



FOUR POINTS MARKETING

WWW.FOURPOINTSMARKETING.COM

PHONE: (336) 781-8254

FAX: (336) 781-8251

**MAILING ADDRESS: 2817 WEST GATE CITY BOULEVARD
GREENSBORO, NC 27408**

MEMORANDUM

TO: Christine M. Saddlebrook, President

FROM: Caitlyn Edwards, Head of Market Research, CE

DATE: June 4, 2021

SUBJECT: Research on the Innovation and Product Design

According to Mr. Wang Tao “I believe that the integration of information technology in education will be further accelerated, and that online education will eventually become an integral component of school education”.¹ Crafting an innovation takes a substantial amount of time, research, and knowledge. This memorandum is needed to understand how the design process was done. The main purpose of this memorandum is to inform you about the tasks behind the research, design, and development of the innovation so that you will understand how the innovation came to be. In this memorandum, the main points to be discussed are the secondary research, primary research, concepts, prototypes, and the launch plan.

SECONDARY RESEARCH

RESEARCH METHODS

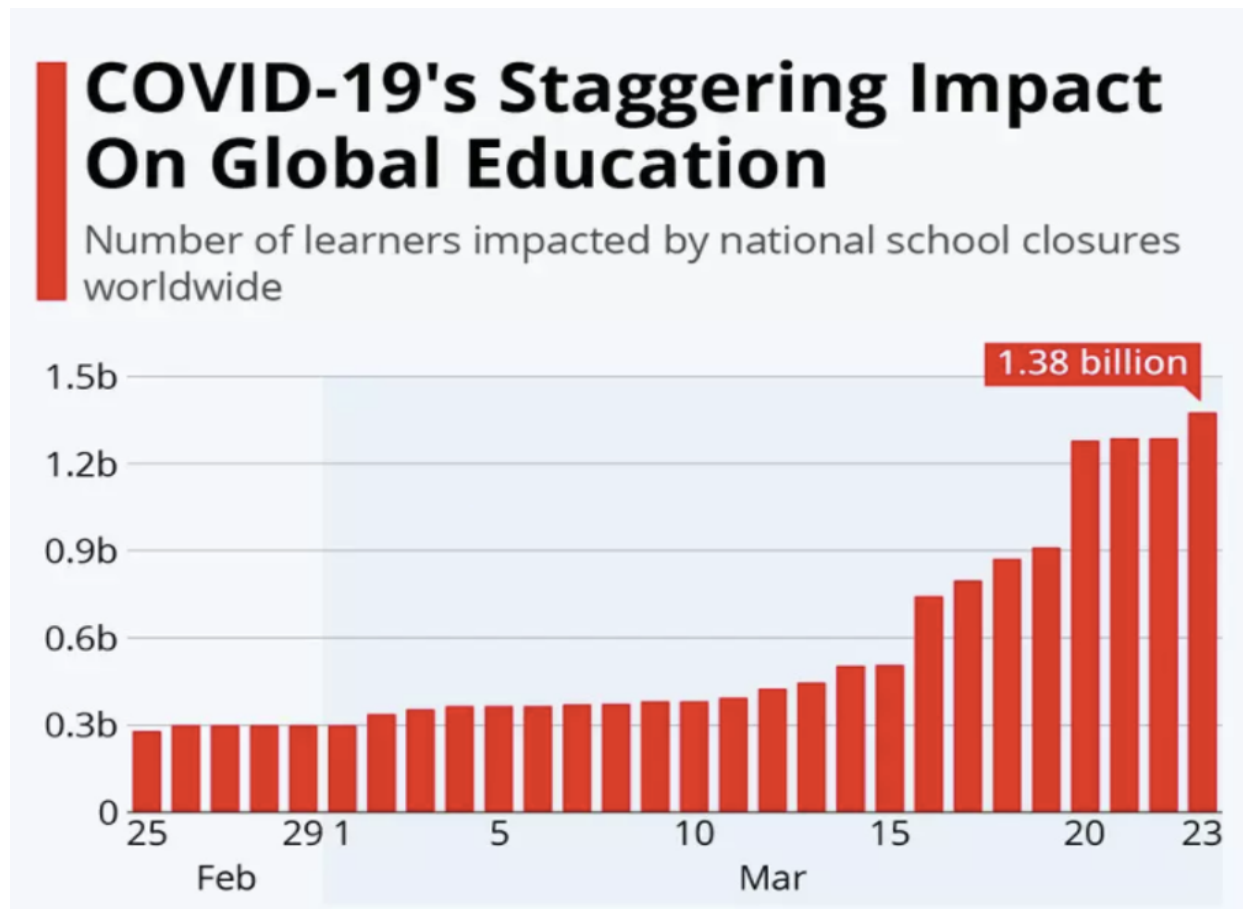
Research methods used include the University of North Carolina at Greensboro’s library databases along with articles found from the internet. The databases used were Google Scholar, the Business Source Complete, EBSCOHOST, and Proquest. The articles that were chosen were from credible sources that related towards our topic.

¹ Written by Niall McCarthy, Data Journalist. “COVID-19’s Staggering Impact on Global Education.” World Economic Forum, www.weforum.org/agenda/2020/03/infographic-covid19-coronavirus-impact-global-education-health-schools/.

KEY FINDINGS

Rise of Online Learning

The key findings of the article showed that COVID-19 had impacted all fields of life. Almost 1.2 billion children had to leave the classroom because the schools were shut down.² Globally 186 million USD investments in education are at risk, and the school management is worried about the future of children and financial stability. Refer to Figure 1 below, for the number of impacted learners. On the other hand, online learning has increased the communication and virtual relationship between teachers and students. The classes and exams are set according to the flexible timings. The students get more time to research and study at home, so there are mixed views about online learning.³ Internet access is complicated because there are different regions throughout the world where the internet is not available. There are many countries where the students are not accustomed to online learning, and the surroundings are not conducive for that. So, they had to face different challenges in this situation.



² Written by Niall McCarthy, Data Journalist. "COVID-19's Staggering Impact on Global Education." World Economic Forum, www.weforum.org/agenda/2020/03/infographic-covid19-coronavirus-impact-global-education-health-schools/.

³ Dianito, A. J., Espinosa, J., Duran, J., & Tus, J. (2021). A Glimpse into the Lived Experiences and Challenges Faced by PWD Students towards Online Learning in the Philippines Amidst COVID-19 Pandemic. *International Journal Of Advance Research And Innovative Ideas In Education*, 7(1), 1206-1230.

Figure 1: Figures refers to learners enrolled at different education levels.

Online Study Groups

Currently, six billion students are being taught remotely online, or hybrid because of the COVID-19 pandemic.⁴ Online resources such as Zoom Meets, Google Classroom, and Google Meet mimics a traditionally face-to-face class while maintaining COVID-19 protocols. Zoom allows students to synchronously collaborate, study, and learn together.⁵ The biggest advantage of online study groups compared to traditional study groups is the flexibility of time. Flexibility of meeting times can return a higher engagement and productivity.⁶

Online Learning Programs

Online learning programs have helped many students learn throughout COVID-19.⁷ Programs such as myOMLab and online games have given students the opportunity to apply what they have learned, on their own, or during an online lecture, to practice problems, simulations, tests, and other activities. Online games also help students learn and retain information better by repetition.

Creating Effective learning at Home

The year 2020 saw changes in the way different sectors of the world operated. COVID-19 has made businesses and education to replace and complement physical face to face channels by digital and online ones. However, it should be noted that with many e-learning platforms that were created, the e-learning platform would rely heavily on fast internet connection in order for students to access the e-learning platforms. This led to a large number of students being marginalized and failing to continue with their studies due to low internet speed or lack of internet service at home.

