

A Comparative Study of Student Participation During Online Learning Between Lockdown 1.0 and 3.0

Introduction

This study aims to show the factors that affect participation in online learning. We believe that factors such as internet, access to devices, whether those devices are shared, the platform used etc. will all affect student participation.

Background

In early 2020 the COVID-19 pandemic broke out. This severely affected the progress of education worldwide. Many schools were forced into closure, this promoted the use of online learning techniques. Our school used a free software called Edmodo, however we have since moved to the paid software Microsoft Teams.

Past studies

A study conducted by Valley state university from 2009 to 2016 suggested that online learning has little effect on student grades when compared to traditional learning. (*Department of Biology, Fort Valley State University, Fort Valley, GA, United States, 2016*)

An International study suggested that online learning should be an extension of traditional learning, this was based off feedback received from both students and teachers. (*A Comparative Study of Online Education and Traditional Offline Education During COVID-19, 2020*)

Objectives

Our research objectives are:

- Find the factors that affect student participation in online learning.
- To Highlight the change in participation as a result of moving to a paid platform.

Method

Survey

We carried out a Comparative analysis study using a two-section survey. The first section examined student engagement and opinion on online learning during March to May 2020. The second section covered student participation and opinion during current circumstances (January 2021).

Participants

We put our survey out to all years between 2nd and 6th year. We had a 40% response rate, with $n=235$ responses. Our survey was distributed to a 100% male population; therefore, our data represents male students only.

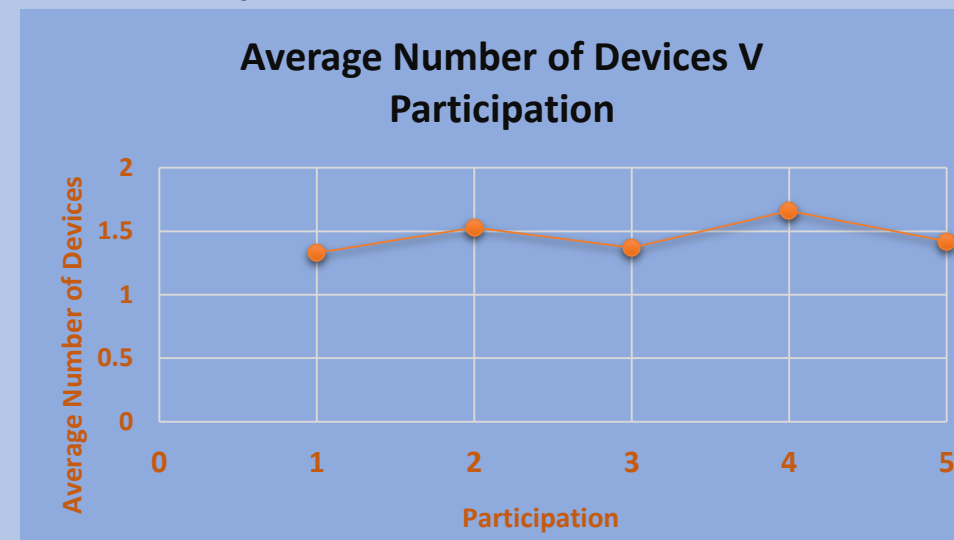
Analysis

We used *Excel Windows 10 Edition* to create our charts. The mean and standard deviation were calculated. This helped us to interpret our data more efficiently and accurately.

