Subsidized Educational Technology Loan Program Proposal

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Executive Summary

With the advent of the Covid-19 pandemic, student life has undergone drastic changes. The complete switch to online learning from an in-person format is one of them. Consequently, the differences in access to technology for academic purposes have widened between students who are financially secure and those who are not. While investigating the validity and prevalence of this problem through student surveys, we found out that there was both a need for easier and affordable access to technology as well as the latest devices crucial for successful online learning. We suggest a technology loan program based on a subscription plan, to ensure students have access to the technology needed while seeking remote education.

According to a study surveying 500 students, a subscription model was the most preferred method of payment for loaned devices. This model is further supported by the survey revealing that approximately 52% of students have less than $500 in savings, ruling out upfront payments. At the same time, the students who demonstrate financial need will have the option to be sponsored by an institution or a tech company and will be able to rent devices free of charge.

In addition to computers/laptops for loans, the survey revealed a large portion of students showing a need for peripherals, such as webcams, microphones, and tablets. By focusing on these products with the most demand, we can generate revenue and provide service to students whose needs are otherwise met. That is, even if a student already has a laptop and cell phone, they may see value in subscribing for a tablet or webcam loan, especially if their need is temporary- for example, if they need a webcam to attend a Zoom interview.

A surprising 84% of students surveyed stated that greater access to technology would improve their academic experience. By making this technology available on an as-needed basis and without large upfront costs, we can provide a greater experience for students that is accessible and affordable. For students who show financial need, we also suggest partnering with technology companies and nonprofits to provide the same access to technology at no cost for the student.

To summarize: we propose a technology loan program based on a subscription plan which will allow students to rent out the devices that they need for the desired amount of time and at affordable prices. This price will be subsidized for students who qualify and show need, possibly at no cost. By offering a range of peripherals in addition to computers and tablets, the demand shown by students surveyed can be fulfilled affordably and conveniently.

Introduction

The academic years of 2019-2020 and 2020-2021 were unlike any in recent years. For the first time, both academic institutions and their enrolled students were forced away from the status quo: an on-campus experience. Everywhere across the nation, students and faculty were forced online with no services available in person. The lockdown resulting from the COVID-19 pandemic created a complete reliance on technology to turn in assignments, attend classes, and interact with students and professors. This reliance on technology was entirely new for most students. Rather than attending a lecture in person, chatting with other students, and staying after class to ask questions, students were forced to attend lectures in video conferences, and rely on message boards or platforms such as Canvas for communication with peers, professors, and TAs.

With complete dependence and a switch to online education, unequal access to technology has become a much more significant problem. While technology use is prevalent in today's world, not everyone can afford the latest technology or many luxurious but helpful items. This includes the basics such as access to the internet or a well-functioning laptop but also extends to items such as a webcam, stylus, touchscreen, tablet, etc. to conveniently learn in an online environment. While the need for basic technology is absolute, the supplementary technology also plays a big role in the quality of online education. For instance, solving and analyzing problems is best done through writing in many cases. Unless a student has a stylus and a compatible laptop or tablet to write on and demonstrate to fellow students interacting online, it becomes extremely difficult to do the same and students may have to depend on someone who has access to better technology or just write on paper and send pictures; however, even this solution requires access to technology.

Additionally, students who have never taken classes online were forcibly thrown into an entirely new model of learning. What changes would students who attend class and take notes on pen-and-paper have to make? What if these students don't have access to a laptop or regular internet connection, how can they attend an online lecture? The new classroom environment inevitably excludes students with little to no access to technology. When the only method of participating in academia is through a screen and you don't have access to a screen, there is no possible way to succeed. Additionally, this lack of access disproportionately affects those who are most vulnerable: students who rely on financial aid or have unmet financial needs. This only further restricts access to methods of climbing the socioeconomic ladder and self-improvement through education.

This problem, however, is not unsolvable. If equal access to technology is provided to all students, then success no longer hinges on their economic standing or technological proficiency. Through data compiled from various surveys, we will address the major issues students face with education technology during the "remote" era and their access to technology. From these findings, we will propose a plan that best addresses these issues.

Findings

Experimental Method

For this report, we chose to collect data through a series of surveys, each of which was distributed to our study group of 500 students. Our study group was randomly selected from the undergraduate population at the University of Washington. In each round of questions, the surveys were distributed over the course of one week, then collected and analyzed. The data from the first round was then used to create the second round of questions in order to create a solution that properly reflected the desires of students. Surveys were only made available to students physically to remove the possibility of technology barriers affecting the study results.