IMPLICATIONS OF KEY FINDINGS

Rise of Online Learning

The research findings showed a lack of internet access to students all over the world especially in poorer countries as one of the big roadblocks. So, to address this issue, it will be apt for the governments to enhance the aid to such students and provide them with the devices that could help connect to the internet in a stable fashion. Also, the teachers should handle each student according to the issues of their environment and help them transition into the Online learning with ease.

⁴ Eteokleous, N., & Panaoura, R. (2021). Education Faculty Lived Experiences of Student Interaction and Engagement in Online Courses: A Collaborative Autoethnography. In M. Aygerinou, & P. Pelonis (Ed.), Handbook of Research on K-12 Blended and Virtual Learning Through the iFlex Classroom Model (pp. 60-83). IGI Global.
<https://www-igi-global-com.libproxy.uncg.edu/gateway/chapter/275560?ct=-8585799932505708951>

⁵ Hossain, S. F., Nurunnabi, M., Nadi, A. H., Hasan, A. M., & Ahsan, F. T. (2021). Exploring the Role of AI in K12: Are Robot Teachers Taking Over?. In I. Jaafar, & J. Pedersen (Ed.), Emerging Realities and the Future of Technology in the Classroom (pp. 120-135). IGI Global.
<https://www-igi-global-com.libproxy.uncg.edu/gateway/chapter/275651?ct=-8585799906263915906>

⁶ Bailey, D. R., & Lee, A. R. (2020). Learning from Experience in the Midst of COVID-19: Benefits, Challenges, and Strategies in Online Teaching. Computer-Assisted Language Learning Electronic Journal, 21(2), 176–196. <http://callej.org/journal/21-2/Bailey-Lee2020.pdf>.

⁷ Gupta, M. (2017). MyOMlab as an enabling e-learning technology: Bridging the gap between student- and instructor-centered learning. *Journal of International Technology and Information Management*, 26(1), 2-20.
<https://login.libproxy.uncg.edu/login?url=https://www.proquest.com/scholarly-journals/myomlab-as-enabling-e-learning-technology/docview/1938528204/se-2?accountid=14604>

Online Study Groups

Online study groups are now more popular than ever before. By finding out current alternatives to online studying, designing an innovation that incorporates features those students want and need will be possible. This innovation should allow a student to study more efficiently, with ease and entertainment.

Online Learning Programs

By understanding the importance of online learning programs, and the innovation that helps to include this, it can further help students to learn better during COVID-19. Research has shown that students have a hard time learning online because they are unmotivated, and they find it hard to do. Through the use of this research, understanding how students currently feel about online learning and the impact it has on how they study has been made possible. The innovation must have a feature that will help facilitate learning and retention of information.

Creating Effective Learning at Home

As previously mentioned, access to education is a basic human right. The lack of internet connectivity should not deny anyone of their right of access to an education. Therefore, a solution should be implemented that will grant access to every human accessibility to different educational platforms.

PRIMARY RESEARCH

RESEARCH METHODS

Primary research was conducted through the use of three interviews and one survey. By using these methods, data was collected from a variety of sources. The methods used to conduct this primary research is described in more detail below:

Interview 1

Rajni Rani, Research Analyst, contacted Ms. Linda Browning to conduct an interview via email. Ms. Browning currently teaches at the middle college GTCC in Jamestown, North Carolina, and she's a special education inclusion teacher in numerous classes. The interview contained 10 open-ended questions. To see Ms. Browning's answers, please refer to Appendix A.

Interview 2

Tou Yang, Research Analyst, contacted Kou Yang for an interview via phone call on May 29, 2021. Mr. Yang is an alumnus of the University of North Carolina at Chapel Hill, during his master program, he was conducting research for his master thesis, attending classes, studying, and teaching undergraduate students. Mr. Yang was a perfect interviewee as he has quite the

experience of online learning, studying, and teaching others. Refer to Appendix B for the full interview.

Interview 3

Wilson Keten, Research Analyst, contacted Mr. Philip Dadzie for an interview via email on 30th May 2021. Mr. Dadzie is a graduate student from the University of North Carolina at Charlotte with a degree in accounting. Mr. Dadzie was chosen because of his professionalism and student experience. The interview contained 10 open-ended questions. To see Mr. Dadzie's responses, please refer to Appendix C.

Survey

Caitlyn Edwards, Head of Market Research, created the survey using Qualtrics. The survey contained 10 questions, including 9 multiple choice questions and 1 open ended question. Distribution of the survey consisted of sharing to Facebook, through personal pages and groups, and posting to Reddit forums. The survey was shared for 4 days and generated 18 responses. Please reference Appendix D to see these results.

KEY FINDINGS

Interview 1

The results of this email interview showed that one of the biggest flaws with online learning is social learning that students can only learn in the traditional classrooms. Some of the resource's teachers are using for online teaching are Canvas, Khan Academy videos, CommonLit.com etc. They are also using Breakout rooms in Microsoft teams/ Group discussions/ polls etc. to keep students engaged during the online classes.

Interview 2

COVID-19 took a toll on everyone, the quick transition from traditional learning to online learning was a struggle at the beginning for Mr. Yang. According to Mr. Yang, a strictly planned schedule can help an individual study more efficiently, along with taking breaks in between. Online studying and learning have the benefit of being accessible from anywhere, but the flaw is, do students have the proper resources such as reliable internet connection.

Interview 3

Online learning because of COVID-19 has made students transition from face to face to being at home. According to Mr. Dadzie some of the benefits of online learning include flexibility and time management. Since you do not have to attend the traditional face to face lectures on campus, you get the opportunity to manage your time well at home in regard to how you combine schoolwork with your daily activities.

Survey

When respondents were asked, "What challenges do you face when learning online?" 51.85% said that they were not motivated. This is shown in Figure 2. Another question asked was "How do you typically study when taking online classes?" The most popular response was by watching lecture videos and powerpoints. See Appendix D for detailed results of the survey.

Q3 - What challenges do you face when learning online? Select all that apply.

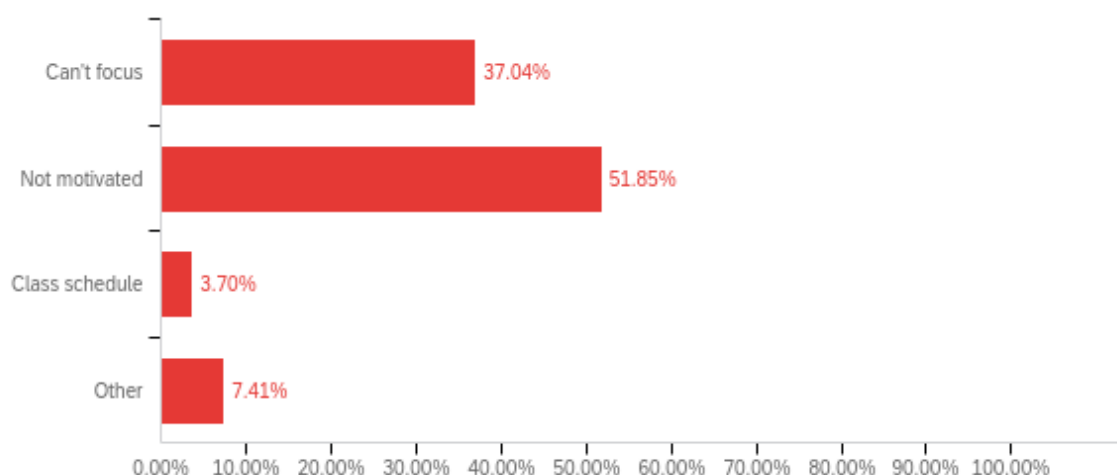


Figure 2: “What Challenges do you face when learning online?” question results

IMPLICATIONS OF KEY FINDINGS

Interview 1

This email interview was very helpful to know a current teacher’s responses about online studying in this pandemic. Teachers are doing their best to help students transition into online learning and keep them engaged in the online classes. The results showed that online learning has some advantages like all the material readily available 24/7 and you can study at your own pace. But the biggest disadvantage of online learning is that students are missing the social aspect of learning from peers.