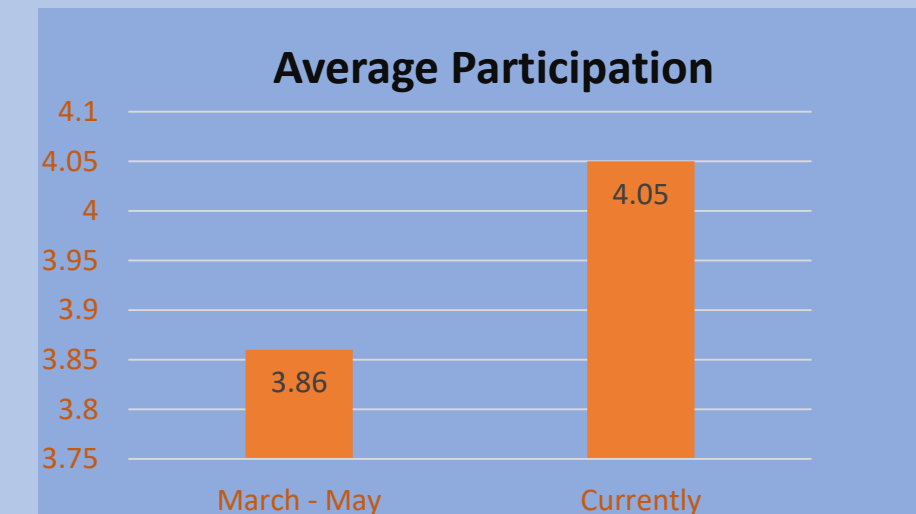
Results

Overview

This section will look at the data we collected from our survey. Our margin of error was calculated to be 6.5%. All data represented in the graphs below is rounded to two decimal places.

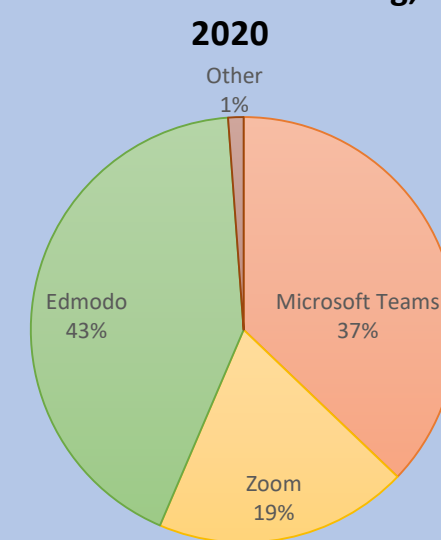


This graph shows the relationship between the number of devices someone owns and how they rate their participation. We can see that the more devices someone owns the higher their participation is.

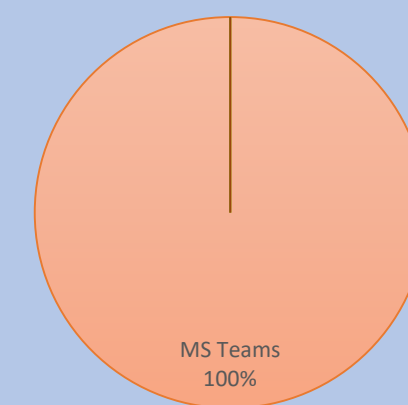


The graph above visually demonstrates the difference in online participation between the first lockdown (March to May 2020) and currently (January 2021). Students were asked to rate their participation from 1 to 5. Average participation increased by 4%. This increase is most likely a result of moving to a paid platform (Microsoft Teams) instead of using Edmodo and Zoom.

