own pace. Technology overall serves as a means to add options beyond the traditional classroom environment to further the education of students who may not be able to physically be present for a course, however, it may also be negatively altering the overall grade a student receives in the online setting compared to the traditional in-person setting. This particular study is an attempt to provide research regarding academic success, through measure of the overall course grade, in online versus in-person psychology college courses while comparing variables such as opportunity for communication, interest in the course, work difficulty, and grade satisfaction.

Introduction and Literature Review

Today, online learning consists of students opening any type of computer or even a smartphone at any remote location they may be in order to virtually view a lecture, review PowerPoints, and even take exams without the need to step foot on a college campus to fulfill taking the course. This is a completely different form when compared to the traditional in-person courses in which the student must be physically present in a classroom on a college campus to have access to a lecture, fulfill note taking, and complete assignments/exams all at a designated time while in front of a professor. I had students fill out a questionnaire and gathered data of their overall course grades to test my hypothesis, students who take an in person class will be more likely to receive a higher overall grade in the course as compared to students who take the same course fully online, due to the drawbacks that come with online courses. Not only will this study contribute to research but it can also help make improvements and help students when deciding if they want to commit to a fully online course.

Online courses have increased in both accessibility and popularity since 1989 when the University of Phoenix became the first to offer both a fully online program for undergraduate and graduate

students. In 2003 there were 150,000 courses being taught to more than 6 million students via the web compared to the predictions that almost 19 million students would turn to an online course by 2014. Not only are there universities that are dedicated purely to online education all around but the majority of universities now offer at least a handful of courses in the online format. Perry and Pilati (2011) argue for the success and ease that is brought about by online learning. They emphasize that online learning is not for every student or professor to utilize but that it must be recognized that it can be very effective. The authors argue that an appropriate use of technology is in fact needed for success. They go on to advocate for online instruction as an opportunity for faculty/professors to enhance their teaching (Perry & Pilati, 2011). It is also good to note that there are many resources available online that may not be accessible to an in-person course. Dolan (2008) showed that the resources available to a student in a classroom setting can be offered online as well. This study reveals an important aspect regarding the resources which professors can utilize and the extent which they can go to in ensuring a well-structured course is in place and available.

Online courses tend to be favored in some cases due to the opportunity to go at one's own pace and

its increased resources over in-person courses. In the study by Dolan (2008), the research focused on analyzing the impact of student performance and satisfaction with the course when enrolled in the online versus in-person course. Dolan (2008) ran the research through the setup of teaching an Introduction to American Government and Politics course, which she ran herself, as closely tied to one another as possible while taking advantage of the different online opportunities. Results from the data taken proved to show a higher average in grades from the students in the online course as compared to the students in the face-to-face course. The online opportunities may have been a factor which students were able to look into and take advantage of on their own. This closely relates to Perry and Pilati (2011) who firmly believe technology is an asset and if used properly and to its full potential by students it can be beneficial. Not only that but they make a point to emphasize the freedom which comes from online learning as stepping away from the confinement of a clock in a traditional classroom as the student can make their own schedule. A study which emphasizes this concept as well is how Waschull (2005) replicated a study previously completed by Schrum and Hong (2002) in which organizational, pedagogical, institutional, and student factors were identified as relating to the success of an online course. The results proved to differ from the results found by Schrum and Hong (2002) as Waschull found that six out of the seven factors were not correlated with course performance. The two factors which were found to correlate with test score average, assignment average, final exam score, and final course average were self-discipline and motivation.

While online options do have the potential to be as informative and accessible as in-person courses there is still the question of whether the online courses are as effective for college students in terms of satisfaction. Loveland and Loveland's (2011) study confirmed that enlisting in an online course can cause certain drawbacks, such as having a more negative perception of the course compared to the in-person course. The results indicated that there was an overall higher satisfaction from students enrolled in a traditional classroom setting. What the Lovelands' found was that students evaluated their online course off of different factors than which they would have looked at if the course was face-to-face. The article states that in order for online courses to improve, the professors would need to better adapt to the unique requirements which comes with the environment of a fully online class (Loveland & Loveland, 2011). While it could be true that in some instances the actual work of the students has little differences to it, another study which points out the student's satisfaction is one by Kemp and Grieve (2014) in which two groups were exposed to the

course face to face for the first week and then were switched over to an online section for the second week. After both groups had been exposed to each course option over a period of time, data was collected on the preference and performance (Kemp & Grieve, 2014). Activities, exams, and discussions had been completed both online and in class by the same groups of people simply at different points in time. Kemp and Grieve (2014) found results showing no statistical significance between the scores of the students throughout the two course options. Students themselves, however, showed a strong preference for completing assignments and exams face-to-face as they believed it was a better option and environment than facing a screen.