Interview 2

The interview with Mr. Yang was informative as he talked about ways he used to continue studying and teaching others during the COVID-19 pandemic. Online learning has its benefits and its flaws; but it is here to stay, and we can only make it better and more accessible for others. Giving everyone the accessibility to resources such as reliable internet connection should be a standard.

Interview 3

The interview with Mr. Dadzie helped a lot as it showed how students are quickly adjusting to this situation at this time. Even students who have never liked the idea of online studying are now beginning to experience new ways and ideas of learning online. This is good because you never know what might suddenly happen to you along the way while you move on in life.

Survey

The survey provided more insight as to how people feel about online learning during COVID-19. More than 51% of respondents said they were not motivated to learn online. This shows that

people will be interested in purchasing a product that will help keep them motivated while learning online. In addition, the survey provides insights as to how many hours students study online. This can be helpful when designing the product because efficiency will be kept in mind.

CONCEPTS

The Ideation Process includes three stages: Open/Divergence, Explore, and Close/Convergence. During this process, ideas are created, explored, and reduced to a few ideas. More details about this process can be found in the paragraphs below.

Open/Divergence

The Open/Divergence stage was used for brainstorming three different strategies. These three strategies included Changing Perspectives, Worst Idea, and Mash-Up. A time limit was set for each strategy and each team member was responsible for coming up with twenty different ideas. Once the ideas were produced, they were shared with the other team members. Each strategy is described in more detail below.

Change Perspective

For this strategy, each team member came up with ideas from another person's perspective while using a different persona. How would a different person find a solution to the problem? The different personas used were grade school student, computer programmer, a parent, and a financial analyst. While using these personas each person had fifteen minutes to come up with at least twenty different ideas. Figure 3 shows a few of the ideas each person came up with.

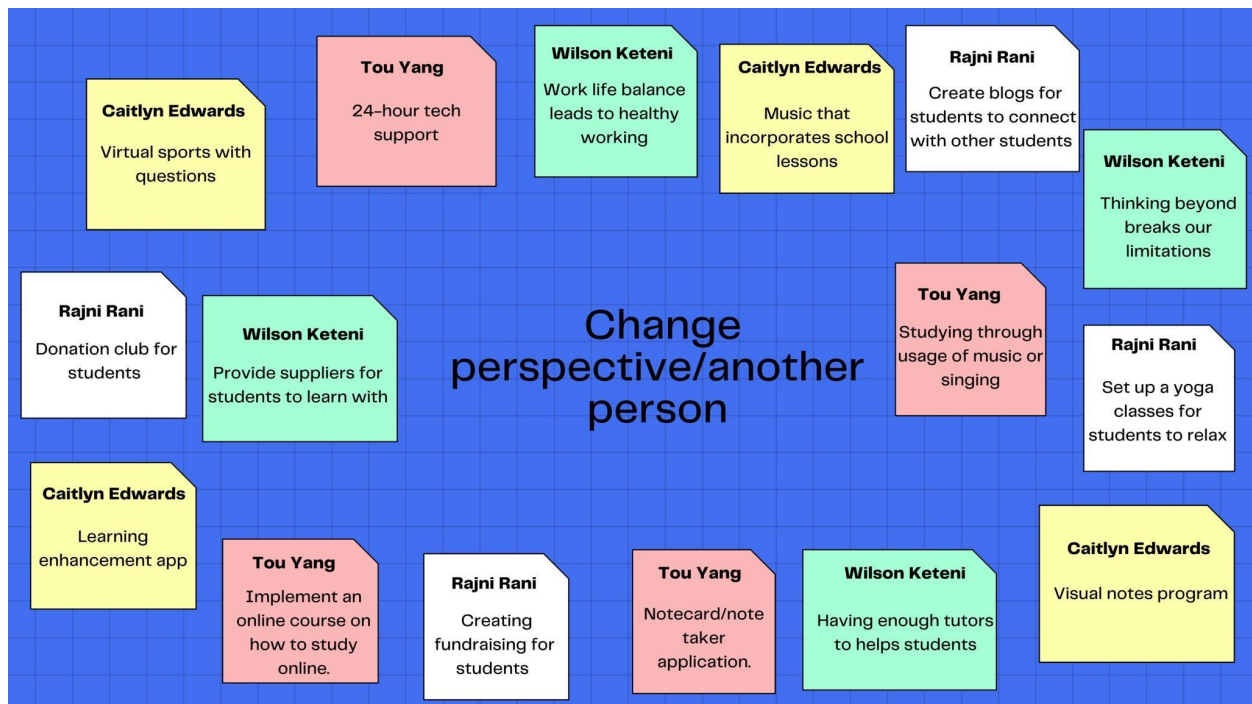


Figure 3: Generated Change Perspective Ideas

Worst Idea

The next strategy used is the Worst Idea. For this strategy each team member was given fifteen minutes to come up with twenty horrible or impossible ideas. These ideas had a very broad range. This range included ideas that could be impossible, made no sense, or be completely impractical. After the ideas were thought of, they were shared with the other group members. Each team member then had to take each bad idea and turn it into a good one. This process also took fifteen minutes to complete.

Mash-Up

The final strategy used was Mash-Up. In this strategy each team member took qualities or products that they liked and combined it with our innovation challenge. Each member had fifteen minutes to ideate twenty ideas/concepts. These concepts consisted of two ideas that would go well together to create an entirely new product or service. Once done with ideation, the ideas were shared amongst the team.

Explore

Once all the ideas were generated, the team discussed and brainstormed a list of ideas and narrowed it down from 240 to 180. Then as a next step, the team categorized the ideas into various groups based on similar attributes. Some of the groupings included online learning, virtual gaming, exercising and technology. This created four different groups. The following step was to identify the best elements in each of these groups and come up with the key elements that should be included in the final product. The key elements that we arrived at from this effort included cost, user friendliness, lightweight and connectivity from anywhere. Finally in the last step the team looked at all the ideas and came up with ways to improve the current prototype.

Close/Convergence

The final stage was the Close/Convergence stage. In the exploration stage, the team had reduced the ideas into a smaller list. In the convergence stage, the team looked at all the ideas and eliminated the redundancies and consolidated the ideas to a few. From the new list, an analysis was conducted from various points such as feasibility, usability, cost and connectivity and used a point system to assign for each idea. The top 4 ideas that had the highest scores were then used to be voted upon by the group for final selection. The team unanimously selected the product called 'Z-screen'. This is a tablet based product that creates 4 windows giving an impression of using 4 tablets at the same time. This way the student can do 4 different things at the same time without needing to open/close any windows.

PROTOTYPE

After ideating, Four Points Market agreed on the prototype Z-Screen and began rapid prototyping. This allowed us to get feedback from our past interviewee and make changes to our final product.

PROTOTYPE ACTIVITIES AND RESULTS

The team of Four Points Market all agreed on the idea of developing a device with multiple screens, hence the development of the Z-Screen prototype. The prototype was done virtually due to COVID-19 regulations and with the thought of being able to work on it together virtually. The platform used to create the 3D digital CAD figure was www.tinkercad.com.

Creating the 3D CAD figure with the program was proven to be difficult at first, as the first rough prototype took a little over two hours to complete. After completing the first prototype, it was shared with members of Four Points Market where feedback was received and changes were implemented before being shared with our stakeholders. See figure 4 for the first Z-Screen 3D prototype.

