



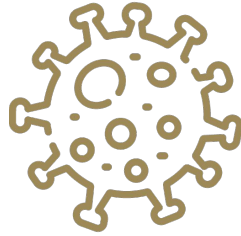
Project Presentation

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**Guidelines for Designing
an Effective and Positive Emergency Remote
Learning Environment for College Students**





The COVID-19 pandemic presented a litany of trials and tribulations to people across the globe, but college students struggled with their own unique set challenges including “student engagement, motivation, social connectedness and feedback” [1].



However, it could be argued that the biggest of the challenges was the hurried transition from **in-person learning to Emergency Remote Learning (ERL)**. This shift was unexpected and abrupt, which caused considerable distress and shock among both students and teachers [2].



What is Emergency Remote Learning?

“...the unplanned and sudden shift from the traditional form of education into a remote one following the state of emergency...” [3].

However, another term for ERL is presented in literature: **Emergency Remote Teaching (ERT)** which is defined by Hodges, et al. [2020], as “...a temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances”.

These terms are used interchangeably. However, since my research focuses on the student point of view, I will continue to use the term ERL.



How Does it Differ from Traditional Online Learning?

...in course design and the tools used for evaluation [4]. Conventional online learning courses can take 6 to 9 months to develop because “...effective online learning aims to be a learning community...” and seeks to aid students with co-curricular engagement and other means of social support [5].

The sudden implementation of ERL strategies is in “...direct contradiction to the time and effort normally dedicated to developing a quality course...” and should not be seen as a long-term solution [5].



It should be noted that **capturing student experiences in a timely fashion was imperative** to truly understanding the personal stories of college students from March 2020 through February 2022. Memories fade and vital, intricate details get lost as time progresses.



This study sought to answer the research question:

**What are some guidelines that can be used
by educational systems to help design an effective
and positive learning environment for students during
Emergency Remote Learning?**

by conducting a survey and semi-structured interviews with participants who were full time undergraduate or graduate students during the COVID-19 pandemic lockdowns.

Analysis of data yielded various themes which lead to the creation of 6 guidelines.

1

Revisit topics brought up in icebreakers throughout the semester. A focus on positive aspects of students' lives can help set the tone for classes.

2

Use breakout rooms as a tool for creating connections between classmates.

3

Encourage the creation and use of independent communication channels between students.

4

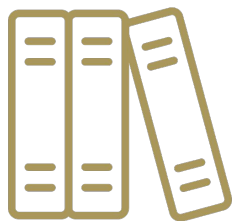
Encourage all students to turn on their cameras.

5

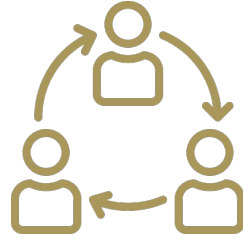
Inquire into the wellbeing of students throughout the semester.

6

Adopt a set of institutional guidelines for conducting an ERL class and provide training to instructors on how best to use the technologies available.



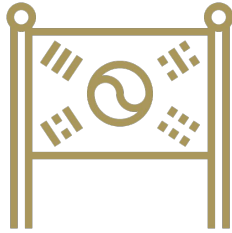
Related Work



Education During COVID-19

COVID-19 brought to light “emerging vulnerabilities” in education around the globe and it is apparent that education systems need to be “flexible and resilient” as we head into the unknown of the future [5].

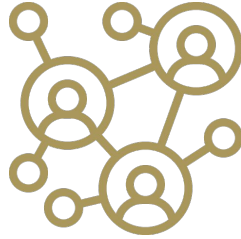
The social isolation brought on by COVID-19 **stressed the real need for constructive tools to support quality remote learning and teaching**, as well as **tools that offer collaboration and social connection with fellow students** [1].



Education During COVID-19

A South Korean study of college students during the COVID-19 pandemic revealed that since **those classes conducted online had been hastily designed more by administrators than instructors, they did not “demonstrate sufficient quality”** and that both instructors and students had problems adapting to emergency remote learning [2].

The authors suggest **providing an easy-to-understand manual for instructors and students** since ERL is a relatively unfamiliar educational method [2].



Student Engagement

Student engagement is an important topic and one I directly address using the term “connectedness”.

Student engagement is one of the main pieces of successful online teaching and it is therefore **critical to find out how students connect to the class, its content and each other** to create the ideal online learning space [6].

Student engagement adds to student satisfaction, increases motivation to learn, decreases feelings of isolation and enhances performance in online classes [7].



