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Implementation of Recorded Lectures to Increase Accessibility and Educational Retention

Introduction

The onset of COVID-19 led to a wide scale implementation of recorded lectures in colleges across the world, changing the ways that students can access and consume class material. College campuses are often deemed the forefront of change and new ideas as academic institutions recruit diverse students to formally develop their ideas. A crucial component of a student's college experience is the student, faculty, and community interactions which expose students to different environments. However, with the spread of the pandemic and sudden onset of quarantine orders, college students' interactions were forced online. As UC Davis had to adapt to online learning, new formats of classes were implemented, such as synchronous and asynchronous classes. Traditional in-person lectures are often not recorded and require students to attend. Compared to the traditional class structure, UC Davis students were suddenly given a significant amount of freedom with online lectures. Students could determine when to watch lectures and how many times they would want to view it. The concept of recorded lectures brings flexibility into the lives of UC Davis students because they are no longer reliant on the designated time slot of their lectures to absorb crucial information and can watch lectures at a time when they are fully attentive and ready to learn. However, there are possible disadvantages

to having recorded lectures as it may allow students to procrastinate even further because they have no general constraint pushing them to watch lectures according to a schedule. Instead, UC Davis students must rely on their self-discipline to regularly keep up with lectures and not cram before an assignment or exam. As a current college student at UC Davis, recorded lectures have significantly improved my understanding of course material while allowing me to watch live lectures without the stress of having missed a topic explained by the professor. As the pandemic wanes and UC Davis plans to switch back to completely in-person lectures, it is important to consider whether the recorded lecture component of synchronous and asynchronous lectures should be incorporated into the traditional lecture format. This research study will investigate the benefits of recorded lectures in enhancing UC Davis students' understanding of lecture material.

Research Questions

1. What are the benefits of recorded lectures in regards to enhancing UC Davis students' understanding and retention of lecture material?
2. What effects do recorded lecture material have on equity and accessibility for UC Davis students?

Literature Review

The availability of recorded lectures has been shown to have a negative impact on attendance of live lectures (Drouin). The relationship between attendance and recorded lecture introduction is often analyzed to measure the effects of recorded lectures because attendance is correlated with attainment. An explanation for the negative impact of recorded lecture usage and attendance is “an over-reliance on lecture capture as a replacement for lecture attendance” (Clinton, Edwards, 403). This is alarming because “lower completion rates are pervasive within

online teaching,” which suggests that the introduction of recorded lectures should be carefully considered (Roberts, 56). Upon further investigation of how the implementation of recorded lectures negatively affects attendance, it appears that the fault may lie in engagement and “the interaction of teaching factors that engage students and contribute to their learning experience” as opposed to just lecture modality (Larkin, 247). An individual students’ experience and study habits may also affect the outcome of introducing recorded lectures as newer students with less educational maturity “may not know enough about their own learning styles and habits to acknowledge beforehand that they will not access the online lectures” (Drouin, 17). It is crucial to determine how UC Davis students will use recorded lectures to determine the effects that the implementation of recorded lectures will have on their attendance and overall educational quality.

Students’ academic performance is a common indicator of the educational quality that students are receiving. However, there is debate over whether the implementation of recorded lectures has an effect on student performance. When attendance was controlled for, Drouin found that “there were no significant achievement differences” between students who had recorded lectures available to them and students who did not (Drouin, 17). Similarly, Brackenbury also reported finding no relationship between the usage of recorded lectures and examination performance, while having a large sample size (Brackenbury). While examination performance may not be affected, Larkin introduces an important use for recorded lectures as “providing this type of teaching technology can contribute to overall flexibility in educational environments that are inclusive and can better meet the needs of a diverse group of students” (Larkin, 247). In fact, when studying the relationship between examination performance and lecture capture usage, Brackenbury found no significant relationship between those variables but did find that

“examination performance was dependent on nationality and disability status” both being negatively related to examination performance (Brackenbury, 434). This introduces the possibility for recorded lectures to be altered to accommodate the needs of students with language and learning disabilities, which may in turn benefit overall student performance (Brackenbury). While UC Davis students may not directly benefit from the implementation of recorded lectures in relation to examination performance, that does not eliminate the effect that this lecture modality can have on educational equity and accessibility.

