

Interview Top Line Report

Improving Participation in Online Learning Classes

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HCDE 313
February 21, 2021

Goal & Context

By observing and analyzing the nine students' interactions with others, whether they turned their camera on, and some of their background information in three different online classes, the field study found out and conclude three possible reasons that prevent students from participating in class: class materials and overall class structure, objective factors, and personal interest. One of the limitations of these results is that they are based on the observation notes, and many details could not be discovered. This interview study expanded upon the findings of the previous field study. The primary purpose of this interview is to focus on thoughts, pain points, and experiences of participating in class to understand how students feel about participating and what factors affect the students' participation in online classes that couldn't be observed in the field study.

The interviews are planned with seven main interview questions and several possible follow-up questions(see Appendix 1) to guide the entire session. The interviews have three interviewees, and due to Covid-19 global pandemic and social distancing, three interviews will be taken online via teleconference Zoom, and each interview lasts around thirty to forty-five minutes. The screen recording feature on Zoom recorded the interview sessions, and then the video will be transcribed into transcripts. To address the aspects of the design question, the high-level questions in this study asked how do students feel about interactions and improve participation in online classes. This study is based on a small sample size, so it probably does not represent every university student's experiences. However, since the interview is built off the previous field study, the result can be compared to the previous results.

Results & Recommendations

Based on the interview notes(see appendix 2) and the thematic map (see appendix 3), the result came up with three issues that would cause the lack of participation in online classes: overall class structures and classroom vibe, extrinsic factors, and personal issues with online freedom. This section also includes possible recommendations to solve the problems.

Personal Issues with Online Freedom

The previous field observations cannot discover personal issues. It was hard to know why students were not turning on their cameras, and their thoughts cannot be observed. The key finding of this interview study regarding online freedom is that the instructors allow students to choose whether to turn on their cameras, and students did not turn them on mainly because of the appearances. Like participant 2 said, "sometimes I just woke up, and I would take classes on my bed. If I would turn on my camera, I had to get up and clean myself up." Participant 3 also said, "people can do whatever they want behind their cameras. No one would care. The thing is, once the camera is on, you cannot just mess around. The most important thing is that there is always video recording if you missed something." Instructors and universities have given the students too much freedom, which would turn the students lazy. Students are spoiled by these policies, taking these advantages and not participating in classes. Other personal issues include student's anti-socialism. It is hard to control but, changing Zoom can improve the situation.

Giving these findings, the Zoom designers should add a classroom mode. The classroom mode would not have the camera function, which would not allow students to turn off their cameras ever while in the classroom mode, as Fig. 2 shows. Zoom can have other modes which would still have the camera function.

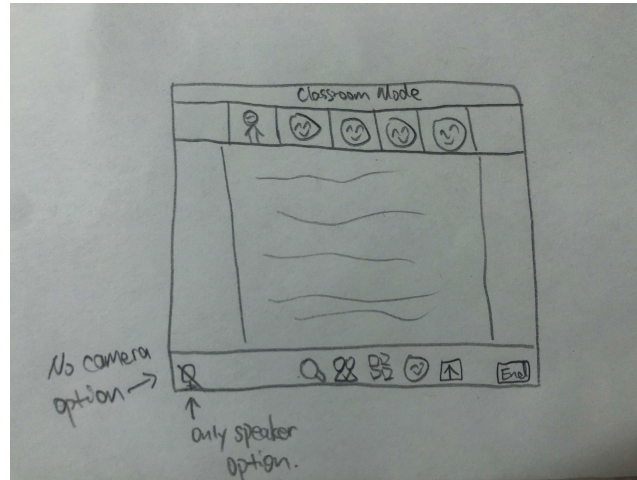


Fig. 1 Zoom classroom mode without camera button

Students are asking for an online environment like actual physical classrooms. Always have cameras turned on are not excessive since students would show their faces in physical classrooms. This new function might anger students because they are used to hiding behind their cameras. If these freedoms are not given to students initially, they would still get used to turning on the cameras. So having such a new feature is necessary and beneficial by “forcing” students to turn on their cameras.