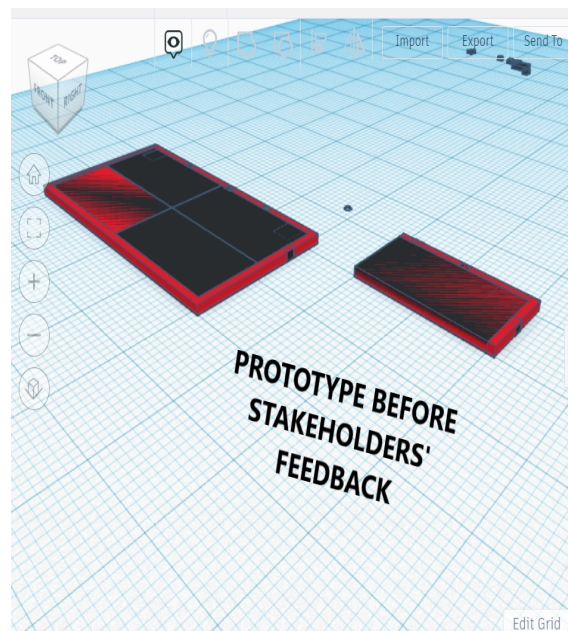


Figure 4: Z-Screen first concept

LEARNING TEST PERFORMED AND INSIGHTS GAINED

After the prototype was developed, a recorded video discussing the device along with photos were sent out to shareholders. The shareholders for our product included past interviewees, peers, and colleagues. The questions that were asked included:

- How would you improve the product?
- Would the product be helpful to people?
- Could you see yourself using this product?
- Would you purchase this product?

All feedback was reviewed as a team and changes were identified and later implemented into our final solution. The feedback received was constructive and included tips for improvements. A few respondents would like to see the device in different colors and possibly thinner for ease of travel. The prototype that was sent out was colored red and had a thickness of about 20 millimeters. Some respondents suggested adding a stylus pen with the unit as this could help with taking notes. One respondent liked the idea of the SIM card slot for 5G and 4G capabilities. But this option is only available through a third-party monthly-base subscription.

Many respondents consider that this device would be efficient for students. The price tag along with the promotion deals of the device caught the attention of some of the respondents. The listed price for the Z-Screen is reasonable along with a pay-over-time option, this allows students to make payments over time instead of paying upfront in full.

FINAL PROTOTYPE

After considering all feedback from the stockholders, the team generated a new list of changes to finalize our product. The thickness of the prototype has been reduced by 39%, making it roughly 7.8 millimeters thick. For the launch final product, the color was changed towards a more neutral color, grey, however other colors will soon be available. A pencil stylus was also implemented into our product, allowing the user to draw, highlight, or doodle on their Z-Screen. After this was all said and done, our final prototype was complete, please refer to figure 5 for the final product.

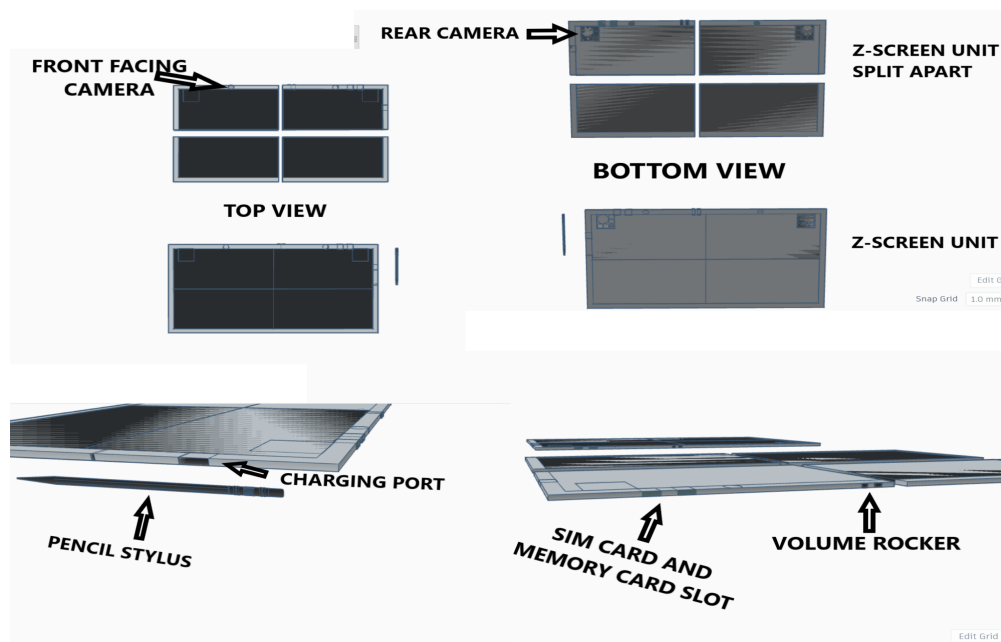


Figure 5: Z-Screen Final Prototype

LAUNCH PLAN

After conducting a considerable amount of research and going through the design thinking process, Four Points Marketing has developed a list of recommendations for the launch plan.

RECOMMENDATIONS

Recommendations for this launch plan are below:

Target Market

For a successful launch, one must know their target audience. In this case, the audience that is being targeted is students. Understanding the students' needs and wants will give you the ability to effectively market the product.

Resources

You will need appropriate and available resources to make the Z- screen to meet the expectation. Not having enough resources will result in a delay of production.

Employees

To be positive that demand can be reached there needs to be enough supply and to make sure there is enough supply having enough employees is necessary. By making sure there are enough employees to keep up demand, the launch will be successful.

Promotions

This product was created keeping a student's academic lifestyle in mind. The innovation was made for students to help them study and learn more efficiently. With that being said, all students and teachers will receive a 20% discount off of their purchase, teachers are also eligible for an additional 5% on top of the 20% discount. *Pay-over-time* would also be an option for all buyers, allowing this would give students the technology of tomorrow without stressing over the financial burden. Online education is the future and Four Point Marketing would like to make it more accessible for all students; students who cannot afford the device are eligible for a prorated discount.

Advertising

It is best to showcase Z-Screen through online platforms such as Twitter, Instagram, Facebook, and YouTube. An account can be easily made for free, where the company can share their products and stay close with their customers. Using YouTube would also help spread the knowledge of Z-Screen. Sending out our product for YouTubers to review can help bring feedback and new potential customers.

Location

The product can be sold through our website or through an authorized third party, which includes but is not limited to e-commerce and big box stores such as Amazon, eBay, Best Buy, and Wal-Mart. By selling through e-commerce and box store retails, we can attract a higher number of audience.

Launch Time

The perfect time to launch Z-Screen would be mid-summer. Preorders for Z-Screen should be offered for a minimum of two months prior to the launch date. Preordering guarantees buyers will get a device and allows those individuals who choose the pay-over-time option to begin payment early.

Selling Price

The manufacturer's suggested retail price for the Z-Screen should be \$499.99. This price is based on material costs, salaries, advertisement cost, and with a mild profit margin.

Customer Feedback

To better improve the product, feedback is needed. To get this feedback, it is recommended that a survey is to be sent out to purchasers of the product a few days after it is delivered. Another recommendation is to allow customers to leave reviews on the product page that is on the website. By getting this feedback, understanding how the customer feels about the product and their experience will help to understand what areas need to be improved.

We hope you find the above recommendations useful and that it helps to ease the release of the Z-Screen.

The primary purpose of this memorandum was to give you some insight on the process of researching, designing, and creation that was used for our innovation in order to gain a better understanding of how and why our innovation was created. The main topics discussed in this memo was secondary research, primary research, concepts, prototypes, and a launch plan. I hope that this memorandum is informative and that it would be useful on your end. For any questions please feel free to contact me at (336) 781-8254 extension 2. I can also be reached at caitlyn.edwards@fourpointsmarketing.com.

cc: George F. Bame, Vice President of Operations

APPENDIX A: INTERVIEW #1 TRANSCRIPT

Q: In what ways has COVID-19 affected your teaching?