First Round of Questions

The main goal of this round of questions was to understand the financial status of the students and what technology they currently used. We also wanted to learn about the students' experiences and feelings with their current level of technology. The findings of this round of questions are summarized in the below graphs.

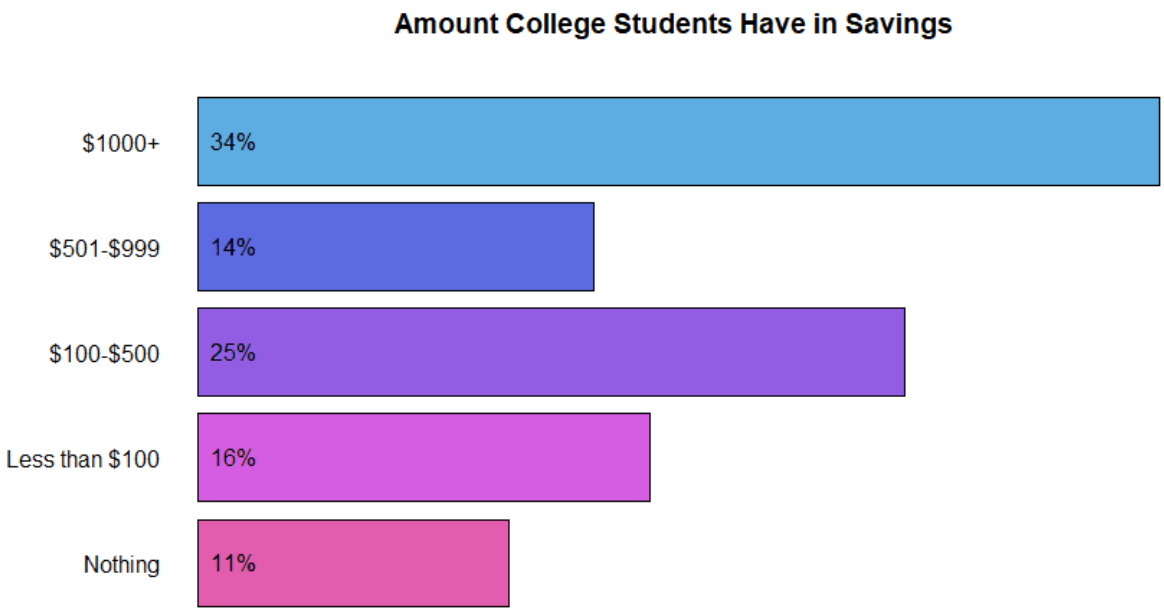

Fig. 1. Amount college students have in savings.

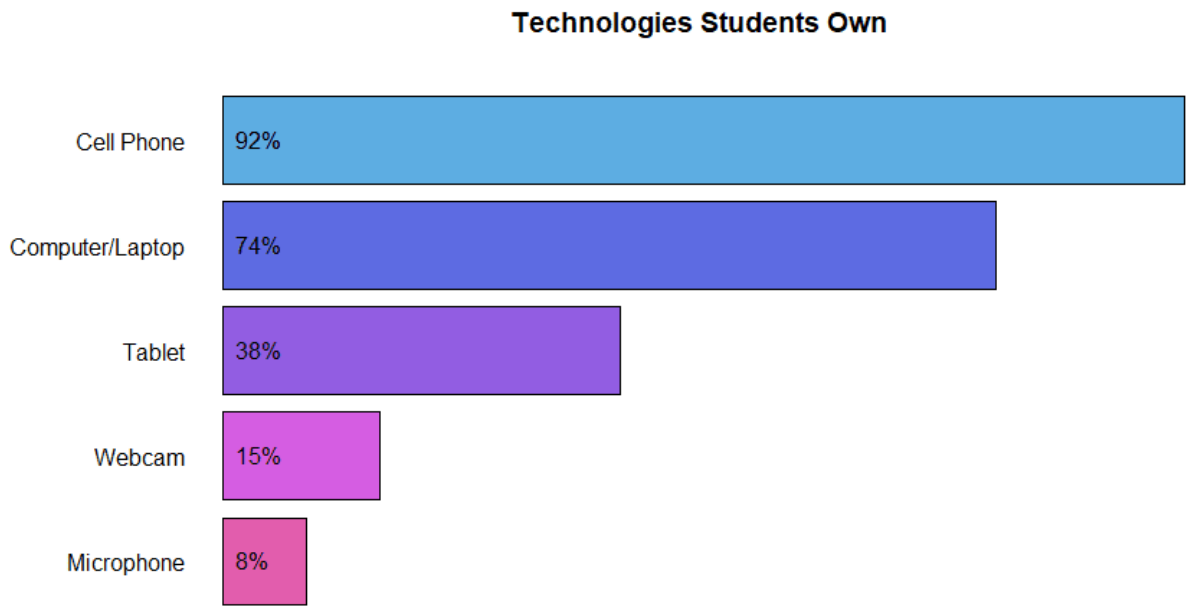

Fig. 2. Technologies owned by students. Students were able to choose any number of options.