Overall Class Structure and Classroom Vibe

The field studies showed that the overall class structure would affect the online classroom vibes and reduce the interactions. The interview furthermore shows the importance of the classroom vibe. Throughout the interviews, the participants mentioned how the online classroom vibe is different from the physical classroom. They would feel more focused in a physical classroom but not in teleconference platforms like Zoom. When participant three is asked about the classroom vibe, participant three said, “it does not have the learning vibe, so it’s kind of hard to focus and study in the online environment.” And when the whole class is not active, then the participation would decrease as well, like participant 2 said, “since some of my classmates don’t participate, if there is only me talking, I feel awkward.” The interviews showed the main problem is the breakout room function of Zoom. Instructors seem to like to use breakout rooms a lot. Once several students are assigned to the room, the room is isolated from the others. When participants are asked the least favorite zoom function, they all feel terrible about breakout rooms. Participant 3 mentioned, “people don’t talk in breakout rooms. Like I said earlier, if they don’t talk in breakout rooms, I wouldn’t talk.” Breakout rooms would ruin the classroom vibes when no one talks. In a physical classroom, students can hear what others are talking. They would feel left out

if they don't. However, as participant 1 said, "when we are assigned to breakout rooms, we can't see other people or the main room; we feel isolated until we are pulled back to the main session." If the group discussions in breakout rooms are more like they are in a physical classroom, students would talk more and be more focused. The class structure is hard to change because every instructor would have different ideas, but again, changing Zoom can improve the situation.

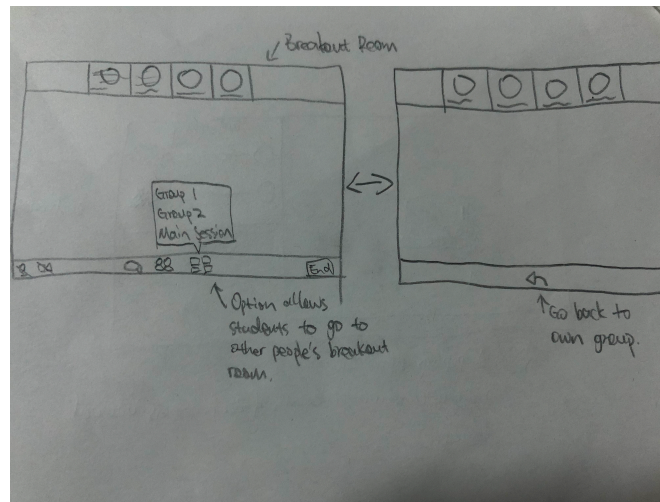


Fig. 2 Zoom adding new options among breakout groups

Given this finding, designers should reconsider Zoom breakout rooms since people can talk to each other well in a group in a physical classroom. Zoom breakout rooms should be more like the situation in physical rooms. The possible solution is to include an option that allows the students to see what is happening among the groups while in the breakout rooms, as Fig.1 shows.

Having this option would allow students to go back to the main session and check other groups to catch up if they got lost. However, they can only observe because students should not go to other groups in the physical classroom and interrupt. Also, the instructors can still see students in the main session. Knowing that other groups and instructors can watch them, they would start talking like they are in a physical classroom.

Extrinsic Factors

After conducting the field studies, the results have shown that many extrinsic factors would affect online participation. The interviews furthermore reveal students are experiencing extrinsic problems. Throughout the interviews, the participants all said they had internet problems while taking classes online, which would affect their participation. Participant two said the "Internet problem, by which I couldn't enter the breakout room." And participant three said, "There are many times the connection just went off while I was talking." Not only internet problems, participant one experienced "construction noise, which made me can't turn on my speaker. It was so loud in the background." Having these being said, it is clear that extrinsic factors can affect students' participation. The extrinsic factors are difficult to control, but there are some ways

Zoom can inform the class issues like this beforehand to prevent awkward moments like participant 3 experienced.