Student Engagement

Dixson (2010) explains that the road to student engagement is not found in one specific type of activity or assignment, but in the myriad of ways of creating quality communication between students and the instructor - **“it’s all about connections”**.

Since online students have less opportunity to engage with their academic institution, **it is imperative to create multiple avenues for online student engagement** [7].



Uncertainty

A thorough literature review would not be complete without addressing the uncertainty and inconsistency encountered during ERL.

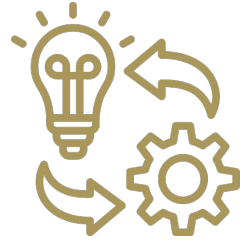
Zhang et al. speak of the “...disagreement about what to teach, how to teach, the workload of teachers and students, the teaching environment, and the implications for education equity” [8]. They go on to say that while **the Internet is an effective tool for instruction, it is not as effective as the only mode of instructor-student engagement** [8].



Gap in Existing Literature

Despite all the existing knowledge on the topic of ERL and online learning, **no one has addressed the issue of technologies used by students and instructors.**

My research makes an initial **exploration of specific technologies that were successful in fostering the feelings of connection** (which are proven to be vital) between students, their course content and their instructors during the COVID-19 pandemic and subsequent lockdowns.



Methods



An initial online survey was distributed on social media, in classes at the Georgia Institute of Technology and via word-of-mouth.

Over the course of 5 months (August 2021-January 2022), 25 participants responded. This survey included questions regarding basic demographics, their living situation during ERL, 4 Likert-type scale questions and 10 open ended questions.



This study originally set out to collect information only on undergraduate students, but after running into difficulties with recruiting, the study was opened to graduate students as well.

Both survey and interview participants were largely from Georgia Tech and the University of Georgia, however there were two outliers who attended Auburn University at Montgomery and the University of Alabama.



**Most data was collected via 14 semi-structured,
one-on-one interviews.**

Semi-structured interviews were used to allow flexibility in the questions and to allow the interviewer to pursue other topics that might come up during discussion.

The interviews were conducted from August 2021-February 2022
via 20–45-minute Zoom calls.



Upon completion of the interviews, an inductive thematic analysis of all data collected from the survey and interviews was undertaken.

Thematic analysis was chosen as the method of investigation because, again, of flexibility.

“Through its theoretical freedom, thematic analysis provides a flexible and useful research tool, which can potentially provide a rich and detailed, yet complex account of data” [9]

Initial Codes Generated from Data

- Icebreakers
- Connection to classmates
- Connection to course content
- Connection to instructor
- Mental health
- Missed experiences
- Technologies used
- Negative technology
- Positive technology
- Technology change
- Consistency

Themes Generated from Codes

- Icebreakers
- Connection
- Mental health
- Technology
- Consistency



The Guidelines

1

Revisit topics brought up in icebreakers throughout the semester. A focus on positive aspects of students' lives can help set the tone for classes.



Results

Participants were specifically asked about icebreakers and their usefulness in creating connections between the student and their classmates and their instructor. Out of 38 total participants, 17 students said they did not have any icebreakers while 21 students did have some sort of activity in a class.



Discussion

My research shows that many times generic icebreakers miss the mark and that basic ones such as a student sharing their name, area of study and a fun fact or playing “Two Truths and a Lie” were prolific, but not generally seen as helpful. Some instructors attempted to be more creative by putting students in small breakout rooms, but the exercises remained the same and as noted by one student: *“It wasn’t anything particularly novel or enjoyable”*.

Other comments included:

“I did not find the icebreakers helpful. They felt a bit forced.”

“...it’s one thing when you’re in person and it starts a conversation and you can keep talking about it. Maybe you need different types of icebreakers for that kind of thing”

“I never found them helpful because they are very surface level and I’d never talk to them again.”



Discussion

Some participants had the same instructor for several classes and the “Celebrations” icebreaker performed in these classes received the highest positive feedback of any icebreaker.

Comments regarding this exercise were 100% positive and included “...*it was a good way to start the conversation and I learned interesting things about my classmates.*”

2

**Use breakout rooms as a tool
for creating connections between classmates.**



Results

Half of the participants' instructors did exercises to make students feel more connected to their classmates and half did not. These **exercises included discussion among the class, group projects and assigned breakout rooms.**



Discussion

The idea of breakout rooms came up repeatedly in the data and because of that it is recommended that breakout rooms be utilized as a tool for creating connections between classmates, course content and instructors. This finding is supported by Martin and Bolliger (2018) who state instructors should form breakout groups for discussions and require students' participation.

