CSC 212 Project 1

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1 Problem Statement

The pandemic has impacted the overall day to day the life for students. Specifically, classes that were once conducted in-person now offer asynchronous and synchronous options to provide options to those who are following a hybrid or remote models of instruction. Challenges were encountered when employing these models of instruction such as evaluating the equivalence in quality for both modes of instruction or if there are unique benefits that can be derived from their use. The project objective is to discover the overall quality of these models for instruction and provide recommendations based on the data in order to drive beneficial augmentations to the current system.

2 Methodology

The data that was collected derive from two needfinding techniques: surveys and interviews. Surveys were chosen due to its accessible nature to distribute to a wider range of individuals which would allow for a larger sample size in terms of insight into this challenge. Interviews were chosen to allow for a deeper look into the mindset of selected individuals on their perspectives, opinions, etc on the topic at hand.

2.1 Survey

The first need-finding technique that I employed was an electronic survey. This survey was created in Google Forms and was distributed to currently enrolled college students and/or alumni who have had experience with instructional learning during the pandemic. The structure of the survey contained both multiple choice and short open-ended to allow for both numeric and qualitative insight. Also, the nature and purpose of the survey was not disclosed to the users in order to ensure authentic responses. It was given to and taken by individuals in both the University of Rochester and other collegiate institutions. The actual survey questions and results can be seen in the link below.

Survey Link : Click Here for survey link

Anonymity was ensured in this survey as the participant did not have to provide identifying information about their name or college that they attended, allowing for them to freely provide their thoughts on the questions provided in the survey. The participants of the survey primarily derived from members of my fraternity, classmates, and personal relationships who are currently enrolled in a university.

Considerations for choosing these participants included retrieving feedback from individuals who are different class years (including alumni/5 year programs/graduate students), majors, institutions, choice of instruction, and residence during the pandemic instructional times. This was done to ensure there was a diversity in backgrounds/opinions.

2.2 Interviews

The second need-finding technique that I employed was an interview. This was an informal interview conducted on my suite mates and virtually with a friend who is studying remotely at the U of R. The rationale for choosing these participants was to gain deeper insight from individuals who were underclassmen, upperclassmen, who had experienced both styles instruction, and currently studying remotely. Recordings were not employed for interviews as it was informal and did not want to change the authenticity of the responses if the participant was recorded. An interview transcript is provided at the end of this report under Interview Transcript.

3 Results

3.1 Survey

The survey concluded with 36 participants where approximately 50% of users participated in hybrid model and the other half the remote learning model. This survey had two iterations prior to it got posted. The main change that occurred was that the questions were changed to accommodate individuals who did not go the U of R. Originally, it was planned to focus on U of R students; however, it was more generalized to allow for feedback from individuals enrolled in other universities.

The participants consisted of sophomores, juniors, seniors, Fifth Year Programs, and alumni (who participated in the new instructional models). Over 50% of participants were seniors, graduates, or 5th year programs. This is because as a senior myself; I had more familiarity with members of my own cohort and older, so the survey comprised primarily of them. The participants came from various background in terms of majors that ranged from CS/Engineering to English/Linguistics/Public Health and so on.

The distribution for where participants were situated during these instructions was geared more on-campus with a value of 52.8% for on campus, home (22.2%), and finally off-campus housing (30%). The discrepancy may trend toward on campus participants because of my own presence on campus as well, so my contact with these individuals was more frequent.

Overall, only 5.6% of individuals cited their choice of instruction was less than a 3. This shows that the remaining individuals were content or even trending towards satisfied with the quality of their instruction. The remaining 94.4% found value in their instruction even during the pandemic.

3.1.1 Hybrid Model

Redirecting to the hybrid model, there were benefits and challenges that came with this model. The top conveniences that participants cited for this model was that this model allowed for individuals to reconnect socially, option to learn in-person (they learn better this way), and can cut down on commute time. Other benefits that were mentioned included accessibility of classes (via recorded lectures), asynchronous options allows for easier in-person schedules, option to study near or on campus (without having to go to in-person classes), and to participate college events. Also, there were less technological problems and distractions that could occurred with the in person classes.

The top challenges that participant faced were not enough in-person lectures, less engagement during zoom, and technology issues (use of various websites besides blackboard, can't sync both online/in-person instruction/lack of participation on zoom/professor speaks faster on zoom). Other issues that arise from this model is that some classes require attendance for grades, organization of lectures may be difficult to follow, and work being overloaded by professors/lack of professor attention to students as a result.

Over half of hybrid participants believe that the instructional quality would not be equal if they have chosen the other option (remote). Some of the reasoning that were cited include disconnected to the university leading to less focus, inability to stare at screen all day, need to contribute to in-person studies/projects, in-person component key to their learning, less social interactions, frequent technical difficulties, and online sphere is hard for TAs/instructors to organize schedules and answer questions. Those who believe that they are equal rationalized that its based on individuals to adapt to mode of learning or have chosen classes that are all online; therefore, simulating a remote setting.