Given these findings, Zoom designers can consider some ways to inform the student and other people in the class about possible outside issues. One recommendation is to add symbols indicating status internet when Zoom detects bad internet signal or noise when Zoom detects sounds that could affect the class, as Fig.3 shows.

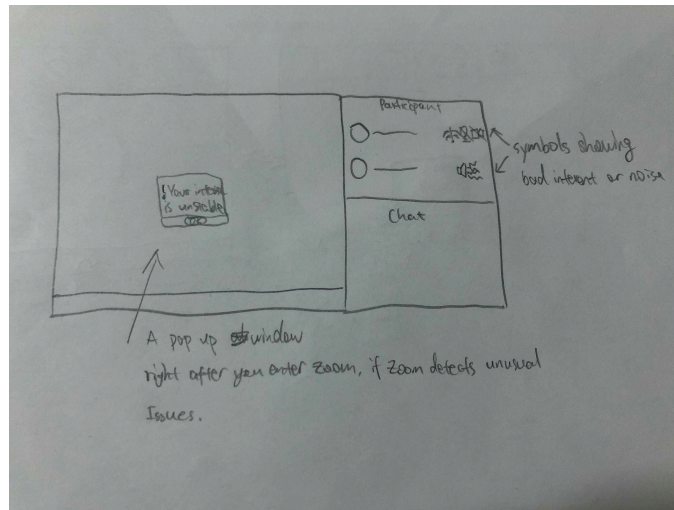


Fig. 3 Zoom interface with warnings and symbols

By having such status icons, the student will know the issues right away and start to think of any alternative to have a better learning quality, such as using a personal hotspot or find a place quieter before the class starts. This gives the student the time to prepare.

Prioritization

1. Personal Issues with Online Freedom
2. Overall Class Structure and Classroom Vibe
3. Extrinsic Factors

Personal issues with online freedom are prioritized first because having new policies of “forcing” students to turn on their cameras requires time. It needs to be addressed as soon as possible for people to get used to. The longer the students taking advantage of the freedoms, the lazier they will get. Overall class structure and classroom vibe is prioritized second because turning on cameras because breakout rooms are only one feature of online learning. It is necessary but not as necessary as the first one. Extrinsic factors are the last one because this is impossible to prevent. They can only be informed beforehand to have time to prepare for alternatives.

Next Steps

Since only three participants provided data in this interview study, the next step would be to send out surveys to gather more specific data from a bigger sample size. I would want to explore more issues caused by the lack of participation in online classes and suggestions to improve participation. Surveys would also be a great way to see the proportion of students participate in class because they allow for quick quantitative data collection. Finally, given that some recommendations mentioned earlier in this report, a survey would help determine if students would accept the solutions to see if they are appropriate.

Reflections

In my next field research study, I would like to interview those students who participate a lot in the online environment and find out some ways to encourage the students who do not. One thing that surprised me during this interview study is how my sessions lasted a lot shorter than expectations but collected more findings than expectations.

Appendix 1 Interview Questions

1. What are your feeling about about online learning?
 - Rationale
 - Provides the overall theme of the interview and leads in to the topic
 - Understand some background information of the interviewee about online learning
 - Follow up questions:
 - What platform do you use?
 - Do you like to take classes online?
2. What are some pain points using teleconference platforms (Zoom) to take online classes?
 - Rationale
 - Provides the overall theme of the interview and leads in to the topic
 - Understand if bad feature of the platform can cause lack of participation
 - Follow up questions:
 - Why are they your pain points?
 - Do you think they can be the top reason that you don't participate in class?
 - Can you think of any possible ways to solve that pain point?
3. What are your experiences when participating in any of your online classes?
 - Rationale
 - Straightforward question asking the any awkwardness happened in class
 - Help better understand the reasons that cause lack of participation
 - Describe personal experiences will help the interviewee remember more details
 - Brings up the interviewee's feeling and thoughts
 - Follow up questions:
 - Can you think of what happened when no one participate in class?
 - What happened to make you awkward when participating?
 - How did the whole situation end?
 - Why didn't you participate?
4. Do you participate every time the instructor asks for participation?
 - Rationale
 - Another straightforward question asking the reason why the interviewee didn't participate in class

