Effectiveness of Online Learning

Jonathan Yawn

Department of Information Science UNCG

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Professor Aktar

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Online learning has become a much larger phenomenon over recent years due to the COVID 19 pandemic and has become a fairly popular medium to teach/learn in among students and teachers. The questions is, is this form of learning effective? If so how can we make it better? If not how do we fix it? In this paper I plan to look at how effective online learning actually is and some of the factors that determine what can make it better or worse for a student. It is my belief that online learning has actually been detrimental to students' ability to learn, however I will take a look at studies that show both pros and cons to this form of learning.

The first study I will take a look at is one that was conducted in 9 different countries during the COVID 19 pandemic. In this study students were surveyed about their satisfaction with online learning and were tested on how well they performed to show if online learning had been effective or not. In this study students from the 9 different countries mostly had lower academic performance after online learning. Also it is shown that students perception of online learning had a great effect on whether or not a student would perform well within an online learning environment. This factor coupled with student engagement determined how well a student would perform academically (Sharif Nia et al., 2023).
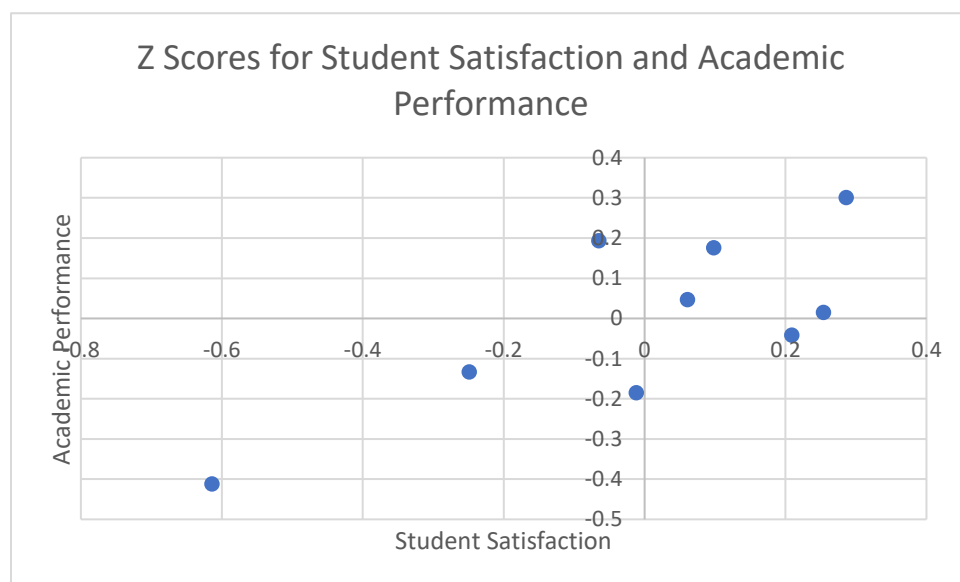
Above is a scatter plot showing data with regards to academic performance and student satisfaction with online learning. This chart shows that the less favorable the attitude towards online learning, the worse the academic performance. For example, in Iran the perception of online education was very unfavorable, and the engagement was low, because of this their academic performance was lower than other countries. Conversely in Italy student learning was seen as mostly favorable by the students and student engagement was relatively high so their academic performance was actually a little higher than other countries. Most of the countries studied typically follow the same trend of lower engagement and satisfaction with online learning following a lower academic performance (Sharif Nia et al., 2023).

Another study that performed a meta analysis of over 100 articles on online learning showed that online learning is actually overall effective and a positive effect for students. The study claims that "The convenience of the delivery mode allows learners from all levels of schooling as well as unschooled learners to get access to any particular kind of instruction via internet". Clearly one advantage to online learning is that students can access education from anywhere at any skill level. The study also makes the claim that because students have the ability to do self paced in online learning and have a wider access to information within the online space that students perform better than their in person learning peers. The article does however point out that while most students performed better not all did and that is due to inadequate technologies and students not knowing how to access the materials that they need online. The study also reinforces the idea that student performance is heavily tied to student engagement (Batdı et al., 2023).

I was a teacher for 3 years during the COVID pandemic and from my experience with students I think a major issue within online learning is students not having access to the

equipment they need to properly do online learning. I had students who were unable to get laptops from the school or who had broken laptops that they didn't have the money to pay to get fixed who just didn't do online learning. I also do think student engagement plays a big role in student performance, from my experience the students I had who would participate the most within canvas discussions or during zoom meetings were always the students who did better in the classroom.

In one survey it was found that students typically attended over 5 webinars, with only 4 students saying that they never attended a webinar at all. This is interesting because it seems as if there are a portion of students who attend online class more than they attend in person class. The same study found that most students gained more personal development if they participated in webinars and other parts of their online courses. This once again shows that if students have a more positive attitude towards online learning and actually participate in it then they can be quite successful both grade wise and personal development wise. The study also makes the claim that "to ensure that all students have equal access to a high-quality education, online learning policies should focus on developing instructors' training programs, providing explicit course content, providing reliable technology, encouraging active student participation, and ensuring data privacy and cyber security" which shows that students need to be engaged and have reliable tech to do online learning properly (Sari et al., 2023).