Comments included:

"Breakout rooms and projects are where I was most connected. I had to accept the invitation to the group meetings and I did my part with my group mates"

"I worked with different people every time and that definitely allowed me to virtually meet new people. I know more people in the program."

"Break out rooms. You'd get your work done and then just talk until the professor said it was time to come back. Any of that smaller group setting work is better for student interaction."



Discussion

To foster the student-to-course content connection, instructors focused more on discussion and less on lecture to keep students engaged, but it didn't compare to in person learning.

Most participants responded that they were easily distracted or bored by classes that were solely lecture. To keep a student's attention, they need to be invited to participate in the content via discussions, activities, or breakout rooms.



Discussion

The student-to-instructor connection was discussed at length with participants. One student noted that it would have been helpful if during the class the instructor would stop and take questions during the lecture or discussion. *“Nothing made sense because you couldn’t get a professor to answer your earlier question.”*

The research suggests that students were not inclined to participate in virtual office hours even though, based on their own statements, it would have helped them feel more connected to their instructors.



Discussion

The single most missed experience was the time spent with their classmates and fellow students: those little conversations that occur while waiting for class to start or those discussions about course content afterwards.

Findings did not show any way to genuinely recreate these experiences in the virtual space.

The closest thing that came to mimicking the conversations-in-passing experience is the breakout room.



Discussion

Based on these findings, **breakout rooms foster a greater connection between students, content, and instructors due to the privacy of the environment.** Instructors would be advised to encourage student connection by forming breakout rooms for discussions, class projects, or virtual office hours.

3

**Encourage the creation and use
of independent communication channels between students.**



Results

Depending on the technology available to them, some instructors would create channels in *Microsoft Teams* for general student interaction. *Microsoft Teams* channels might include a “random” channel and a pet photos channel. These channels allowed students to interact with one another in a non-class related manner and to share things that they found interesting or funny.



Discussion

Classmate connections were not only fostered by instructors, but by the students themselves. **Students created spaces using various technologies for chatting about class, free from an instructor's intrusion.**

Comments included:

"The things that kept us engaged with other students were not something the professor was ever involved in. In private channels, you were able to talk about things without the professor being present."

"Group chats with your teammates or groups. Talking in real time was really nice. I liked it when classes had Teams channels for random photos."

4

**Encourage all students
to turn on their cameras.**



Results

Simply having the camera on helped students feel more connected to one another. Seeing people face-to-face is important in getting to know fellow classmates.



Discussion

There are, of course, exceptions to this recommendation for various reasons such as not being in an environment conducive to camera usage or poor internet connection.

One student's comment:

"I think it was nice to see everyone's faces...I had one or two classes that were smaller and everyone had their video on, but in bigger classes no one had their cameras on."

5

**Inquire into the wellbeing of students
throughout the semester.**



Results

A single question was asked about whether an occasional mental health check-in by the instructor during class time would have been beneficial in helping them to connect with their classmates. Two thirds of respondents said that yes, they would have been beneficial.

Throughout the interviews, despite not directly asking about their mental health, many mentioned how they felt during ERL or even how certain occurrences during ERL made them feel.



Discussion

Knowing that classmates were struggling with the same isolation, loneliness and stress helped students feel less so. However, there is a caveat to this recommendation. The four participants who felt that the mental health check-ins would not be helpful brought up a valid point that should be considered before implementation. Many students may not be comfortable with such an exercise.

Comments included:

"I think we are all really feeling the toll that online learning took. I have been so overwhelmed."

"...the instructor would ask how was everyone feeling today and people mentioned how miserable they felt...It was good to see that other people were going through the same thing. We were all lonely in our homes."

I would not feel comfortable getting very vulnerable...So having this very personal conversation in front of other students is not something I want to do. I wouldn't even want to listen to other people... I would feel like I'm intruding".

6

Adopt a set of institutional guidelines for conducting an ERL class and provide training to instructors on how best to use the technologies available.



Results

The concept of consistency was not included in the survey or interview process, but instead came to light through conducting interviews. The **lack of consistency in how technologies were used and how a class was structured by instructors was very difficult for students** and caused disconnect and frustration. Students struggled to keep up with changing technology, how that technology was implemented and course design.