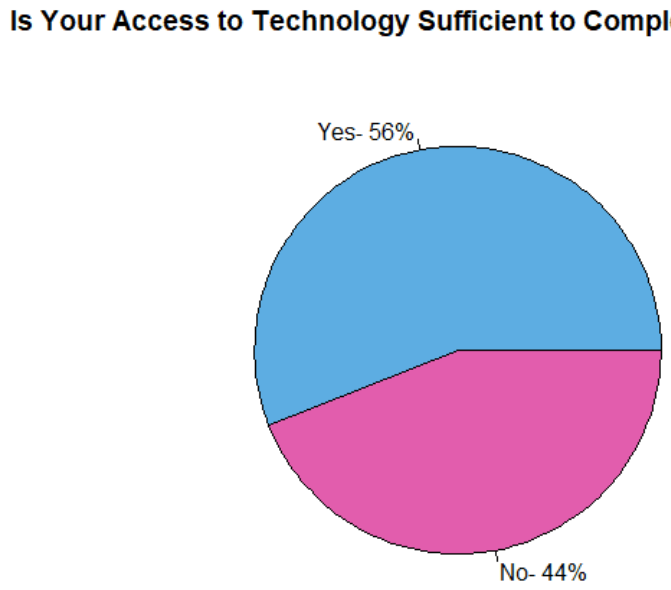

Fig. 3 Percentage of students who state that their access to technology is sufficient for school work.

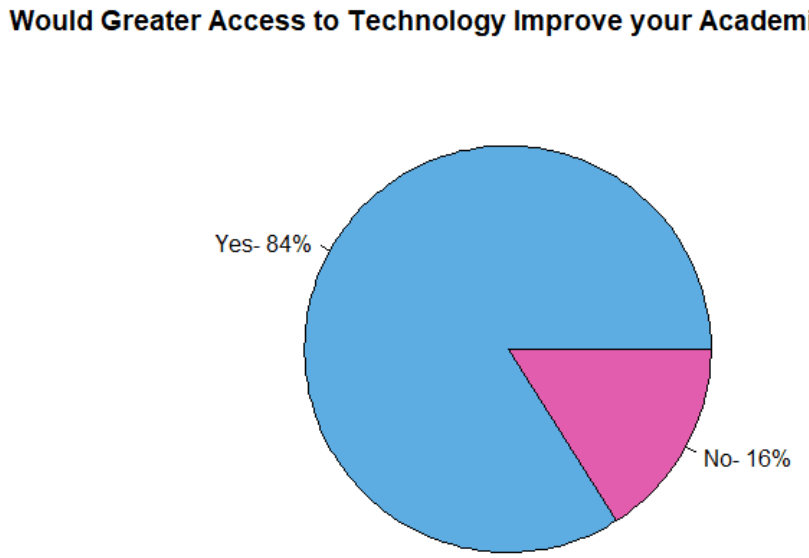

Fig. 4. Percentage of students who state that access to additional technology would improve their academic experience.

Second Round of Questions

In this round of questions, we wanted to gather student input about how specifically we should address the inequality problem. Our two main objectives were to decide our program model and determine what technologies we should prioritize providing. The findings of this round of questions are summarized in the below graphs.