A: Due to the remote component of teaching, I have had to learn how to transfer a multitude of information to an online format (Canvas). I have also had to become comfortable using Microsoft Teams and Zooms to hold virtual meetings.

Q: What are some platforms you have used in the past for teaching online?

A: I have always incorporated Canvas, Khan Academy videos, CommonLit.com and other online resources into my lessons.

Q: How efficient is your online teaching?

A: My students did an excellent job processing information presented in an online format. However, engagement in the online process was problematic.

Q: What are some flaws with online teaching and studying?

A: Many students require the support that is inherent in a face-to-face format. They need the social component of group learning, the ability to ask a peer for help, as well as immediate feedback from a teacher who can look over work in “real time”. Daily practice of a new skill is easier to implement with in-person learning.

Q: What are some benefits of online teaching and studying?

A: One benefit of online teaching is that all materials are readily available in one location. Students can access their work 24/7 and study at their own pace.

Q: How do you connect with your students outside of the class?

A: Text/email/phone calls/Microsoft team meetings.

Q: What are some of the ways you engage with students during an online class?

A: Breakout rooms in Microsoft teams/ Group discussions/ polls/ have students read material/text/phone calls

Q: If someone has a technical problem connecting to the internet, how do you resolve this issue?

A: Text with them/have them leave, re- join the group/ record the class and post the video online.

Q: How do you describe your teaching experience during the Covid-19 pandemic?

A: I would describe my teaching experience during the Covid-19 pandemic as creative. I had to incorporate more social/emotional support into the remote class. I had to find new ways to engage students in lessons and encourage them to persevere when frustrated. I also had to become more “tech savvy” to assist students when things went awry.

Q: In your opinion, how do you think we can make online teaching better and accessible to all students?

A: I do not think there is a way to make online teaching better/accessible to all students. Some students require face-to-face instruction, and no amount of support will make an online format work. For students who enjoy online learning, I would suggest an organized platform with “clean lines”. A “busy” website can be confusing and difficult to navigate.

APPENDIX B: INTERVIEW #2 TRANSCRIPT

Q: In what ways has COVID-19 affected your teaching/learning?

A: It was difficult; a hard transition but it had its benefits. Sports were canceled so my clinical work also came to a halt. This was beneficial because I had more time to study but resources such as the library were closed or had protocols due to the pandemic, so it was a win and lose situation.

Q: What are some platforms you have used in the past for teaching online?

A: Zoom

Q: How efficient is your online studying?

A: On a scale of 1 to 10, I would rate myself a 5.

Q: What are some flaws with online teaching and studying?

A: There is less interaction between students and professors. I believe that interaction is needed to help keep students engaged and interested. Teaching a class face-to-face, the majority of the students would be engaged and asking questions, but of course there are a few that are sneaking texting or on their phones. On the other hand, during online live lectures students tend to be less engaged and there are a few selected that are actually listening, while the others are daydreaming or scrolling through different tabs.

Q: What are some benefits of online teaching and studying?

A: The biggest benefit of online teaching and learning is ease of accessibility. With zoom you can attend class at home. This means less time commuting which in terms saves you gas, money, and gives you more time to focus on other stuff. Recorded zoom videos are also a benefit, students can always go back and re-watch live lectures.

Q: How do you connect with your students outside of the class?

A: Through 2020 I was only able to meet with my students virtually.

Q: What are some of the ways you engage with students during an online class?

A: I did live lectures; rather than using PowerPoints I went over materials, and we did online simulations looking and identifying a cadaver body. Of course, these simulations were not the best, but they worked.

Q: If someone has a technical problem connecting to the internet, how do you resolve this issue?

A: Students would typically email our ITS (technical support), and it goes from there.

Q: How do you describe your teaching experience during the Covid-19 pandemic?

A: I got the opportunity to teach both online and in a seated class during COVID-19 pandemic. Personally, for me online classes aren't as rewarding, less engaging, and more difficult. Students are only listening and not thinking. This past Spring semester, 2021, I had 4 students in a face-to-face class; in a traditional classroom, the teacher is the main focus.

Q: In your opinion, how do you think we can make online teaching better and accessible to all students?

A: That's a very good question. It is difficult to answer that question, hybrid classes are good. More accessible in the sense that even though we are in this pandemic, students are still getting some form of education. But it is unfair for the students who may not have the resources like access to the internet at home. In an ideal world, an affordable reliable internet connection should be a standard. Online education is not going anywhere, and it is only going to get better. Our university (UNC) offers free laptops for students, all they need to do is find somewhere that has internet connection. To make online learning better and accessible for all, we should start with a standard of accessibility.

APPENDIX C: INTERVIEW #3 TRANSCRIPT

Q: In what ways has COVID-19 affected your studying?

A: Covid has affected my studies because I am used to face-to-face studies and transitioning virtually is somehow challenging.

Q: How do you ensure the quality of online courses?

A: Remote courses have not had near the level of time, resources, or attention that traditional online programs at most schools receive.

Q: What do you say about the problem of students who do not have the same access to the technology and equipment necessary for online education?

A: This is a very serious equity issue. I think schools should provide some students with the technology as well as set up hotspots to improve access to strong internet connections.

Q: Would you recommend educational institutes to continue with online learning even after Covid 19?

A: As much as some people prefer online education, I believe combining both online and traditional would prove to be beneficial. It will sustain quality because there will be a need to increase students' engagement and motivation to learn.

Q: What are the benefits of online studies?

A: As far as COVID-19 is concerned, some will argue the facts on whether it has negatively or positively impacted them. I think it can be beneficial as to how you manage your time and the flexibility it gives you especially when you are working full time as well.

Q: How much work has it been moving to online classes?

A: It has been a lot of work. So much homework to complete in a short period of time and working full time in addition to that is a major challenge.

Q: In your opinion, how do you think we can make online studying better and accessible to all students?

A: Online studying could be better and accessible to all students by helping them maintain focus, identifying and supporting struggling students, and increasing student engagement.

Q: What are some flaws with online studies?

A: Some flaws include, technical issues, lack of in person interaction, and understanding course expectations.

Q: What are some alternatives you have used in the past to study online?

A: Some alternatives include paying attention to class lectures and attending virtual office hours with instructors.

