

Teaching Pre-Calculus Online: Some Effective Strategies for Student Engagement

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Abstract

It is safe to say that one of the major effects of the COVID-19 pandemic was forcing educators to reconceptualize the learning experience, and rethink how students engage with the instructor, content, and peers. It required educators to learn how to use technology tools as well as various classroom strategies to ensure that students can still receive an adequate learning experience. In this paper, I discuss some of the strategies used at the tertiary level in a small university setting.

I give an overview of some of their strengths and weaknesses of some of the tools used to deliver the content, and use data collected from courses completed using both tools that suggests that there are still substantial steps to be taken to ensure the students' conceptual understanding of the content. My hypothesis is that students' overreliance on the technological tools, along with the absence of the physical interaction elements (eye contact and physical proximity) makes it difficult to capture the essence of the traditional physical classroom settings. I discuss some of the techniques I used to enable students to further enhance their conceptual understanding of the content, all while providing them with the interactive engagement needed to understand content. Some of the techniques (like polling, flipped classroom, and student-driven discussions) have been very effective in delivering and ensuring a better and more rewarding educational experience for the students.

Keywords: Online Teaching, Student Engagement, Conceptual Understanding, Pre-Calculus