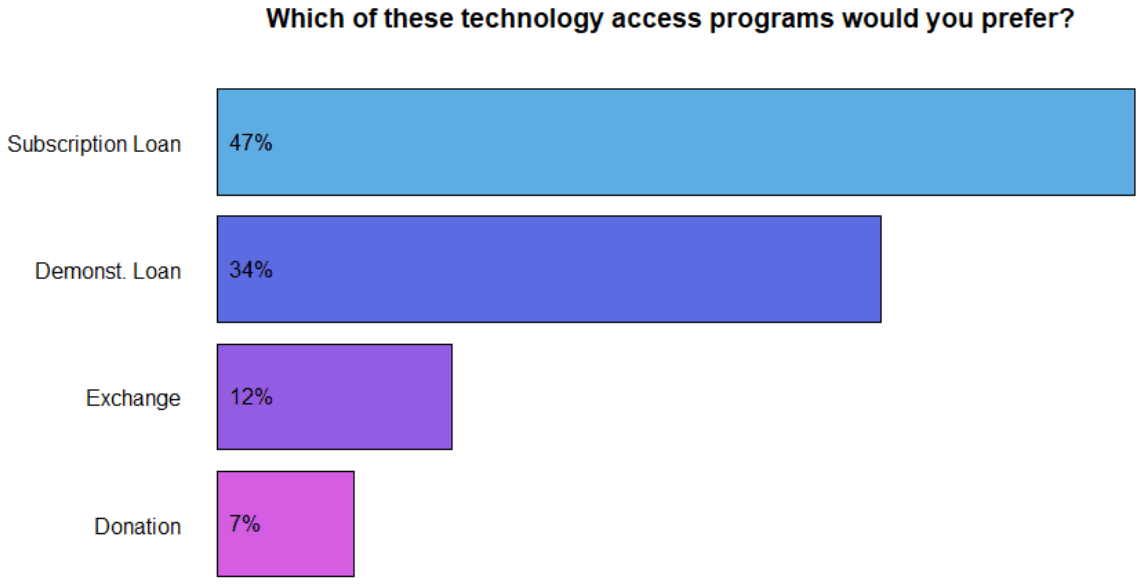

Fig. 5. Students' preferred program model.

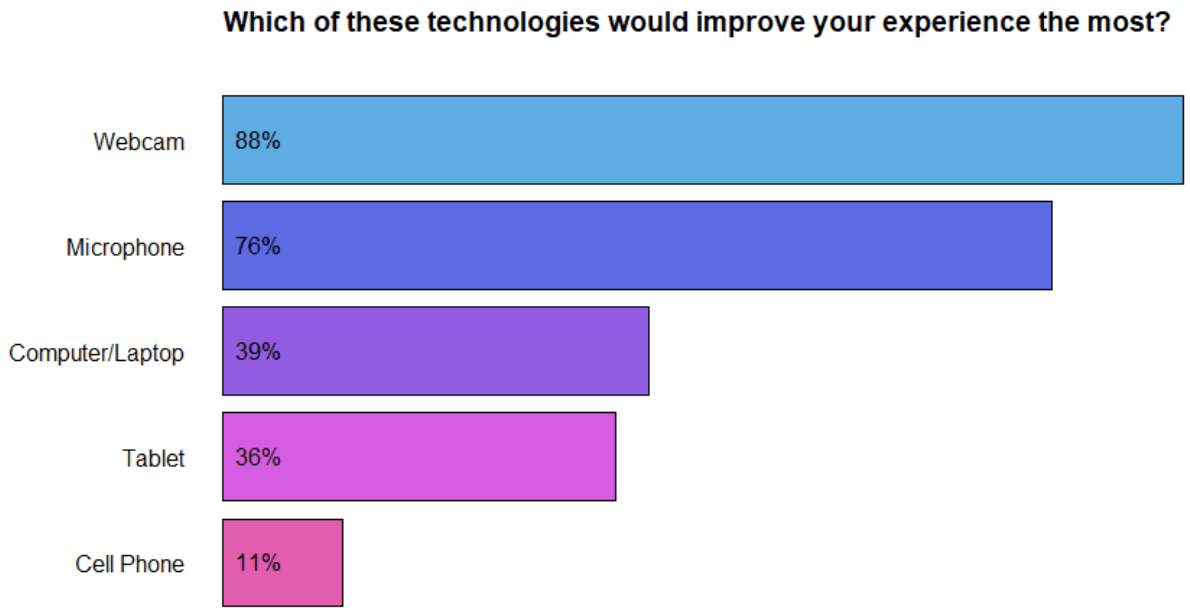

Fig. 6. Students' most desired technologies. Students could choose any number of options.

Discussion

Results from the First Round of Questions

The first round of questions provided a lot of valuable information for our team. As illustrated in Fig. 1, 66% of students have less than $1,000 in savings, and 52% have $500 or less. With technology prices rising year after year, the prices of new laptops and other devices like iPhones have grown far beyond $500, leaving many students unable to access the latest technology. They may also find it difficult to replace what they currently have if it were to suddenly break; 92% of students own a cell phone and 74% own a computer or laptop, as shown in Fig. 2. A moderate number of students own tablets, but very few own webcams or microphones, at 15% and 8% ownership respectively. In a world that relies heavily on not only Zoom classes but also online interviews, these items are essential.