Platforms Used for Online Learning, March-May 2020

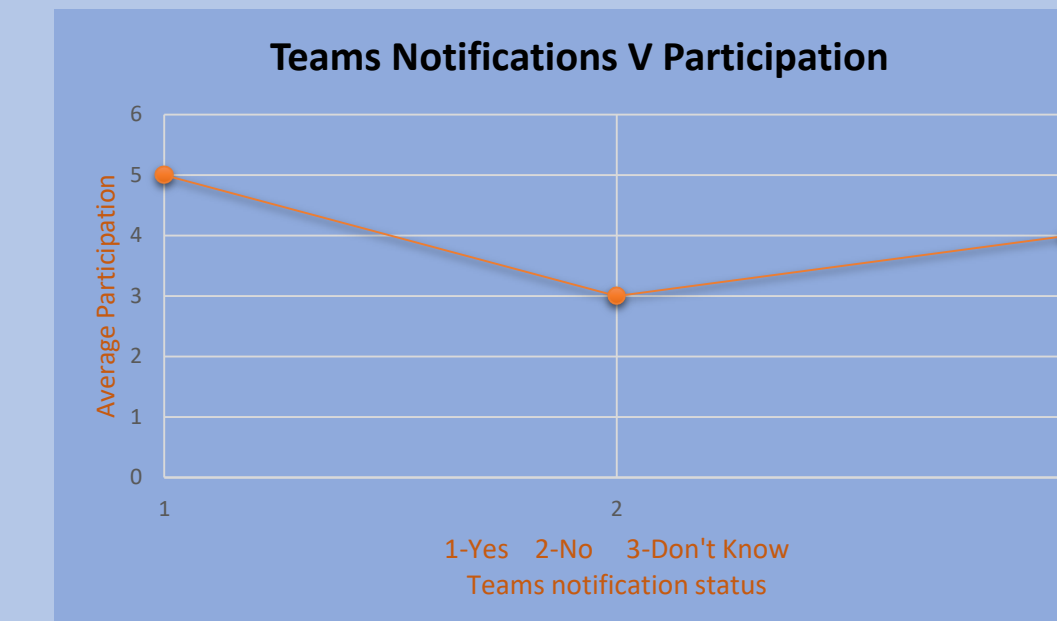


Platforms Used for Online Learning Currently

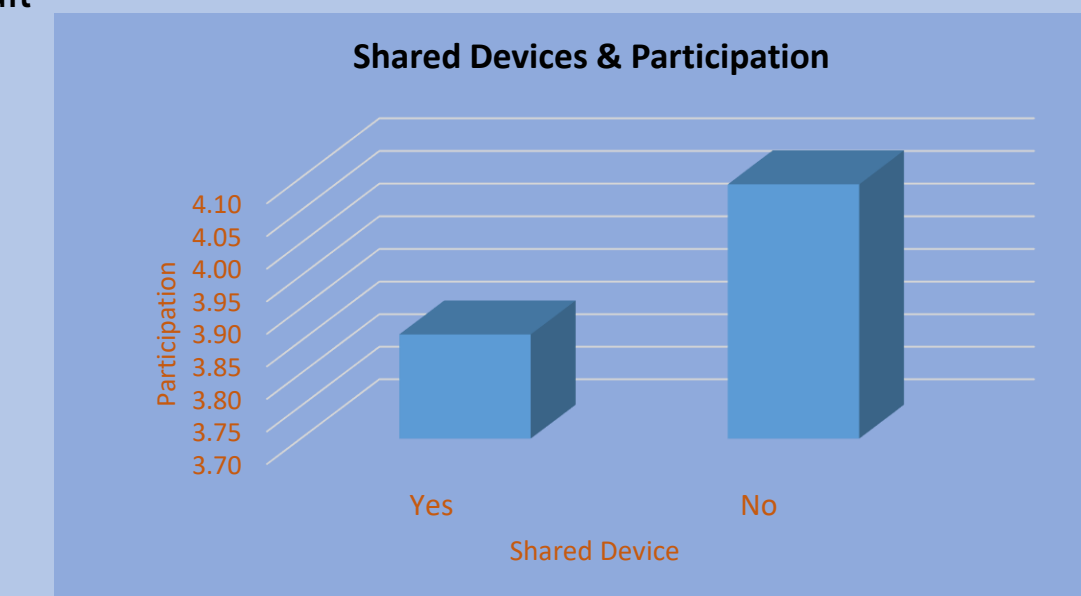


This chart shows all software used for online learning from March-May 2020. As you can see, Edmodo, a free software with limited capabilities was used the most.

The above chart shows the software used currently for online learning, Microsoft teams, a paid service with features built specifically for schools, accounts for 100% of the chart.



The above chart shows the relationship between whether someone has Microsoft Teams notifications on and their participation. We can see from the graph that someone who has notifications on participates better than someone who doesn't.



This chart shows the relationship between participation and whether someone shares their devices. We found that those who share devices have less average participation than those who don't.