As far as the factor of communication from either style, there are different perspectives. Take, for example, the study by Perry and Pilati (2011) who even though the researchers themselves argue for technology as being a great use of resources in teaching, they also argue for online settings as having opportunities to still keep communication between peers. For example, they point out that interaction can actually even be increased through student discussion boards which are easily accessible to students enrolled in online courses (Perry & Pilati, 2011). There are resources that can be used to ensure communication as long as the professor is aware and makes use of them. On the other hand, there is the study done by Kemp and Grieve (2014) in which the student showed a preference for the experience of the in-person classroom regardless of their scores on an exam being of no significant difference. Besides the satisfaction of the students themselves there is a point shown of drawbacks of online courses being a sense of deprivation in socialization and communication. Students were able to perform as well but they missed out on the actual face to face interactions not only with a professor but with peers. Even through the resources available to contribute to discussions, it doesn't compare to the good old-fashioned face to face socialization. This concept is further emphasized through a study done by Galyon, Heaton, Best, and Williams (2016) in which the researchers compared the participation available to the students in both style courses. It was found that the live course, when compared to an online-hybrid course, produced significantly higher cohesion scores (Galyon et al., 2016). With an opportunity to be around other students, not just a professor, comes the opportunity to speak out and bounce thoughts and questions off of each other during discussions. A drawback, when we look at online courses, is the deprivation of peers as there is little exposure and no way to physically connect with others in the class who may have similar questions or a better understanding of the material.

Even though there are a handful of studies comparing test scores or achievement, there still exists

a lack of studies on online courses and the effect it has on students' overall academic success in the course compared to an in-person class. This is especially true for psychology courses which are very commonly taken not just as major courses, but a part of general education courses offered to many different students. Once again, Galyon, Heaton, Best, and Williams (2016) evaluated how GPA, critical thinking, and academic classification was affected in online and live sections of a course. Their results, when compared before and after the section was taken, showed no significant differences between sections yet there was no focus on the students' academic performance in the actual course itself. Kemp and Grieve (2014) also conducted a study that looked at how students performed on exams in an online setting and face to face. The researchers separated a group of students into two groups and yet found no significant differences. However, the overall academic success of a student is based on more than just exams.

Methods

Participants

For this study I recruited participants from the CSU Stanislaus student and faculty population. There was a total of 74 student participants who fully answered the questionnaire while following instructions. From the total, 26 participants reported on behalf of in-person courses and 48 reported on behalf of online courses. Participants were men and women who are at least 18 years of age, 7 male and 67 female, and from different ethnic, socioeconomic, and educational backgrounds. I also attempted to recruit CSU Stanislaus faculty members who had taught at least one fully online or in-person psychology course for participation in this study.

Materials

Student participants first completed a demographic questionnaire asking what they identify as (Male, Female, or other), their age, and ethnicity. They also answered the main survey I created to assess their satisfaction with their online courses and general experiences in their courses. This survey first asked the student participants for the type of course taken whether online, in-person, or both as well as to specify the class which was taken and the letter grade they received in the course. The surveys consist of a six five-point scale question and three free response questions. The six questions asked are as follows; I felt eager to learn and take notes for this class, I felt comfortable and confident to reach out to the professor with any questions, I found it difficult to complete tasks for this course, I found that this course was taking more time out of my schedule than anticipated, I felt that my earned grade in the course accurately reflects the work that I put in, and I wanted to take this course regardless of the format that it was

offered in. The five-point scale used ranges from strongly agree (1) to strongly disagree (5). The three free response questions were as follows; If you had taken the above course in the opposite format (if online then in-person instead and vice versa) do you believe that you would have received the same course grade? A better or worse grade? Explain, was there anything specific that you believe held you back from receiving a better grade in this course? Explain, and if you have any additional comments regarding your academic success in the course above feel free to note them down. This survey was available both through a paper, if requested, and electronic copy whether a direct link was emailed, or the participant completed the questionnaire through Sona. A questionnaire was also going to be available in both paper and electronic form for professors. Professors were asked for their perspective on teaching their online or in-person courses and how confident they felt to teach their course in the manner which they did.

Procedure

I contacted faculty/professors through email asking for permission to reach out to their students whether through email or in person during a class session to present and ask for volunteers for the study. Participants were able to choose to complete the study either online by giving me their email or in-person. Aside from physically looking for participants, the study was put on Sona. Faculty/professors were also reached out to through email asking for their participation.