Materials and Methods

To collect primary data for the study, I developed a survey using Google Forms to administer to UC Davis students. The survey consisted of nine questions with seven close ended questions and two open ended questions. The questions were designed to determine the usage and effects of recorded lectures as well as students’ ability to attend in-person lectures. Likert scale questions were also incorporated to examine students’ perspective on the benefits of recorded lecture availability and the professors’ duty to provide that lecture modality. The survey was sent to my peers and acquaintances through text message requests. This resulted in a relatively conserved data sample, which is important to consider during analysis. It was also administered during the UWP class time that was allotted to survey-taking. The survey had a size of $N = 24$. The survey was only administered to UC Davis students. As seen in Figure 1, 50% of participants attended their lectures in-person 50% or more of the time. As seen in Figure 2, the two most common issues affecting the participants ability to attend lectures in-person were work shifts and fear of being exposed to COVID-19.

Figure 1. Evaluation of In-person Lecture Attendance

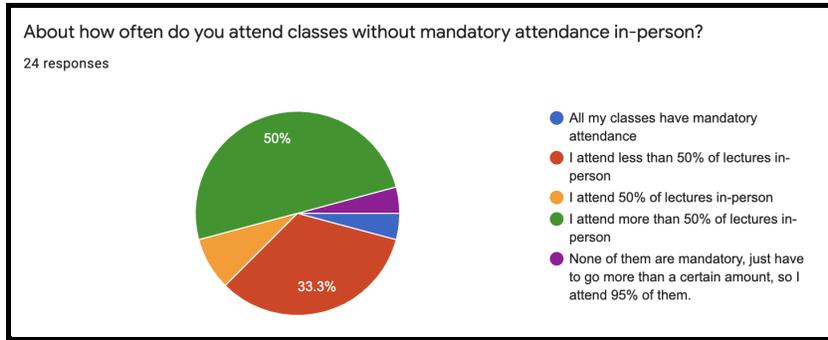
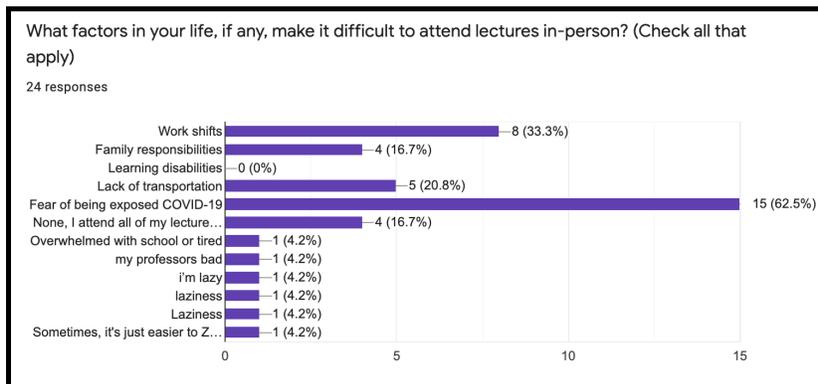


Figure 2. Factors Affecting Students’ Ability to Attend In-person Lectures



Findings & Discussion

Approximately 83% of participants (N = 24) reported having at least one or more obstacles that made it difficult to attend lectures in-person (Figure 2). A majority of students face obstacles which affect their ability to attend lectures in-person. This finding in conjunction with the finding that 50% of participants (N = 24) attend class 50% or more of the time indicates that students are likely not using recorded lectures to completely replace in-person lectures (Figure 1). Instead, they are using the recorded lectures to supplement their educational experience by using them when factors outside of school would have otherwise prevented them from attending lectures at all. This finding is important because it evades the risk of recorded lecture availability

causing students to replace in-person lectures with the recordings, which would be a concerning outcome (Drouin). In the open ended question, “How do you use recorded lectures and why?” the most common response was that students used recorded lectures to rewatch lectures and supplement their notes before an exam or quiz (N = 21). This finding offers insight on the ways that the implementation of recorded lectures may help to increase accessibility to class material, which has been shown to benefit student learning (Larkin). By understanding how students have diverse lives with different needs, the importance of recorded lectures to level the playing field can be highlighted. It will also help to identify the specific needs of students that have yet to be addressed and allow educators to find sustainable solutions for education equity.