Discussion

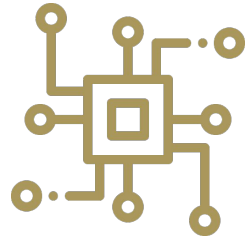
This finding is confirmed by the study conducted by Zhang, Wang, Yang and Wang (2020), which suggests that conducting online instructor training can help tackle the problem of consistency.

Comments included:

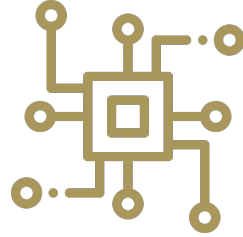
"We've spent more or less a year and a half on these things and it still sucks. No one has designed something that is a fully remote collaboration. I don't think that the software exists."

"Instructors [are] not educated on how to use the technology and everyone uses it differently which makes it hard for the students."

"The lack of organization or the lack of consistent use of the software...I feel like every semester I have to relearn how to do it all because everyone uses it differently. It isn't good having every class be different...That's the biggest thing standing in my way."



Technologies



Technologies Used

Microsoft Teams

Slack

BlueJeans

GroupMe

Discord

Zoom

Google Docs

Miro

Reddit

Gather

Padlet

FlipGrid

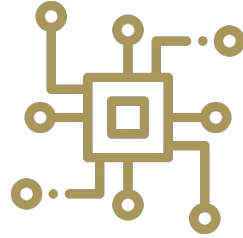
When2Meet

Mozilla Hubs

Canvas

Blackboard

HonorLock



Best Technologies

Microsoft Teams

Slack

BlueJeans

GroupMe

Discord

Zoom

Google Docs

Miro

Reddit

Gather

Padlet

FlipGrid

When2Meet

Mozilla Hubs

Canvas

Blackboard

HonorLock



Discussion

***Microsoft Teams* had the highest positive response because of its accessibility and functionality** such as creating channels, private messaging, small groups, file storage and collaboration and scheduling meetings. Also, *Microsoft Teams* ability to create a centralized location for communication was important.



Discussion

Zoom and Slack were next in highest usage and positive feedback. Participants liked *Zoom* because of its usability, some even mentioned using it outside of class for socializing with family and friends. Interviewees were attracted to *Slack* for the same reason they were attracted to *Microsoft Teams*: functionality.

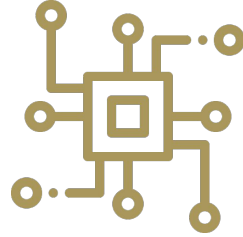
Two respondents did say that *Teams* and *Slack* were “*kind of the same thing*” in this regard.



Discussion

GroupMe had a high level of positive feedback as well. The main reason for this goes back to the idea of connection. Students were able to better connect with their peers since the environment was more casual. *GroupMe* was always student facilitated and was never an officially approved (by the Institute, College, or University) channel for any of the interview subjects.

“GroupMe has connected me with my peers and other students in my courses.”



Worst Technologies

Microsoft Teams

Slack

BlueJeans

GroupMe

Discord

Zoom

Google Docs

Miro

Reddit

Gather

Padlet

FlipGrid

When2Meet

Mozilla Hubs

Canvas

Blackboard

HonorLock



Discussion

BlueJeans was viewed negatively for reasons such as **lack of intuitiveness, problems with connectivity and problems with the chat feature**. Students complained about technology issues such as *BlueJeans* not working on their PC or how the chat must be downloaded to save it.

Microsoft Teams followed closely behind *BlueJeans* in the amount of negative feedback provided. **Complaints about Microsoft Teams focused on the lack of usability, file management issues and technical problems**. One comment included:

“Teams made me frustrated. Not that Teams is bad, but when it wasn’t functioning properly, it was adding points of frustration to things. It’s really slow. These are the things I don’t need during a pandemic. ”



Discussion

Four participants took issue with Zoom, two of them quite adamantly due to its habitual use and inevitable burnout. Feedback regarding existing education technologies, *Canvas* and *Blackboard*, showed usability and consistency as major problems.

HonorLock was mentioned by two participants. Their **reactions to HonorLock were strong and had nothing to do with usability or functionality, but instead, it was the whole concept of the program.** They experienced high levels of anxiety during its use.



Benefactors



Benefactors

The guidelines synthesized from this research are beneficial to instructors, administrators and learning content designers in the creation of an effective and positive remote learning environment.



Benefactors

Instructors can look to these guidelines for strategies to increase student engagement and connection to their students.

Administrators would be advised to use these guidelines to better understand how the technologies they administer affect students, both academically and emotionally.