- Help figure out any possible reasons that are related to lack of participation
 - Follow up questions
 - For the times you did, what makes you didn't want to participate?
 - For the times you didn't, what makes you come up to participate?
 - Are any of these times when you didn't participate caused by something you can't control of?
5. What functions do you usually use on Zoom to engage with the class?
- Rationale
 - Help understand which tools or method of participation is the least favored
 - Collect some possible alternative suggestions for that method
 - Bring up one tool: camera to lead to the next question
 - Follow up questions:
 - Which one is your least favorite one?
 - Why is that method is your least favorite?
 - Can you think of a better method with the same effect?
 - Do you like the camera function on Zoom?
6. Do you turn on your camera in class?
- Rationale
 - Uncover interviewee's thought and feelings on turning on cameras to better understand possible reasons students don't turn on their cameras
 - The follow up questions will fill up any possible reasons that was mentioned about why students didn't turn on their cameras.
 - Follow up questions
 -
 - When do you turn on your cameras during an online class?
 - For those times when you don't, what are the reasons behind that?
 - Can your background be a possible reason that you don't turn on your camera?
7. If the instructor asks the you to turn on your camera, what would you do?
- Rationale
 - Collect possible solutions to the problem
 - Brings up the conversation about the benefits of class interactions and help the interviewee understand
 - Follow up questions

- Why?
- Do you understand why instructors ask students to turn on the camera?
- Do you think turning on your camera makes a better interaction with the class?
- Can you give any suggestions on how to increase class interactions?

Appendix 2 Interview Notes

Participant 1

Q. What are your feeling about about online learning?

I think online learning is better than actually going to the classrooms. You can actually be on your bed while learning at the same time. It's actually giving me a lot more freedom than physical classes. And even if you miss classes, you still get recordings to watch. Also you don't have to turn on you cameras. You can go somewhere else and the others won't know.

FUQ. So you kind of like online classes?

Yes, I do, in general. But not a hundred percent though. I think online classes suck at some times.

Q. What are some pain points using teleconference platforms (Zoom) to take online classes?

Well, there are some. I am using Zoom. Taking online classes is actually the first time I use Zoom. The interface is a little confusing. There are some tools listed on the bottom of the screen but some are not. You know I couldn't actually find some tools right away. Like the annotations tools, some of my instructors like to use annotation. The first couple of times I couldn't find it. I think another pain points is distraction. Since the most of the time my camera is not turned on, I am not concerned about getting caught by instructors. I am a person can be easily distracted. So that kind of suck.

FUQ. Do you think they can be the top reason that you don't participate in class?

I think they are. Like I said, the first couple times my instructor asks for annotations, I din't find the tools. So I just didn't participate at all. Also distractions, most of the time I missed the instruction or the questions asked by the instructors. Again, I just decided not to participate.

Q. What are your experiences when participating in any of your online classes?

I think if you want to participate in the class, there are many convenient ways and it will be almost the same as participating in physical classes. But I felt like interactions in online classes are so much less than interactions in physical classes. People not turning on their cameras and most of the time no one would participate.

FUQ. Can you think of what happened when no one participate in class?

Oh yeah, I remember one time and it was so awkward. The instructor asks a question and no one spoke up to answer. So the instructor just waited for like thirty seconds and that silence was so awkward. And eventually someone finally spoke up, and that went over.

FUQ. Why didn't you participate in class?