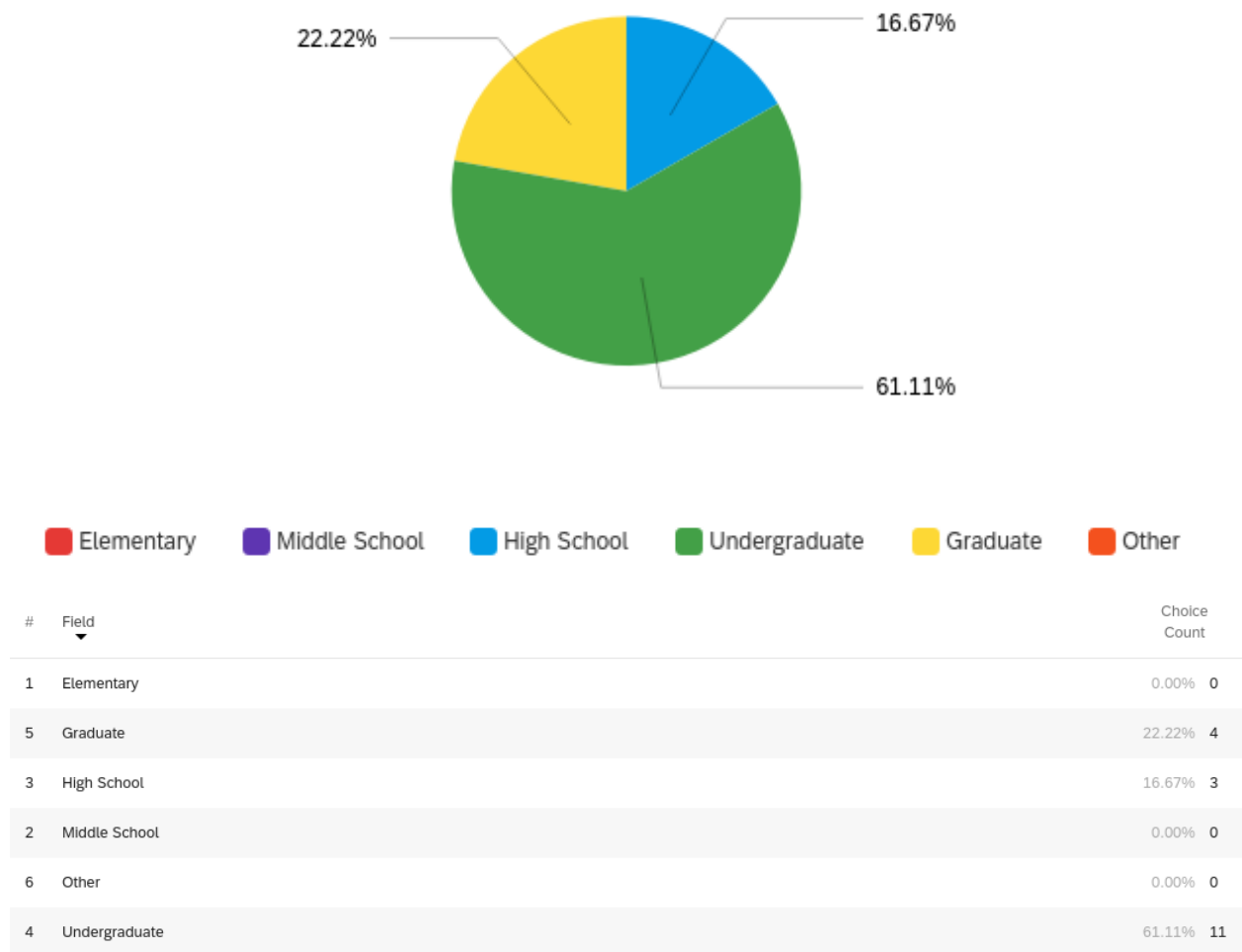
Q: How efficient is your online studying?

A: At the beginning of the pandemic, online studying was challenging. I was not used to it, but with time I can say my online studying is going smoothly with no issues.

APPENDIX D: SURVEY RESULTS

1.) What is your highest level of education?

Q1 - What is your highest level of education?

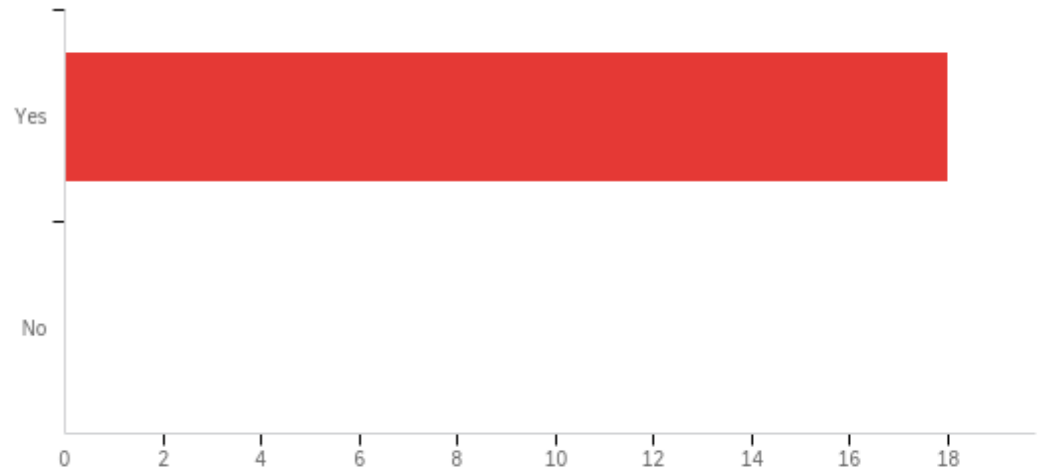


18

Showing rows 1 - 7 of 7

2.) Do you have a reliable internet connection?

Q2 - Do you have a reliable internet connection?



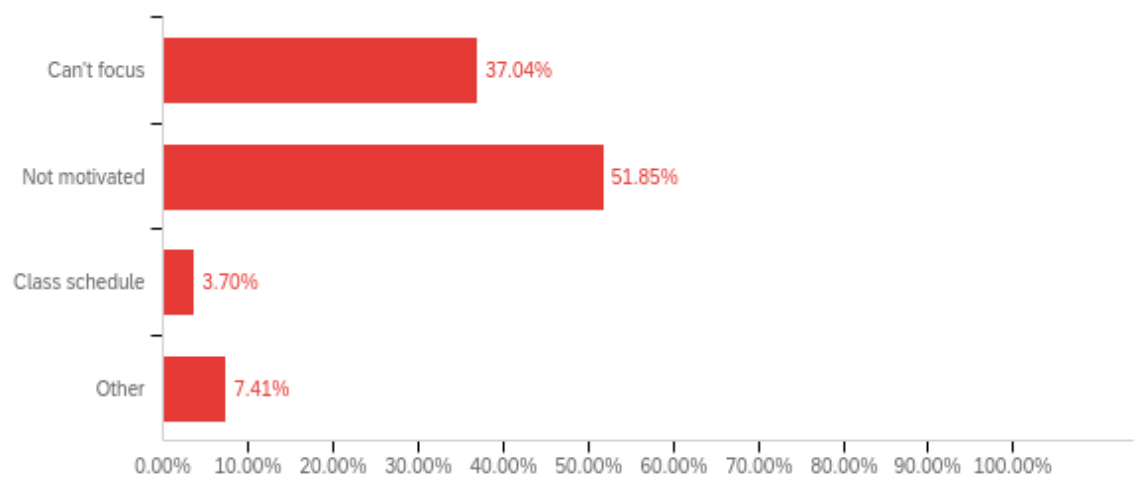
#	Field	Choice Count
1	Yes	100.00% 18
2	No	0.00% 0

18

Showing rows 1 - 3 of 3

3.) What challenges do you face when learning online? Select all that apply.

Q3 - What challenges do you face when learning online? Select all that apply.