I found this study interesting because when I was a teacher and we were doing online learning we had a terrible attendance problem. I found that no matter what teacher it was or how interesting the webinar was there would only be about 50% of students that would show up to class consistently. There would also be students who would never show up to class but do all of the assignments that were on canvas, however they were usually plagiarizing Wikipedia or

cheating in some way shape or form. The aforementioned study is a survey of higher education students so perhaps among older students this type of thinking is more common (Sari et al., 2023). If you are paying for your education I assume that you're much more likely to attend class than if you are just forced to go to school every day.

Another study that surveyed students in the higher education field in the Caribbean also found that if students had negative ideas about online learning they typically performed worse. The failure rates in the Caribbean had also began to rise with the transition to online learning. Another issue that plagues online learning is that not all students are digitally literate and if they don't know how to do things like submit assignments on Canvas they are much more likely to get frustrated and give up. On top of that retention rates in online classes are much lower than they are in traditional in person classrooms, for example in the Caribbean .5%-33.5% of online students completed their courses meanwhile in person classes had 39%-82% of students finish their courses. Students also need to be motivated to do online courses which, as found in the Caribbean, can be a very difficult thing to get out of students in an online environment (Greaves, 2024).

A study from a university in Australia found that for online learning to have a positive outcome students need motivation, and also need teachers who know how to conduct online learning (Ferrer et al., 2022). Some teachers it seems have had a lot of trouble adapting to online learning and figuring out how to organize their courses. This study also found that once again the attitudes of students towards online learning was what would determine their success within the medium. The claim is also made that students need to have access to the proper technology as well as a good online learning platform to use for teaching in order to be successful (Ferrer et al., 2022).

When I was a teacher during the online learning phase of COVID there would be students who were seniors that would just quit and give up before they had the chance to graduate. This because they disliked online learning so much and lacked motivation to complete their assignments or attend webinar. On top of that the dropout rate as a whole at the school I was teaching at drastically went up for all grades, often times kids who lacked motivation and or didn't understand how to use a computer or do online learning would get frustrated and just give up.

A report from the United Nations educational and cultural organization UNESCO found that overreliance on remote learning led to a much larger inequality within education. This caused by the digital divide within the United States as well as around the world. Students who did not have access to the necessary technology to participate in online learning were at a great disadvantage (Proulx, 2023). On top of that most school systems in North Carolina were not prepared to transition to online learning, there were several counties that did not give laptops to students until after the pandemic and those students who could not access a computer at home or elsewhere were at a great disadvantage and fell behind on their learning (Proulx, 2023).

There is research that makes the claim that students in more rural areas as well as students in online charter schools have performed worse than their in person counter parts on math and reading. This is interesting because there seems to be much more of a problem with online learning within the primary and secondary education, while in higher education online learning seems to be effective and students often perform just as well if not better. The article makes the claim that "suggest that online higher education may work better than prepandemic research suggested, and that it is evolving decisively toward a combination of in-person and online, or "blended," classes." While I don't care for online courses myself I do think that the

blended classes are usually a better alternative to fully online learning. Also students particularly in large introductory courses were found to have performed better in online courses because they were more able to ask their professors questions about the content than in a classroom with over 100 students (Marcus, 2022).

Coming from the perspective of someone who is in higher education themselves, I personally prefer in person courses to online courses. This is mainly because I find that I learn more in in person courses, and I think discussions are much more enjoyable in person than on a canvas discussion board. However I do think that there are some positives to taking online courses such as the convenience of not having to meet every day for class and being able to communicate with professors much more easily. I also know several other students who prefer online courses over in person courses.

Coming from the perspective of a former teacher however, I think that online learning has been detrimental to a lot of students. From my experience, all of my students grades were declining drastically during the online learning period and on top of that there were many attendance issues. I also think that online learning has socially stunted a lot of the younger students, many of them don't seem to know how to interact with each other anymore. When school went back to being in person there were more fights than before, students wouldn't participate in discussions very often, and most students only interacted with one another virtually. There were also many more behavioral issues than pre online learning which led to more issues in the classroom. Often times it seemed like the students who preformed well in online classes did really well, but the students who did bad did very poorly, and there wasn't very much of a middle ground like there was before online learning.

One positive outcome of online learning is that students who have disabilities have much more access to education. While online learning can still be difficult to make effective sometimes, this helps out students who would not be able to learn as efficiently in person. Specifically students with things like hearing issues or students with mobility issues (Lomellini et al., 2022). Online courses are also useful for when students get sick, they are not going to be able to spread their sickness around if the class is done online.

I found this particular part of online learning to be quite useful when I was teaching. Students who otherwise would've either had trouble getting to class or who would get sick were able to still participate in the digital lessons and not fall behind on their work. I will say however that students with certain disabilities, such as ADHD or ADD, often times ended up getting much more distracted during the online learning period. This because they had so much access to everything online which costs some students their grades.

Overall I think that online learning effectiveness is a complex topic, I think that it really just kind of depends on what kind of student you are and what perception you have of online learning that will determine your performance. There is no one right answer to understanding the effectiveness of online learning, however given the evidence I've looked at it still seems like it mostly has a negative effect. I think that for online learning to be effective students need to be engaged, the digital divide needs to be a lot less worse than it currently is, and students need to have a positive attitude. Until those things happen however it is still my belief that online learning is a negative experience.

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