We also surveyed students to confirm the existence of our pain point in Fig. 3 and confirm that there is a desire for a solution (Fig. 4). Fig. 3 illustrates that while a majority of students feel they have sufficient access to technology, there is still a significant proportion of students who do not. In addition, despite the fact that the majority stated that they had sufficient access, 84% of students stated that they would prefer access to more technology. This was enough for us to continue to move forward with our plan.

Results from the Second Round of Questions

Before conducting the second round of questions, our team came up with four different solutions to the problem, which are listed below.

- Selling secondhand or refurbished equipment: Our company would open shops that purchase old technologies from students or outside sources and refurbish them if necessary. These products would then be made available to students through stores on or near campus.
- Demonstrated need loan program: Based on a demonstrated need system similar to student aid and scholarship programs, our company would partner with tech companies and manage a loan program where students with demonstrated need could check out items for no cost. The costs of the program would be subsidized by the school.
- Subscription loan program: Similar to the previous solution, except this program would be open to students and have a recurring fee each month. Any student with a subscription could check out different types of technology as they were needed.
- Donation program: Our company would simply donate various items to schools instead of interacting with students directly. The school would be in charge of distributing items to students.

In the second round, we asked students which of these they would prefer. The results are summarized in Fig. 5. Both the demonstrated need and subscription loan programs saw strong support from students, with 81% of students supporting one of the two. Due to this strong support as well as the inherent similarity between the two, we decided to pursue both solutions in order to allow access to as many students as possible. We also found that 97% of students who had less than $100 in savings would qualify for our demonstrated need loan program.

We also surveyed students using the same 5 technologies from the first round of questioning to determine which technologies were needed the most. The results are summarized in Fig. 6. We allowed students to choose any number of options, as a given student could need a lot of support or none at all. The results were roughly in line with expectations from the first round of questions- 88% and 76% of students stated that they wanted access to webcams and microphones respectively, and so these technologies were chosen as a primary focus of our solution. However, we also saw a strong need for laptops and tablets, so our program will also provide those. Cell phones will not be a point of emphasis, but a few will be available under the program.

Keeping the majority of the support for demonstrated need and subscription loan programs in mind, our solution will accommodate both. For the subscription model, students will have the option to decide the number of devices they want to rent out as well as the duration of the rental period. For instance, students can decide if they want to loan out all the services available (webcam, microphone, laptops/tablets), a combination of either or just one of them. In addition to the flexible monthly/quarterly/annual deals, the students will also be eligible for discounts as they continue to extend their rental periods to more than a year. Providing all these

rental services at comparatively affordable student prices will address the students' financial limitations. Furthermore, flexible rental times, as well as the choices available will allow the students to customize their plans depending on their needs. With all these benefits, our solution will be able to gather attention from a large number of students in a short period of time.

For the demonstrated need model, we will be partnering with tech companies and institutions (university or public schools) to subsidize the cost of the subscription for the students in need. If the students are able to demonstrate their need through federal programs such as the FAFSA and qualify for scholarships from the school, their scholarship or loan program will also include a membership for our program.

Conclusion

Our final proposed solution is a loan program that provides access to technology for any student who needs it, with a focus on webcams, microphones, and laptops/tablets. There is a monthly fee, but this is waived for students who have demonstrated need. The fee varies depending on the number of devices being loaned, the amount of time of the loan, and the length of the subscription. We plan to offer monthly, quarterly, and yearly subscription plans, and will partner with companies and schools to provide the technology and subsidize costs for students that demonstrate need.

We cannot be certain of the proficiency of a student when technology is such a large educational factor. Having access to technology will close the gap when it comes to the quality of online education as well as the disparity in the resources available to financially secure students and those who are not. But is the improved access going to help those who are new to the technology to succeed? It may be challenging to get comfortable with the increased technology use while also focusing on studies.

Additionally, we cannot be assured of the consistency of the program. As online education is inevitable due to COVID-19, the demand for technology is also increasing. But the problem is that we cannot guarantee how long COVID-19 is going to last. The demand for technology will decrease as the circumstances get better and more institutions decide to go back to in-person class settings. Therefore, we will periodically evaluate the state of the program as new COVID variants become popular or the world continues to reopen.

Should the program be successful post COVID, we have no plans to stop service to students. Educational institutions can continue to use technology for student enrichment and certain practices, such as remote interviews over Zoom, may continue, and so our program will continue to be useful for students of all financial levels.