#	Field	Choice Count
1	Can't focus	37.04% 10
2	Not motivated	51.85% 14
3	Class schedule	3.70% 1
4	Other	7.41% 2

27

Showing rows 1 - 5 of 5

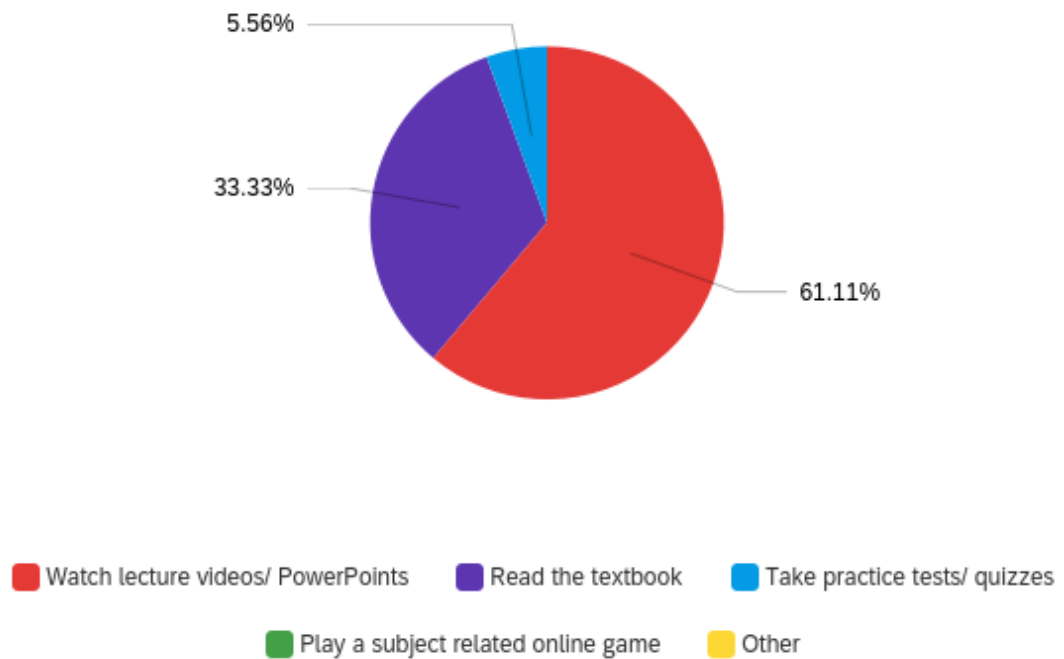
Q3_4_TEXT - Other

Other

Time management

Difficult

- 4.) How do you typically study when taking an online class? Pick one.
- Q4 - How do you typically study when taking an online classes? Pick one.

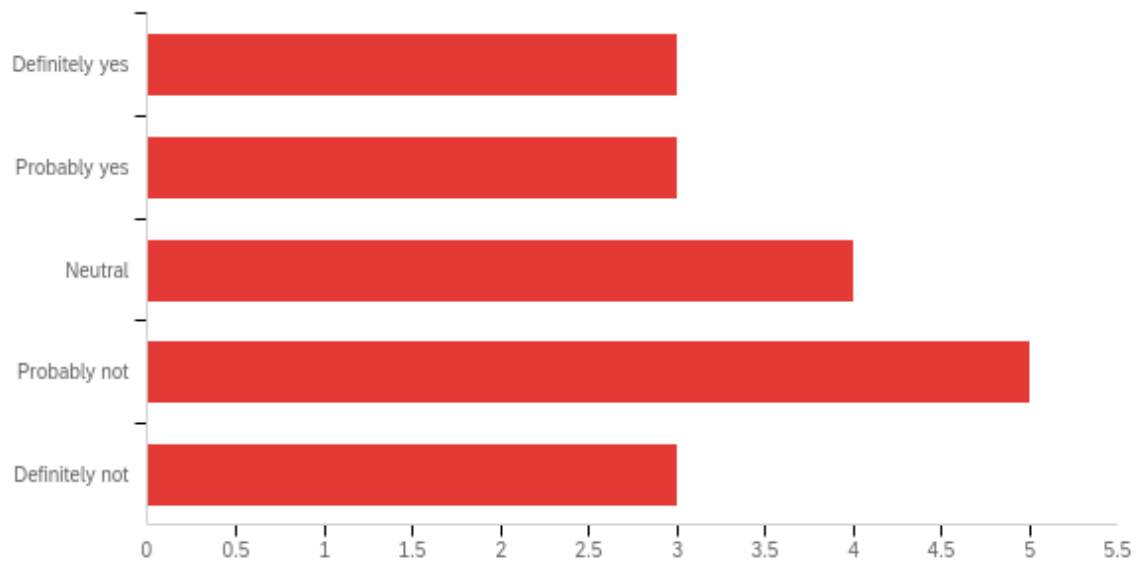


#	Field	Choice Count
1	Watch lecture videos/ PowerPoints	61.11% 11
2	Read the textbook	33.33% 6
3	Take practice tests/ quizzes	5.56% 1
4	Play a subject related online game	0.00% 0
5	Other	0.00% 0
		18

Showing rows 1 - 6 of 6

5.) Do you feel as though discussion boards create interaction and promote ideas between students?

Q5 - Do you feel as though discussion boards create interaction and promotes ide...

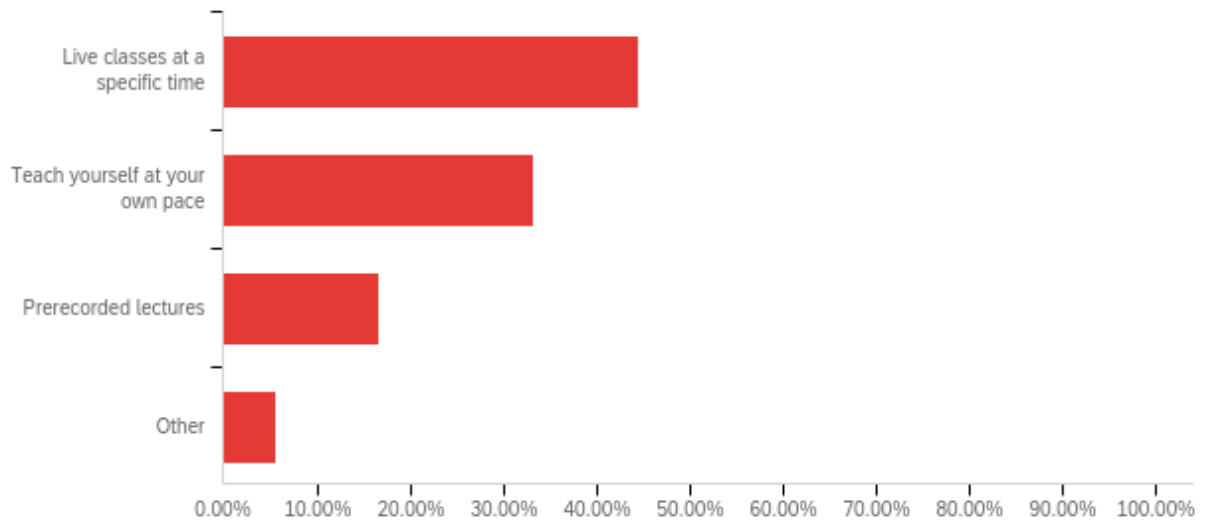


#	Field	Choice Count
1	Definitely yes	16.67% 3
2	Probably yes	16.67% 3
3	Neutral	22.22% 4
4	Probably not	27.78% 5
5	Definitely not	16.67% 3
		18

Showing rows 1 - 6 of 6

6.) How do you prefer your online classes to be taught?

Q6 - How do you prefer your online classes to be taught?



#	Field	Choice Count
1	Live classes at a specific time	44.44% 8
2	Teach yourself at your own pace	33.33% 6
3	Prerecorded lectures	16.67% 3
4	Other	5.56% 1

18

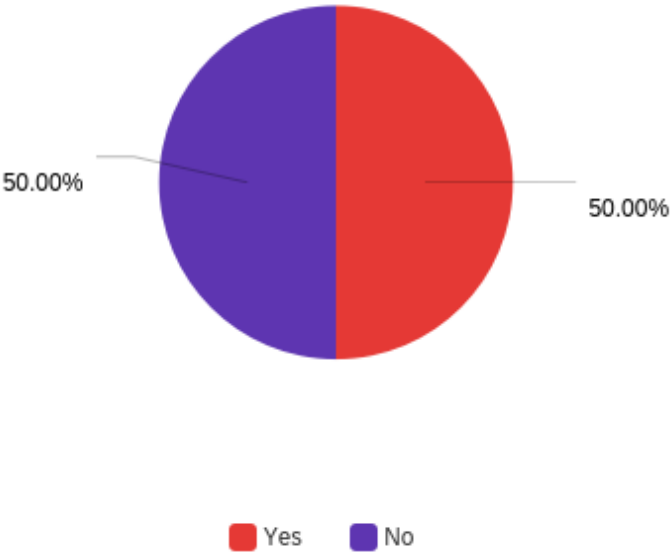
Showing rows 1 - 5 of 5

Q6_4_TEXT - Other

Other

So for me it's a mix of live classes and pre-recorded videos - but I really prefer if we didn't have live classes

7.) Would you recommend online learning to other students?
Would you recommend online learning to other students?