A majority of participants agreed with the statements that the availability of recorded lectures has increased their understanding of class material as well as their likelihood to interact with class material as seen in Figure 3 and Figure 4 (N = 24 for both). While it may be difficult to measure the extent of an increase in understanding without also measuring academic metrics, gaining insight on students’ observation of their educational quality is likely to also be an indicator of their actual performance. This suggests that the implementation of recorded lectures increases the chance that UC Davis students will interact with class material, creating an additional opportunity for students to increase their understanding of class material, which is also supported by other studies (Larkin). It is crucial to understand how students themselves view the effects of the availability of recorded lectures on their academic performance as student engagement. This survey does not explore the actual academic performance of UC Davis students, therefore it is not possible to conclude whether UC Davis students would benefit academically from the implementation of recorded lectures, a relationship that still needs more investigation due to mixed findings in various studies (Clinton, Edwards). More research is

needed to examine how factors of a UC Davis student's educational quality, such as examination performance, are actually affected by the implementation of recorded lectures.

Figure 3. Recorded Lectures and Interaction with Class Material

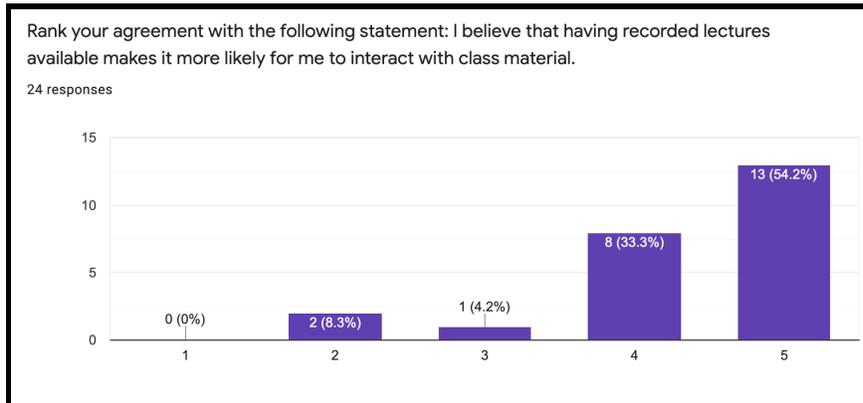
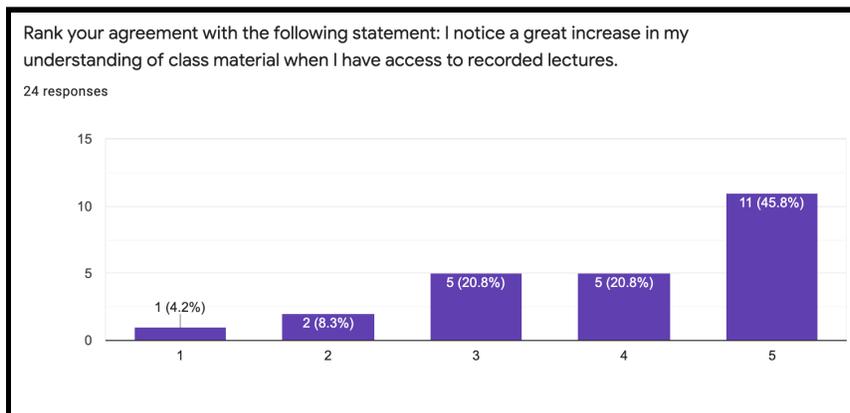


Figure 4. Recorded Lectures and Understanding of Class Material



Conclusions

For many UC Davis students, recorded lectures relieve the stress of having to absorb all of a lecture's material in one sitting and make for a more positive learning experience. Recorded lecture material may be a step towards increasing education equity for students who need to

attend to responsibilities, such as work or family, which can occasionally conflict with lecture times. This research study gives insight on how to make more effective and efficient lecture styles which will allow UC Davis students to maximize their understanding of class material. Additional research on how students' perceived benefits of recorded lectures relate to their examination performance or overall attainment should be conducted for more insight on this topic. Controlling for a student's major, gender, and socioeconomic status may also be helpful as this study did not have the resources to implement that scope of practice. Overall, on a direct scale, recording lectures could improve student's academic performance by increasing accessibility to high-yield learning materials. On a large scale, implementing recorded lectures during in-person schooling could contribute to an equitable college education and strengthen the foundations that students will have when entering the workforce or continuing their education. It is important for students and educators to acknowledge the value of recorded lectures and push to make this modality a standard practice on campus. Either through direct conversation with course instructors or to the university administration, students should request for recorded lectures by voicing their experiences and backing it with the necessary research.

Works Cited

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