Learning content designers can use this feedback and these guidelines to help formulate and support the design for a quality and rewarding emergency remote class.



Future Work



Future Work

As stated earlier, the theme of consistency was not included in the survey or interviews, but instead arose from the interviews unexpectedly. This is the area where any future work might be focused.

Interviewing instructors and ascertaining whether they consulted with peers and/or administration on how to conduct an ERL class would be a way to uncover some of the root causes of the inconsistencies. Additional interviews with students could also yield more quality data.

I do wonder how close to the truth recollections would be considering how far removed we are from the actual time of the event. ERL should not be looked at as a fading memory though - instead it is a reality and only more research into it will provide students and instructors with the tools they need to connect effectively.



Conclusion



Conclusion

This study sought to answer the research question:

What are some guidelines that can be used by educational systems to help design an effective and positive learning environment for students during Emergency Remote Learning?

After a thorough literature review, a survey and 14 one-on-one interviews were conducted between August 2021 and February 2022. Using thematic analysis, themes were extracted from the data which were then used to create the 6 guidelines recommended by this study

The 6 guidelines

1

Revisit topics brought up in icebreakers throughout the semester. A focus on positive aspects of students' lives can help set the tone for classes.

2

Use breakout rooms as a tool for creating connections between classmates.

3

Encourage the creation and use of independent communication channels between students.

4

Encourage all students to turn on their cameras.

5

Inquire into the wellbeing of students throughout the semester

6

Adopt a set of institutional guidelines for conducting an ERL class and provide training to instructors on how best to use the technologies available.



Conclusion

While students did create their own channels outside of class to connect with their peers, they **solely relied on the instructor to guide them through the emergency remote learning situation.**

A large responsibility was placed on the shoulders of instructors and as the research shows, without any preparation or training for Emergency Remote Learning, **the level of student connection suffered.**



References

1. S. MacMahon, J. Leggett, and A. Carroll, "Promoting individual and group regulation through social connection: strategies for remote learning," *Inf. Learn. Sci.*, vol. 121, no. 5/6, pp. 353–363, Jan. 2020, doi: 10.1108/ILS-04-2020-0101.
2. T. E. Shim and S. Y. Lee, "College students' experience of emergency remote teaching due to COVID-19," *Child. Youth Serv. Rev.*, vol. 119, p. 105578, Dec. 2020, doi: 10.1016/j.childyouth.2020.105578.
3. Z. N. Khlaif, S. Salha, and B. Kouraichi, "Emergency remote learning during COVID-19 crisis: Students' engagement," *Educ. Inf. Technol.*, vol. 26, no. 6, pp. 7033–7055, Nov. 2021, doi: 10.1007/s10639-021-10566-4.
4. C. Hodges, S. Moore, B. Lockee, T. Trust, and A. Bond, "The Difference Between Emergency Remote Teaching and Online Learning," p. 15.
5. W. Ali, "Online and Remote Learning in Higher Education Institutes: A Necessity in Light of COVID-19 Pandemic," *High. Educ. Stud.*, vol. 10, no. 3, pp. 16–25, 2020, Accessed: Apr. 01, 2021. [Online]. Available: <https://eric.ed.gov/?id=EJ1259642>
6. M. D. Dixon, "Creating effective student engagement in online courses: What do students find engaging?," *J. Scholarsh. Teach. Learn.*, pp. 1–13, 2010, Accessed: Apr. 05, 2022. [Online]. Available: <https://scholarworks.iu.edu/journals/index.php/josotl/article/view/1744>
7. F. Martin and D. U. Bolliger, "Engagement Matters: Student Perceptions on the Importance of Engagement Strategies in the Online Learning Environment," *Online Learn.*, vol. 22, no. 1, pp. 205–222, Mar. 2018, Accessed: Apr. 05, 2022. [Online]. Available: <https://eric.ed.gov/?id=EJ1179659>
8. W. Zhang, Y. Wang, L. Yang, and C. Wang, "Suspending Classes Without Stopping Learning: China's Education Emergency Management Policy in the COVID-19 Outbreak," *J. Risk Financ. Manag.*, vol. 13, no. 3, Art. no. 3, Mar. 2020, doi: 10.3390/jrfm13030055.
9. V. Braun and V. Clarke, "Using thematic analysis in psychology," *Qual. Res. Psychol.*, vol. 3, no. 2, pp. 77–101, Jan. 2006, doi: 10.1191/1478088706qp0630a.



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