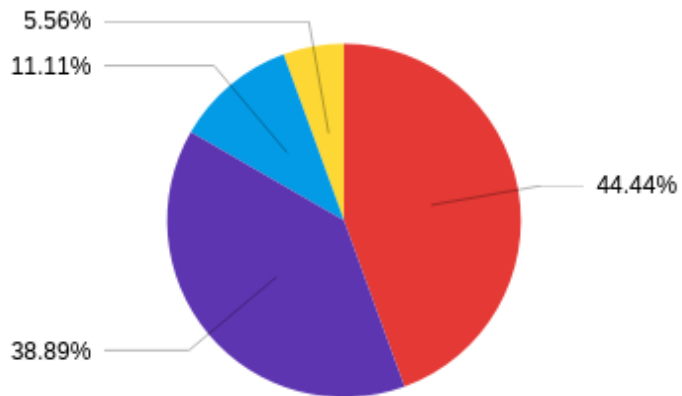
#	Field	Choice Count
1	Yes	50.00% 9
2	No	50.00% 9

18

Showing rows 1 - 3 of 3

8.) Do you know how to troubleshoot your computer?

Q8 - Do you know how to troubleshoot your computer?



Definitely yes

Probably yes

Might or might not

Probably not

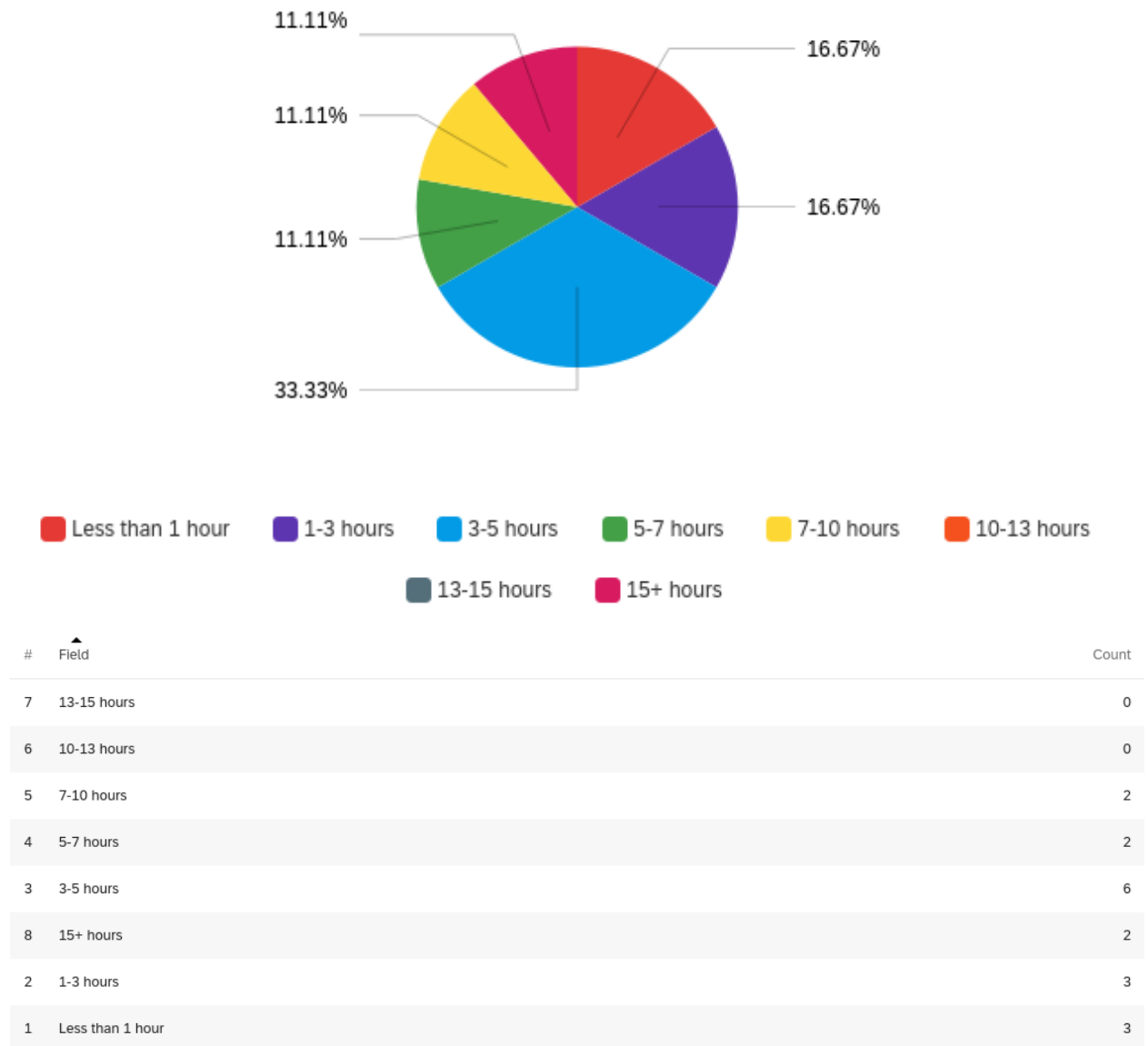
Definitely not

#	Field	Choice Count
1	Definitely yes	44.44% 8
2	Probably yes	38.89% 7
3	Might or might not	11.11% 2
4	Probably not	0.00% 0
5	Definitely not	5.56% 1
		18

Showing rows 1 - 6 of 6

9.) How much time do you spend studying each week?

Q9 - How much time do you spend on studying each week?



Showing rows 1 - 8 of 8

10.) What are the things you like/dislike about online learning and how do you think online learning can be improved/made better?

What are the things you like/dislike about online learning and how do you t...

I don't like online learning because it is lacking so many elements of in person learning. It can be improved through more practice and better participation.

I despise it, I do so much better in an actual classroom where I can get real time feedback not only from the professors but my peers as well. I honestly don't know how to make online learning better.

Teachers being more open minded and helpful

I dislike not being able to do hands on activities with a online class. To improve or make online classes better would be to interact better through zoom or Skype or something like that to help emphasize what you are trying to teach.

no

With better internet connections all around, but that isn't possible right now.

I liked being at my own pace and not worrying about being late to class. I did not like having to rely upon myself for explaining and understanding the material. It is impossible to guess what exactly the one making your tests feels is the most important and you risk giving incomplete answers by accident. It also leaves you just enough rope to hang yourself by giving you complete control of your schedule. I think that open communication in a timely manner with professors and detailed study guides are the best for online classes.

I like face-to-face instruction because I feel like I learn better that way. Online is easy to get side-tracked on and it's harder to reach teachers to ask questions.

I like the flexibility that comes with taking a class from home but I dislike how disconnected and far away school feels.

I like the convince of it.

Usually professors setup for locating files and such is frustrating.

Engagement is a big issue both between students, students and faculty, and students and the university. I have been doing online classes for a number of years but always feel as if I'm an afterthought.

Online learning can be extremely difficult to keep yourself motivated and educate yourself further. Being more face-to-face can bring more "class" like feeling to being online. To have a preferred time to have your virtual class and to have that on top of the common stuff. That way the students can ask questions and participate. It won't be helpful with the timing for the student, but it may help tremendously with the participation and life outside of the classroom with your classroom knowledge.

I like interacting with professors in real life class. I feel like online you can't do that.

I love online learning its easy for me to learn at my own space

I just don't like live classes, but that's about it.

Dislike: Some teacher has a lack of knowledge in technology; hence whenever a technical issues occurs, they are unsure what to do.

Teacher communication