Oh I didn't know the answer to that question.

Q. Do you participate every time the instructor asks for participation?

No, like I said, sometimes I do and sometime I don't. Like I said, some times I went to look at my phone, or watched some other videos and missed out the question. Sometimes I just don't feel like talking at that time. But sometimes I do, when I know the answer or I would to share my opinions.

FUQ. Are any of these times when you didn't participate caused by something you can't control of?

Oh yeah, sometimes my internet went down. I have a very unstable internet at my house and there was one time my internet went down and the instructor slacked me why didn't I participate in group work. That was kind of awkward. Also the construction noise, which made me can't turn on my speaker. It was so loud in the background.

Q. What are some functions do you usually use on Zoom to engage with the class?

Oh there are a lot, like the speaker, break out room for group work, annotations like I mentioned, also the raise hand options, the emotions, camera. There are probably more, but I can't think of any right now.

FUQ. Which one is your least favorite one and why?

I don't like break out rooms. Sooo awkward. I don't really know why, I guess I'm just an awkward person. I am not a very social person. I usually talk very less in breakout rooms. When we are assigned to breakout rooms, we can't see other people or the main room, we feel isolated until we are pulled back to main session.

FUQ. Do you like the camera function on Zoom?

Emm, I think I do. It allows you to choose whether to turn on the camera or not. I know cameras allow people to see each other and allow more engagement in class. But I know a lot of people have their camera turned off.

Q. Do you turn on your camera in class?

I sometimes do but most of the time I don't. Because under the camera I can have my own privacy I can do whatever I want and be whatever I like to be, no one would know. I guess a lot of people think that too.

FUQ. When do you turn on your cameras during an online class?

When I do presentations, or group presentations and when I talk. I feel like it's a way to show respect to the presentation and other people in class.

FUQ. Can your background be a possible reason that you don't turn on your camera?

I don't think so. I usually live by myself. There's always a virtual background option to cover up the background.

Q. If the instructor asks the you to turn on your camera, what would you do?

It really depends on my current state. If I'm kind of messy, I wouldn't turn my camera on. And if nothing special happening, I would. I understand why instructors want us to turn cameras on. They would feel awkward if they are staring at some black boxes.

FUQ. Can you give any suggestions on how to increase class interactions?

I guess it really depends on the student. If they are being proactive, they can participate. And try to set away any distractions they would have focus on the class. Also zoom can list their functions/tools clearer on their interface.

Participant 2

Q. What are your feeling about about online learning?

I think online learning is not very efficient for study. Because I think physical class is better to interact with professors and classmates. I could pay attention more on physical class. But for online class, there are a lot of factors that could distract me from studying, such as the internet , my phone, and etc. I don't as much as I do in physical classes. I think it's a waste of tuition and time.

Q. What are some pain points using teleconference platforms (Zoom) to take online classes?

First, like I mentioned, not enough interactions with professors, since for some lectures that professors don't ask to participate and they provide lecture recording. In this case, I only watch the lecture video instead of going to class. Also sometimes internet is not stable, I couldn't connect to the zoom. That can be frustrated. And I can be easier to be distracted by phone or other things since the lecture may become too boring that I start to use my phone or my family distract me by talking so loud. I couldn't focus.

Q. What are your experiences when participating in any of your online classes?

Not really good. Since it's really hard for me to pay attention on online classes like I mentioned before. For me, most of the I just don't want to participate.

FUQ. Can you think of any awkward moment when participating in online classes?

I remember one time I forgot to turn the microphone off that everyone could hear me talking to my family or hear my family talking. Another moment is when I entered the breakout room, there were four students, including me, we were supposed to discuss the questions. Everyone was silent. So I started to ask the questions first, but no one response to me. And sometimes instructor ask for outcomes after breakout room discussions, no one in the group would speak up.