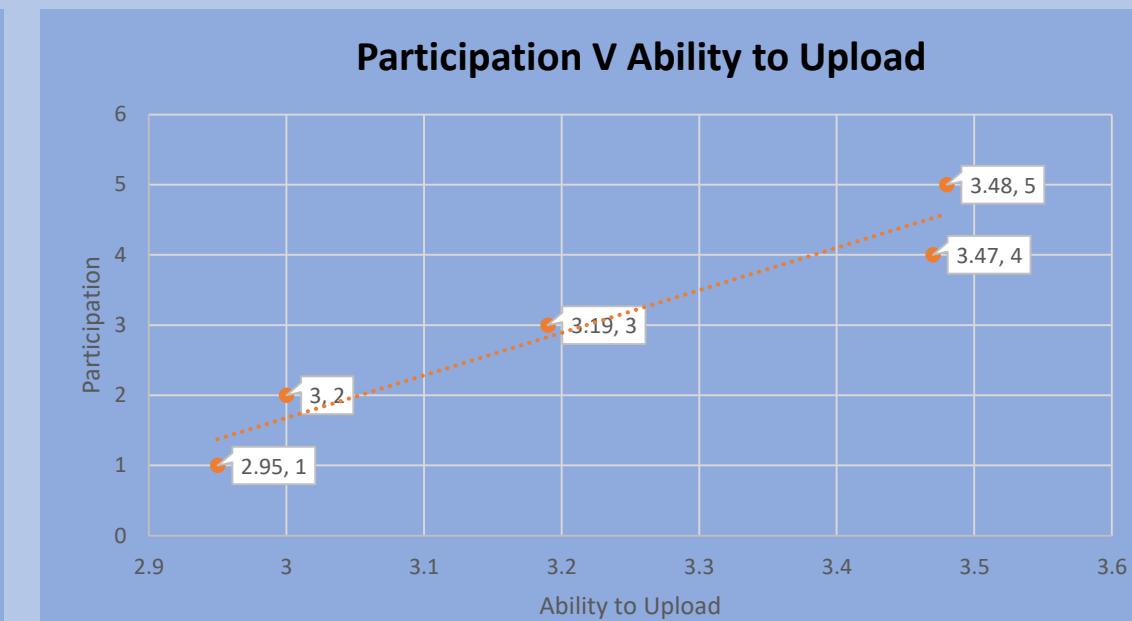


5% 30% 11%

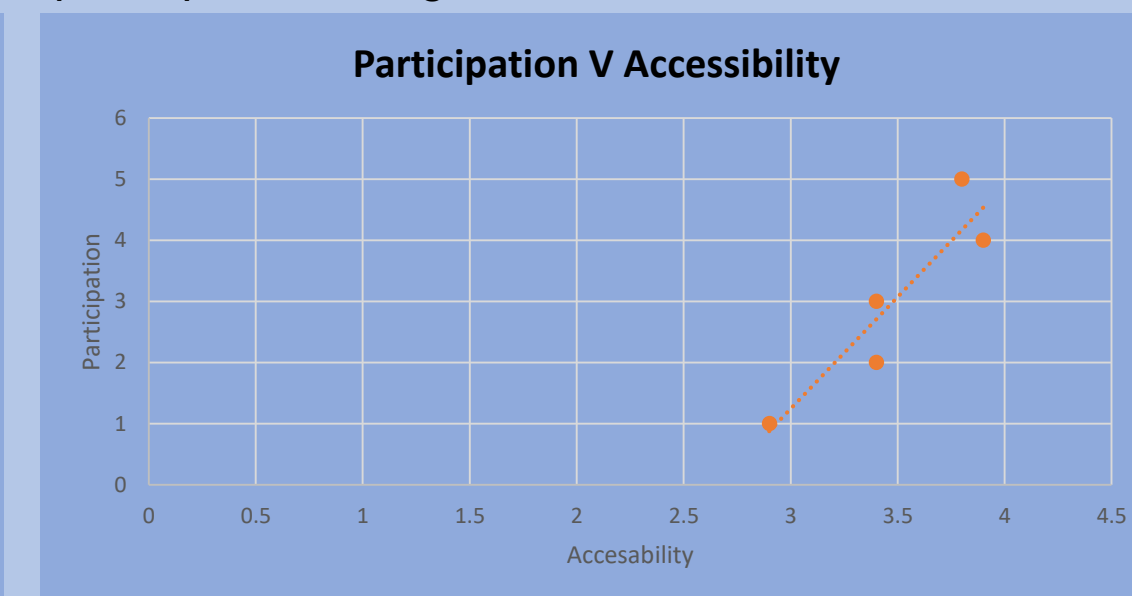
The Infographic above illustrates the percentage of people who rated their internet speed 1, 3 and 5 respectively. This is important as internet speed plays a big part in the participation of students. Students who gave a higher rating for their internet speed also rated higher in participation.