3.1.2 Remote Model

There were also benefits and challenges that derive from the remote instructions. The top conveniences that were referenced with the remote included a sense of safety during the pandemic, reduced/eliminated commute time, cheaper to live at home, and can work in own time-zone/home. Some other benefits include be able to utilize chat function during Zoom calls, work at own pace which may be efficient for some individuals, no need for meal prep at home, stable internet connection, and finally no temptation to socialize.

The challenges that were frequently faced included a lack of engagement during lectures via the class and/or the instructor, technical difficulties with online classes, a desire to return in-person lectures, and finally some think nothing can be changed to improve the quality of their instruction. Some desired more asynchronous classes, alteration of course structures to accommodate the pandemic, smaller class sizes, increased availability/attention from professor for assistance, and change to how exams are run (some individuals don't have quiet space to work on exams). Also, it was stated that remote learning had the problem of motivation and distractions for students. Remote lectures were also seen to be hard for students to take notes.

Like the hybrid participants, over half of remote users believe that the instructional quality would not be equivalent if they have chosen the other options. The rationale that some users cited included that in-person classes would be more enjoyable/preferable, less collaboration would occur under remote, more anxiety would be experienced if it was in-person, and not all classes can be adapted. The rationale behind the instances where it was believed to be same included that professors teach remotely regardless of instruction, quality of instruction is based on how well the instructor adapts not the type of instruction, and finally that all classes has an online equivalence.

3.2 Interview

To reiterate, there were four participants for the interviews: one had done remote for both semesters, one that had both instructional experience, one that had done hybrid for both semester, and one underclassman that has done hybrid. The same style of questions were employed in the interview; however, the results for it provided more insight into the individual perspective for these instructional options.

For instance, the participants that did hybrid for both semesters cited that the hybrid model allowed them to have a better learning experience whether it be through engaging in-person classes or gaining motivation from not learning at home. These individuals would like to see the availability for more in-person classes if possible or encourage more hands-on activities/engagement in the existing classes.

One note that was challenging for hybrid participants was that the virtual classes could demotivate individuals to commute to in-person classes. Also, this could also drive individuals to rely on the recordings then to attend during scheduled times, and individuals may take information as granted instead of asking questions during virtual lectures.

The participant that did both instructional models found that the models' effectiveness depending on the class itself. Generally, online classes were not as effective as their in-person counterpart; however, this participant's experience with a discussion-based class indicated that it can be effective. Everyone participated in this class, and it was shortened to one day a week, yet it became more meaningful in the end.

Challenges faced by this individual included feeling drained and lack of accountability due to virtual option. Also, an insight that was given was that the senior cohort may have varying opinions on instructional quality as some may focus on graduation requirements rather than the focus on internalizing all the material.

Finally, the fully-remote participant shared that they chose this form of instruction primarily for safety. The challenges that was faced as a result was that there was a loss of motivation to do work especially with recorded lectures.

4   Discussion

The results of both the survey and the interview had provided deeper insight to the overall quality of the instructional models that were provided.

4.1   Findings

Specifically, the hybrid model consistently shows the strength of providing students the means to fill their social needs and have more engaging experience through in-person interactions. Although, the challenge exists as students want more in-person instruction instead of their online counterpart in the hybrid which is filled with issues like less engagement, technology, etc.

The remote model provided students a sense of safety and flexibility as the participant can work in their own pace at the comfort of their homes. The main challenges that was encountered with this model was level of engagement from virtual lectures compared to in-person and technical difficulties.

In either case, the majority of participants concluded that the two models are not equal in quality. The most frequently cited points for this inequality

lies on the the virtual aspect in both models leads to less engagement and can be draining to the participant for long periods of time. Most individuals would prefer a safe return to in-person classes as the change to make it more equal in quality.

Overall, based on the survey and interview results, the two models of instruction have a positive rating.

4.2   Recommendations

From these insights, one can see that there are deficits in the need for social interaction and the organization of virtual lectures. A potential solution that could improve the situation is by reducing the length of the lectures or frequency of lectures, yet employ more engaging activities for the class. Similar to the discussion-based class that one of the interview participant mentioned. By focusing on activities in which the class can interact with instructor and get hands-on practice on the material, this can improve the situation with the models as the students would be able to socialize with their classmates, engage with the instructor and material, not feel burnt-out from long periods of virtual lectures, and could be easier for instructors to manage due to the reduce class length/frequency.

Another recommendation would be to embed virtual activities within the recorded lectures. This is for individuals who may be in a different time zone or did not get the chance watch the lectures live. By embedding an activity, the students can engage even outside of the synchronous classroom and potentially aid their focus on the material .

4.3   Augmentation

The approach that was done for this project could have been handle differently. For instance, the survey could have been distributed to a more random group of university students instead of reaching out to individuals that I knew. This could have been done by making it available on university social media groups/forums. By doing this, I could have increased the sample size and allow for more backgrounds including first year students, which the current data did not include. I could have also included more numeric questions since this data was primarily qualitative.