Q. Do you participate every time the instructor asks for participation?

No, since some of my classmates don't participate, if there is only me talking, I feel awkward. And I am usually the student who would participate more in class. And also for sometimes I don't know the answers, that can be a reason. Sometimes I wasn't paying attention to the question and I was a little ashamed to ask again. Also my instructors often ask everyone from a group to speak up, that "forcing" kind of frustrates me.

FUQ. Are any of these times when you didn't participate caused by something you can't control of?

Internet problem which I couldn't enter the breakout room. There are also sometimes I get calls from delivery and others, I couldn't participate in class.

Q. What are some functions do you usually use on Zoom to engage with the class?

Zoom allows people to share screen, and there are break out rooms.

FUQ. Which one is your least favorite one and why?

Breakout room is my least favorite one because some of my classmates don't participate like I mentioned before. So awkward.

FUQ. Do you like the camera function on Zoom?

I kind of don't like it but I think it's necessary. I don't like it because I don't look good on the camera.

Q. Do you turn on your camera in class?

Sometimes I do and sometimes I don't. When professors ask us do so or everyone else turns on the camera, I will turn on the camera. Most of the time I don't.

FUQ. What are the reasons you don't turn on you camera?

The number 1 reason is that I don't look very good on the zoom camera, I don't want people to look at me like that. Sometimes I just woke up and I would take classes on my bed. If I would turn on my camera, I had to get up and clean myself up. I am kind of too lazy to do that.

Q. If the instructor asks the you to turn on your camera, what would you do?

Turn on the camera because professor asks to do so.

FUQ. Do you understand why instructors ask students to turn on the camera?

I think they want online classes to be more like teaching in physical classrooms. They want to learn their students faces and match up names and faces. If only the instructor turns on the camera, there would be no interactions. Instructors might feel they are like a teaching machine, just talking all the time.

FUQ. Can you give any suggestions on how to increase class interactions?

Maybe include some kahoot or some other online games.

Participant 3

Q. What are your feelings about about online learning?

Kind of somewhere in the middle, neutral. First thing is flexibility, online learning allows students with more freedoms, they can be wherever they want and arrange time, and they went back and look through the lecture videos. The bad side is that it's not like the physical classroom, it doesn't have the learning vibe. So it's kind of hard to focus and study in online environment.

Q. What are some pain points using teleconference platforms (Zoom) to take online classes?

I just feel like the overall interaction is not quite effective. There's not enough interactions in class. Like I mentioned earlier, I learn better in the physical classrooms because it has a learning vibe, which would constrain me to pay more attention in the classroom. Another thing is the internet, I am current in China and when I take classes, there's still lagging even though the internet is very stable. I guess it's the VPN's problem.

FUQ. Do you think they can be the top reason that you don't participate in class?

Of course, they are. That would really affect my class vibe and therefore affect the overall participation.

Q. What are your experiences when participating in any of your online classes?

I think overall it was good, when I don't feeling like talking in class I can always type. I am an international student, I sometimes feel the language barrier. But I see American students also type in the chat, I don't quite understand. Also when I am talking and other people all turn off their speakers, I feel a little nervous and awkward. But it's always better than talking in physical room where you can feel everybody's attention on you. I am kind of like an anti social person.

FUQ. Can you think of any awkward moments when people participating in class?

I remember one time the instructor assigns for breakout room discussions. Everyone in my group had their camera and speakers turned off. No one talked the entire session, the silence remained all the time until the instructor brought us back to the main room.

FUQ. Why didn't you participate?

Mostly I attend class to earn my participation point, because there's always video recordings. I didn't what happened at that time, and no one started talking, so I didn't talk either.

Q. Do you participate every time the instructor asks for participation?

No, most of the time I don't talk in class, I type in chat. And if there's no reactions needed I wouldn't bother participating in class. When it comes to necessary moment, like self introduction in the first class, or group presentation, I would speak up.

FUQ. Are any of these times when you didn't participate caused by something you can't control of?

