

I. Introduction

In this project, we can examine the benefits of online education as well as its shortcomings. We aim to look at specific areas such as STEM and compare them to social studies. We want to see if there is any difference in how students perceive online education based on their area of study. We hypothesize that STEM may be more challenging to do online, but our results, which we can collect via carefully designed survey instruments, will either confirm or disconfirm the hypothesis. This project sets out to examine the benefits of online education as well as its shortcomings.

II. Literature Review

(Why not say: Online learning is not a new phenomenon, but the 2020 pandemic has brought many issues into the educational focus. Over the years, the discipline (Which discipline? Please clarify) has accumulated (expanded?) knowledge on (to give) successful in-person training (for what? For teachers? Students? Please clarify). However, virtual learning has not been widely used prior to March 2020. Many students initially struggled to gain access to a comprehensive instructional program, and even while schools' attempts to give (provide? Each?) students with digital access succeeded in many locations, teachers were experimenting with foreign (do you mean: new? untested?) pedagogies, with typically poor outcomes (Binkley, 2022). (list some poor outcomes here and then state some research that focuses on the division of STEM and humanities. That will help initiate the conversation about STEM)

III. Research Questions

(Before you get into the questions, can you identify the need: why are we doing this?)

We compare STEM areas with social studies to see if there is any difference in how students perceive online education based on their area of study. We hypothesize that STEM may be more challenging to do online, but our results, which we can collect via carefully designed survey instruments, will either confirm or disconfirm the hypothesis.

- How are the benefits of online education affecting students?
- Is there a difference in how students perceive online education based on their area of study?
- How can STEM be more/less challenging online?
- Do students favor remote learning over personal, or hybrid learning?

IV. Data Collection

The survey was conducted via Google Forms, and the questions were catered toward the demographic of students, and those that have undergone online learning. (How did you send the survey? Please explain to whom, how)

IV. Data Analysis and Preliminary Findings

(Can you tell why only 4 respondents? Such a low number but you had months to do it. We need to justify it)

4 students shared that they prefer in-person learning, 4 students shared that they prefer hybrid learning, and 4 other students shared that they preferred remote learning. Our experience with COVID tells us nothing about the possibilities of publicly available virtual learning as part of our educational environment since most teachers were inexperienced virtual teachers and few had the assistance or time to learn how to teach successfully online. We know that effective education, both virtual and in-person, involves students interacting with the teacher and with one another about the subject (Durant, 2022).

VI. Preliminary Conclusion

Increased contact points between instructor and student and between peers (e.g., phone calls, small group teaching, and focused feedback) improved the quality of virtual learning, but few teachers have learnt how to foster dynamic interactions in their classrooms (Mineo, 2022). As a result, for many students, virtual learning is still a poor substitute for in-person education.

References

Corbett, C. J., & K. L. G. (2020). Learning Goals, Big Ideas, and High-Order Thinking: A New York State (NY) Study. *The New York State Education Department*, 2020.

STEM and Social Studies: Online Education By Fatimah Asad, Computer Science Major Supervised by Professor Lubie Alatraste, CSRP Undergraduate Research

1. The impact of online learning on your college process has been: *

- very significant
- significant
- neutral
- insignificant

2. How are specific areas of STEM comparing to (social) research studies? *

Your answer _____

3. Is there a difference in how students perceive online educations based on their area of study? *

- Yes, there is a difference
- No, there is not a difference
- Other: _____

4. How can STEM be more/less challenging online? *

.....

Acknowledgments

Thank you to Professor Lubie Alatraste, and to those that contributed to the survey