For those who completed the study online, they were first provided with an informed consent page and once agreeing to participate, moved on to answer the demographic questionnaire and finally the course questionnaire. The course questionnaire had the option to indicate whether the student was reporting on behalf of their experience in an in-person course or online course. If the student had taken both types of courses, they were asked to indicate so yet go on with the rest of the survey reporting solely on their experience in the online course. Once finished with their survey, participants were shown a debriefing form that provided in depth details about the study and thanked them for their participation. No participants completed the study in person; however, the same procedure would have been applied through paper form. Faculty/instructors were as well reached out to electronically and the same procedure applied.

Design and Analysis

This study was a between-subjects quasi-experimental design with one independent variable with two levels. The independent variable was the course delivery. The two levels were the online course and the in-person course. Both Excel and SPSS were used to run

the test and compare data. The dependent variable was the academic success of the student in the course. The groups of students were in either one group or another without randomization. Students filled out a survey to self-report their own data which was then compared among the two groups.

Three student participant responses were discarded as they either did not apply to the psychology course category or did not fully complete the questionnaire who have had experience taking either fully online courses and/or fully in-person classes. The Faculty/ instructor data was not able to be accounted for as well due to high levels of emails being received and busy schedules, which led to a lack of responses.

Results

Out of the 74 participants, ~ 10% were male (n= 7) and the rest were female (~ 90%; n = 67). Gender is not thought to be a confounding factor due to the small sample size of males which participated as well as the overall sample size of participants. From the total, ~ 35% (n = 26) reported on behalf of In-person course experience while ~ 65% (n= 48) reported on behalf of an online course experience. I compared the results of the overall online course grades of having passed the class in general with a C or better as well as comparing to see how many students had passed the course with a successful grade measured by earning a B or better. The results I actually received from the overall course grade received in the online class are of a 100% passing rate and a success rate of ~90%, having earned a B or better. On the other hand, students in the in-person course had an overall passing rate of 96% and ~85% success rate of a B or better-earned grade (Fig.1). Through an independent sample t-test (Table 1) between the course type and grade earned, it was concluded that there is no significant evidence to support the research proposal that in-person courses affect a student's grades in a significant manner (p= .161).

There were 6 lower division psychology courses and 18 upper division psychology courses in which students reported on behalf of (Table 2). There was a majority of students who were taking upper division online classes as compared to students taking lower division courses. While most of the courses were scattered there was ~82% of students reporting on lower division courses who specified the PSYC 2010 Intro Class (n= 23). Overall participants presented a sense of indifference as to the actual format of the classroom, ~82% of the total participants were neutral to strongly agreeing on wanting to have taken the course regardless of the format, and were focused more on the content they would be taking in from the course (Fig. 2). Participants reported having had a strong motivation themselves to do well and those who received an A in the online courses expressed believing they would receive the

same grade in an in-person version of the course. The one participant who received a D in the in-person format, along with students who were in the C letter grade expressed having procrastinated in doing their work as a reason for their grade not being higher giving little blame to the format of the course. In both online and in-person courses students generally felt comfortable reaching out to their professors (Figure 3); ~4% (n= 1) of the in-person reporting students and ~6% (n= 3) of the online students expressed not feeling comfortable enough to reach out to professors. Students did not seem to find tasks for their courses to be too difficult either (Table 4); only ~8% (n= 2) from the in-person course and ~15% (n= 7) of the online students agreed that tasks were difficult to complete. From the two in-person course students, one was enrolled in a lower division course and the other was enrolled in an upper division course. Meanwhile, in the online courses both students who reported Strongly Agree to task difficulty were in upper division courses along with 2 out of the 5 total students who had reported Agree, the remaining 3 students were in lower division courses.

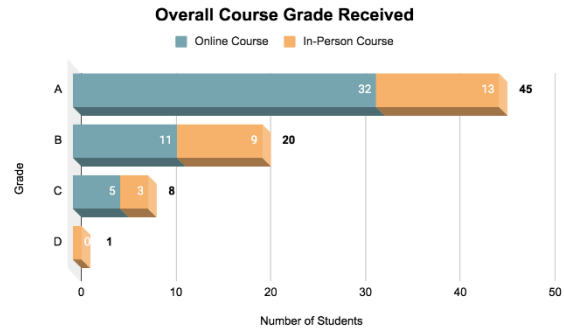


Figure 1: Overall earned grade by either course format

Independent Samples Test										
	Levene's Test for Equality of Variances	t-test for Equality of Means				Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
	F	Sig.	t	df	Sig. (2-tailed)			Lower	Upper	
Earned overall grade in the course	Equal variances assumed	1.366	0.246	1.415	72	0.161	0.255	0.180	-0.104	0.614
	Equal variances not assumed			1.331	43.178	0.190	0.255	0.191	-0.131	0.641