There are many times the connection just went off while I was talking. The internet is very unstable especially when I'm in China.

Q. What are some functions do you usually use on Zoom to engage with the class?

There are many functions that are very convenient, such as chat, breakout room, poll, speaker, reaction, share screen, reactions options.

FUQ. Which one is your least favorite one and why?

Of course the breakout rooms, people don't talk in breakout rooms. Like I said earlier, if they don't talk in breakout rooms, I wouldn't talk. Also I don't like discussions the instructors always asks us to do. I don't like small group discussions that don't have a specific topic.

FUQ. Do you like the camera function on Zoom?

It's ok, the video quality is not good, but it's necessary to have it on a teleconference platform.

Q. Do you turn on your camera in class?

I barely turned on my camera if that not a requirement. I know some instructors randomly picks a students who turn on their camera and gives extra credits. I think that's very smart. If that's the case, I would turn my camera on as well.

FUQ. What are some reasons you don't turn on your camera?

One of the biggest reason is my appearance. Sometime I just got up from bed and I look so messy. I don't want other people to look at me like that. Also, I am not a very social person, even though I look good, I wouldn't turn it on unless it's necessary. I think another advantage of camera off is that people can do whatever they want behind their cameras, no one would care. The thing is, once the camera is on, there are people watching you, you can't just mess around. The most important thing is that there's always video recording.

Q. If the instructor asks the you to turn on your camera, what would you do?

Unless the instructors would deduct points off your grade. If the instructor just encourage people to turn on their cameras, I wouldn't turn it on. Also unless everybody else have their camera turned on, that peer pressure would make me turn my on as well. Oh and I also have one issues, if I can see other people's faces. while talking, I would feel nervous and can't arrange my words very well. As long as I don't see others, I will be fine.

FUQ. Do you think turning on your camera makes a better interaction with the class?

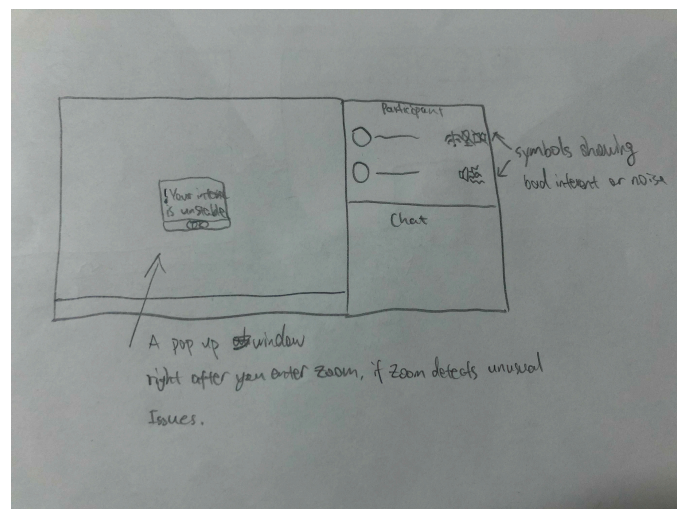
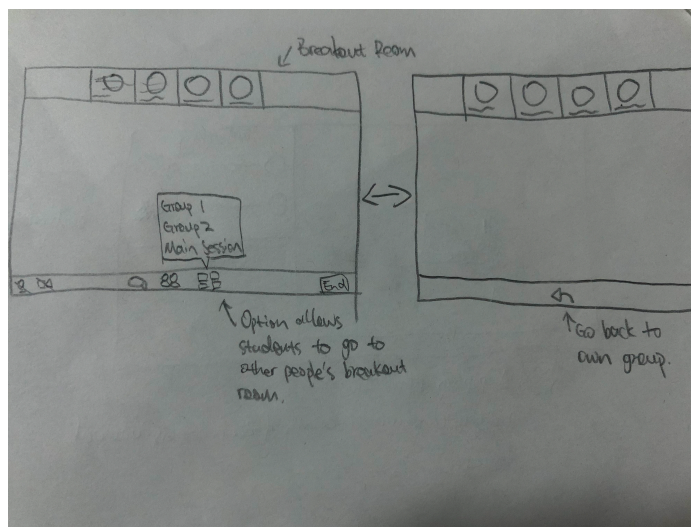
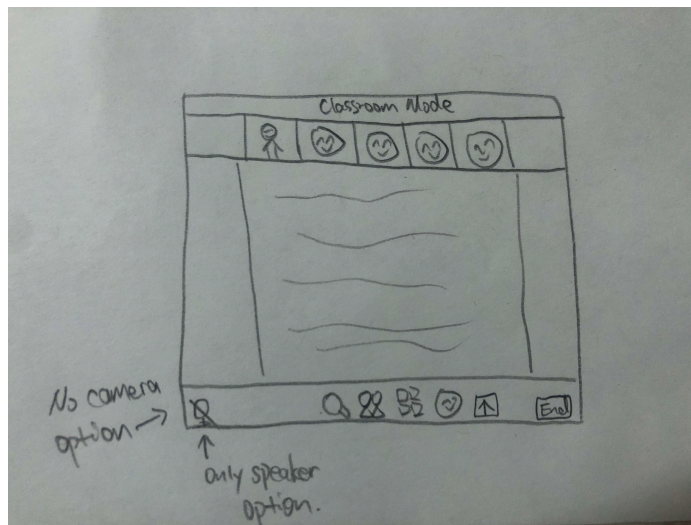
Yes I do. And it will also improve the learning quality as well. Like I said, once the camera is turned on, you would pay more attention to class because there are people watching you.