Refinements

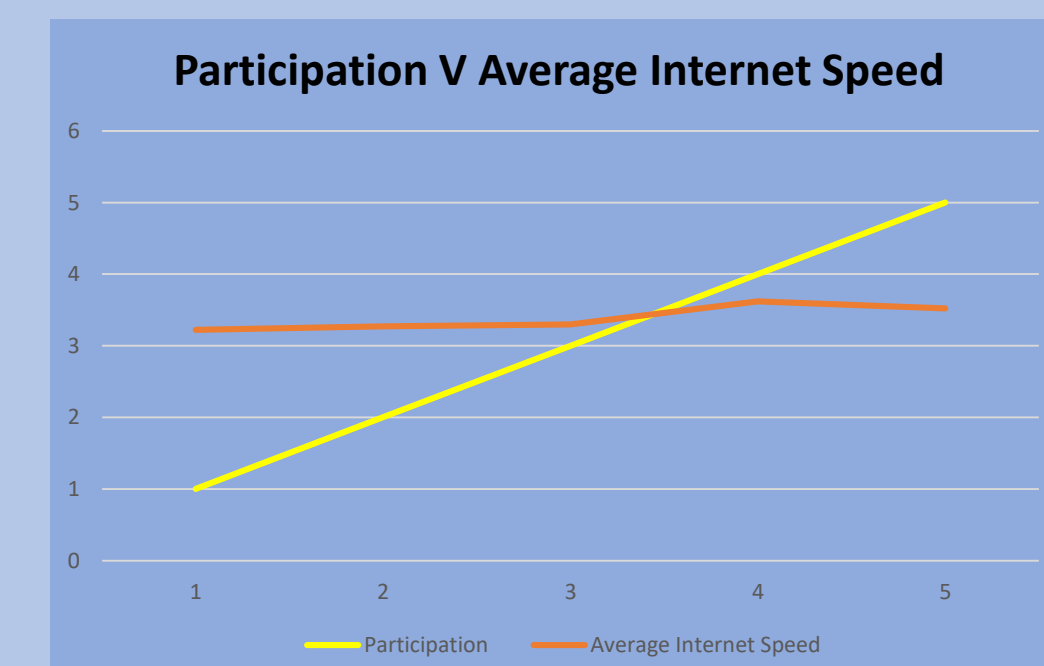
- To reduce our margin of error we would increase n (number of participants).
- We would conduct a longitudinal study, by surveying at the time, to get better data on March-May 2020.
- We would collect data from a male and female population.
- We would survey all the schools in Wexford to get a clear picture of how online learning affected students from a broad range of demographics



Students were asked to rate their software's ability to upload material between 1 and 5. The graph above illustrates the average answer for each level of participation. The trend line suggests a positive relationship between the two factors. As the ability to upload rating increases, so does participation rating.



Similarly, we questioned students about their accessibility asking them to rate it between 1 and 5. The graph above illustrates the average answer for each level of participation. The accessibility that the students rated increases as the participation rating increases, a lot like the ability to upload. This shows a positive relationship between the two factors.



Internet speed can have an affect on participation as proven by the graph above. As participation increases, so does the average internet speed. This suggests a positive relationship between the two factors. Internet speed may act as a barrier to efficient online learning to students. Those with the lowest internet speed had the lowest participation.

Conclusion

After an in depth study of online learning and participation we have gained insight into the opinions and views of fellow students regarding the online education system during the Covid-19 Pandemic. Upon examining our results, we have discovered and outlined the factors that differentiate online learning from the previous lockdown (March – May) to the current lockdown (January 2021). We can conclude that the following factors have a significant effect on online learning and participation: Internet Speed, notifications, number of devices, number of devices being shared, accessibility, ability to upload and the platform used. All of these can act as a barrier to efficient online education. Certain students can be at a disadvantage due to their internet speed and access to devices.

We would recommend that students should turn on their notifications as, according to our data, it would increase attendance. Another recommendation we would make is for schools to move to a paid platform for online learning if possible. Our data implies that moving to a paid platform will increase participation. We would also suggest to avoid sharing devices if possible, our research shows that sharing devices can lead to unavailability and lack of engagement during the school day.