For the interviews, I would have increased the sample size of individuals by interviewing more people (not only people that I know) in order to gain more insight on the problem. A problem that could have occurred from inquiring from individuals that I know is that their responses may not be entirely authentic as they could be biased due to their relation with myself. This could impact the authenticity of my results. I also could have gotten interviews with faculty or staff who led these instructions. This would also give more insight of the quality

of university instruction during the pandemic as it would include both student and instructor perspectives.

5 Survey Questions

1. What mode of instruction did you choose?

2. How would you rate the overall quality of your choice of instruction? (1-5)

3. What are some factors that made your choice of instruction convenient for you?

4. What would you change to make your choice of instruction more satisfactory for you?

5. How has this choice of instruction impacted how you handle your current courses?

6. Would you receive the same quality of instruction if you have chosen the other option? Why or why not?

7. How are you affiliated with your university?

8. What is your major or intended field of study?

9. Where were you living when you received this choice of instruction?

6 Interview Transcript

- **Participant 1** (Virtual Interview - Fully Remote Instruction Participant):

    1. What year are you? : **Senior**

    2. What is your major? : **Psychology**

    3. What form of instruction did you choose with your university during the pandemic? : **Remote Instruction**

    4. Where is/was your current living arrangement with this choice of instruction? : **Home**

    5. Why did you choose this form of instruction? : **I don't want to get Corona.**

    6. Did you find this form of instruction beneficial? Why or why not? : **Yes, because I did not get Corona. But, also no because I loss a lot of motivation to study. I feel like an alumni.**

    7. What would you change to improve the quality of your instruction? : **I don't think there is much that can be done**

8. How has this choice of instruction impacted how you handle your current courses? : **Poorly, I lost motivation to study because I don't feel like in college, but most of the lecture is recorded, so I can watch it later, but also it's tempting to skip class for that reason. I don't end up watching the recorded lecture anyways**

- **Participant 2** (In-person Interview - Hybrid and Remote Participant):

    1. What year are you? : **Class of 2021 - Senior**
    2. What is your major? : **Political Science / Digital Media Studies**
    3. What form of instruction did you choose with your university during the pandemic? : **Both - Hybrid and Remote**
    4. Where is/was your current living arrangement with this choice of instruction? : **First semester - at home and 2nd Semester - in dorms**
    5. Why did you choose this form of instruction? : **First semester - The pandemic is relatively new. Did not know what was going on. Wise idea to stay home. Campus environment did not seem to be safe or constructive" "Second semester - Wanted to see friends again before graduation. Seemed U of R doing good job managing cases, now or never mentality.**
    6. Did you find this form of instruction beneficial? Why or why not? : **Some classes yes, and some classes no. One class in particular / discussion-based class. Great discussion because everyone participated. Met once a week instead of two times week. Shortening the class made it more meaningful. Other classes online is completely diluted and not as beneficial as in-person. Some of my classes are poorly managed. Online learning is not really good.**
    7. What would you change to improve the quality of your instruction? : **It's an ethos of students feeling drained and a lack of accountability. Unspoken pressure to participate in-person, that pressure is gone in virtual because you can hide behind camera. The problem is not so much it moved to online. Students might not have a heart into it. Students might not participate the same way. The whole affair of online learning is depressive. Close to a sleep.**
    8. How has this choice of instruction impacted how you handle your current courses? : **I'm a senior that is finishing up my two majors. At this point, I know what I need to do to graduate. Focus on what I can do to graduate. I always put my best foot forward to finish classes. Focus on graduate and requirements than learning as much as I can since it's not a priority**

- **Participant 3** (In-Person Interview - Hybrid Model Participant):

  1. What year are you? : **Junior**
  2. What is your major? : **Psychology and Mechanical Engineering**
  3. What form of instruction did you choose with your university during the pandemic? : **Hybrid**
  4. Where is/was your current living arrangement with this choice of instruction? : **On Campus Housing**
  5. Why did you choose this form of instruction? : **This choice is the best way for me to get work done. Less motivation if I was at home.**
  6. Did you find this form of instruction beneficial? Why or why not? : **I did not find this beneficial. I prefer all in-person if that was possible With the convenience of virtual option, makes it harder for me to go to campus for in-person classes.**
  7. What would you change to improve the quality of your instruction? : **Encourage more hands-on instruction. Require more participation in classes. More engagement during lectures.**
  8. How has this choice of instruction impacted how you handle your current courses? : **It makes it a lot harder to motivate myself to attend class. Watching things after they are done. Change note-taking strategy and the way how I retain information. Instead of asking questions. I assume and take it as it is since I don't go to lectures in time.**

- **Participant 4** (Hybrid Model Participant):

  1. What year are you? : **Senior**
  2. What is your major? : **Chinese History**
  3. What form of instruction did you choose with your university during the pandemic? : **In-Person**
  4. Where is/was your current living arrangement with this choice of instruction? : **On Campus**
  5. Why did you choose this form of instruction? : **So I can get a better learning experience.**
  6. Did you find this form of instruction beneficial? Why or why not? : **Yes, I can understand the teacher much better and interact with the other classmates**
  7. What would you change to improve the quality of your instruction? : **I can get a better learning experience if all classes are in-person**
  8. How has this choice of instruction impacted how you handle your current courses? : **Nothing really changed.**