FUQ. Can you give any suggestions on how to increase class interactions?

I would say some extra credits, and the instructors can control the balance of when to turn on camera and when not to. I know the overall zoom interface is good enough, but it's still not like a physical classroom. If it looks more like a classroom, it would be a lot better.

Appendix 3 Images

New Zoom Interfaces



Appendix 4 Thematic Mapping

Less Interactions in Online Classes

Participants

P1, P2, P3

Participation is
not necessary
(P1,P3)

No specific topic,
only discussion
(P3)

Instructors
“forcing”
students to talk
(P2,P3)

Take classes on
bed
(P1,P2,P3)

Peer pressure
(P1,P2,P3)

Language barrier
(P2,P3)

Cameras off
(P1,P2,P3)

Anti-social
(P1,P3)

Tools/functions
hard to find
(P1)

More freedom
with camera off
(P1,P2,P3)

Looking at
phones
(P1,P2)

Picking up calls
(P3)

Other people
don’t participate
(P1,P2,P3)

Don’t know the
answer
(P1,P2)

Breakout room
silences
(P1,P2,P3)

No physical
classroom/
learning vibe
(P2,P3)

Don’t want to talk
(P1,P2,P3)

Things
happening in the
house
(P2,P3)

Noise in the
background
(P1)

Less attention in
online classes
(P1,P2,P3)

Video recording
(P1,P2,P3)

Feels
embarrassed to
ask the
instruction again
(P2)

Internet problems
(P1,P2,P3)

Appearance on
the cameras
(P1,P2,P3)

Extrinsic Factors

Class structure/vibe

Personal Issues

Internet problems

Looking at
phones

Less attention in
online classes

Instructors
“forcing“
students to talk

Take classes on
bed

Appearance on
the cameras

Noise in the
background

Language barrier

No physical
classroom/
learning vibe

Breakout room
silences

More freedom
with camera off

Feels
embarrassed to
ask the
instruction again

Things
happening in the
house

Picking up calls

Peer pressure

No specific topic,
only discussion

Anti-social

Don't want to talk

Tools/functions
hard to find

Missed the
instructions

Don't know the
answer

Cameras off

Video recording

Participation is
not necessary