Table 1: Statistics of Independent Sample t-test

Type of Psychology Course in Which Student is Enrolled			
	In-Person	Online	Total
Lower Division	4 courses; n= 17	3 courses; n= 11	6 courses; n= 28
Upper Division	8 courses; n= 8	16 courses; n= 38	18 courses; n= 46
* Some courses offered in both styles			

Table 2: In-person and online psychology course enrollment statistics

"I wanted to take this course regardless of the format that it was offered in"

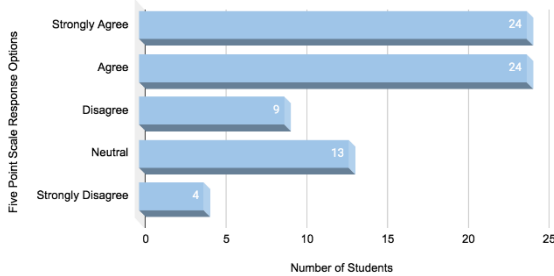


Figure 2: Overall student response to taking a course regardless of format

"I felt comfortable and confident to reach out to the professor with any questions"

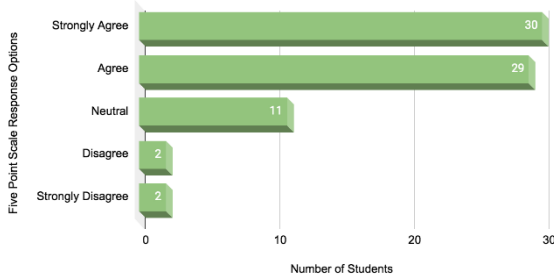


Figure 3: Overall student response to feeling comfortable and confident to reach out to professors

Discussion

The hypothesis of this study was that students who take psychology courses in-person earn a higher overall grade, a B or better, than students who take psychology courses online. Going into this study, I had expected the results to reflect a higher educational success rating, a more positive experience overall, a better connection with their professor, and fewer instances of feeling as if they were falling behind when enrolled in the in-person course. I expected to find these results as they are more often exhibited by students attending in-person classes (Gibson, 2011). I also kept in mind that results may come to find that there is no significant difference in the performance of the students yet mainly in their personal experience in what they take in learning wise (Cahn, 2017). The results as an overview showed online classes to be pretty common among the participants and did not give very many drawbacks in terms of affecting their overall grades. The more technical results showed that not enough

information was available to come to a set conclusion and the course type could not be correlated to certain grades which again, could be due to a smaller participant size and various variables. The data collected suggests the difference between course type and students taking the course may not have been as big of a challenge for the student in terms of getting their work done and doing what is required of them for the class. Just as well, the majority of online courses were upper division classes which may have to do with students being older and having to juggle tighter schedules in which the online option allowed them to work at their own pace. Psychology courses overall are easier to be taken online even when taking an upper division course as the format is more lecture and note based which can fairly easily be uploaded and made available online. Once again, previous research has pointed out that the actual grades may not differ much between the styles of the course but that satisfaction from the student may vary as far as their experience. Even though there were no significant differences within the data there is a slight curve toward students feeling more comfortable to reach out to professors and having less difficulty with tasks in the in-person courses.

While effort to collect honest data from students was taken there were limitations in terms of who was participating. Many participants seemed to be either psychology majors or were interested in the context of the course regardless of the way it was taught as well as expressing self-motivation to do well in the course. Participants who reported on behalf of the in-person course most likely have not had an experience in the online course and their feelings about trying to earn the same grade in an online format may be biased or inaccurate due to not having the knowledge as to whether or not they do well in that environment. Additionally, it is possible that participants misread a step in the survey and answered for the opposite course style than asked when selecting that they had experienced both in-person and online courses. As far as faculty/professors, a drawback is the limitation of the psychology major in terms of only reaching out to a handful of professors who teach these courses and who on a daily basis receive many emails which could have led to the lack of responses and data from this perspective. Another overall drawback is the fact that as technology advancements are found as a resource for the classroom, not all professors are able to keep up or feel confident enough to truly utilize the most that technology can offer them when teaching a course.

Throughout this study I was most excited to see the perspectives of not only the students but the faculty as well. I was disappointed that I was unable to get the data from the professor perspective and do think that that is a very impactful perspective to take into consideration as well for any future studies. I also looked forward to

comparing my own experience and perspective of online courses to my peers. I had personally struggled a bit when I took online courses for the first time and felt that in-person were a better format for myself. I had also heard many peers around me that felt similar to my thoughts about online courses, so it was interesting to see the end results go against what I had thought. I do believe online courses are helpful and agree that they will only continue to grow in popularity.

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