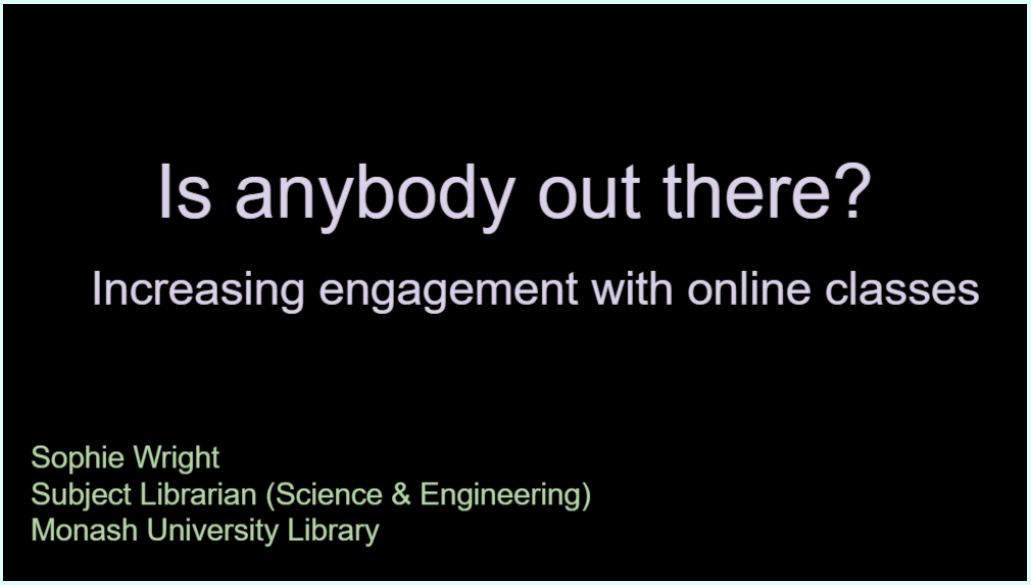


Hi, I'm Sophie I'm a member of the science faculty library team at Monash. Today I'd like to share with you what I've learnt in the past 18 months about increasing student engagement with synchronous online environments.

For context, I teach information research skills within the curriculum in 12 units across the science and engineering faculties. All the classes are scaffolded to a specific piece of assessment or research work, which ensures that the aims and scope are tightly framed by the marking rubrics as well as lots of input from the teaching team around performance in these capability areas, both formative and summative.

I typically get to work directly with the students for 2 hours out of the whole semester, so the ability to quickly build rapport and connection in order to engage students effectively with the content is essential. I'd like to add at the outset, that I had some overwhelmingly positive and smooth 'transition to online' experiences that clicked from the get go, but for this talk I'm focussing on the trickier, more reticent cohorts, who sent me 'back to the drawing board' with my lesson approach.

One of the unexpected horrors of 2020 was having a room full of wonderful smiling students turned into a black sea of 'camera off' zoom attendees (or zoombies!). There was definitely a level of shock I felt at the sudden distance this online world placed between our team and the students, which then proved at times, difficult to overcome. And in my darkest moments I just feared the worst...

After the initial shock, I set about working hard to get a positive learning environment back! And I even found some things that work better online full stop.

These are some things I have found helpful.

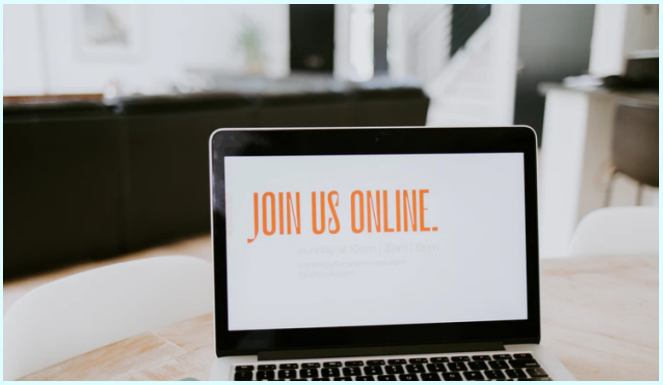
Setting up clearly defined expectations at the top of the session around participation (6). Online environments benefit from more structure and 'rules of engagement'. I now send a clear message at the outset to each student that your contribution matters and an imperative to 'please be a good citizen' and help out your peers by participating actively and asking questions. I invite students to interrupt me at any time if they would like to seek further information or clarification. This setup facilitates the flow of 'student to student' and 'student to educator' interactions and signals early on that the goal is minimising the created distance between us (3, 7).

To further support this we aim to have a staff member dedicated to monitoring the zoom chat and encourage students to use it throughout the session at any time. By introducing this staff member as dedicated to this secondary level of discussion, everyone benefits. Points of clarification come up more readily and are answered by the 'zoom chat Librarian' and occasionally by peers, which is wonderful. Points of extension which go beyond the initial content are then raised by this Librarian during a pause in the class and used to develop a discussion on examples and applications of content.

Pacing became even more important to control within the online environment.

I learnt to make sure the session doesn't feel rushed so that students don't feel they shouldn't ask a question if they didn't see it as essential.

Equally important I think was our reaction to the questions posed - welcoming them and taking the time to check if there were any follow up questions. This isn't the type of behaviour one might normally have time for in large face to face sessions, where it's more question / answer / question / answer, however, the online environment installs this barrier which I discovered can take time and patience to bridge.



Teaching from a shared online resource that students can refer to before, during and after the session gave the advantage of a reduced need to get caught up with taking notes, perhaps missing the opportunity to participate.

In online, getting everyone quite literally 'on the same page' is crucial - so this became even more important.

Content sections are able to move a bit quicker which then allows for more time spent on activities and discussions within the session. An additional benefit is that students who have reviewed the content prior to the session (even briefly) are more likely to participate in discussions and ask questions (4).

We are now using polling tools to draw out more reticent cohorts under the guise of anonymity.

This has been shown to have multiple benefits such as increasing confidence in student responses and leads to more honest and open answers (9). I have found that it also increases the quantity of responses as well, particularly if the class pauses while polls are being conducted.

More recently we tried using polling as a post-activity wrap up tool, so we ran an activity and THEN followed with a poll about the outcome of the activity. This helped enormously with pacing and it was felt that it increased inclusivity in a class passive environment.

On these tools themselves, I'm steadfastly loyal to FLUX, created and managed by our own engineers at Monash - easy to set up & engaging to look at. The team are also open to user feedback and have been happy to code in added features in the past.

Serendipitous moments that come from group learning can be harder… but the flip side online is the ease of making group work visible. For example, I am really enjoying the use of shared google docs where we all jump in as a class and work on our search strategies together. There are lots of benefits here...

Students are motivated to contribute their searches as we promise to give feedback to everyone (even if we need to finish this off after the session). Within the session, we are able to point out great examples and also examples which would benefit from further refinements - allowing students to learn from what their peers are doing. They then get access to the document for the whole semester so have lots of examples of great search strategies around their topic areas to refer to, which sets them up for success.

Another example of the use of a shared google doc: In more advanced sessions with research cohorts I have experimented with giving them a list of advanced search strategies and asking them to vote on their priorities to work on in the time we have together. The most popular topics are then covered off first, and for leftover topics I recorded a follow up asynchronous class and embedded that in their online guidebook.

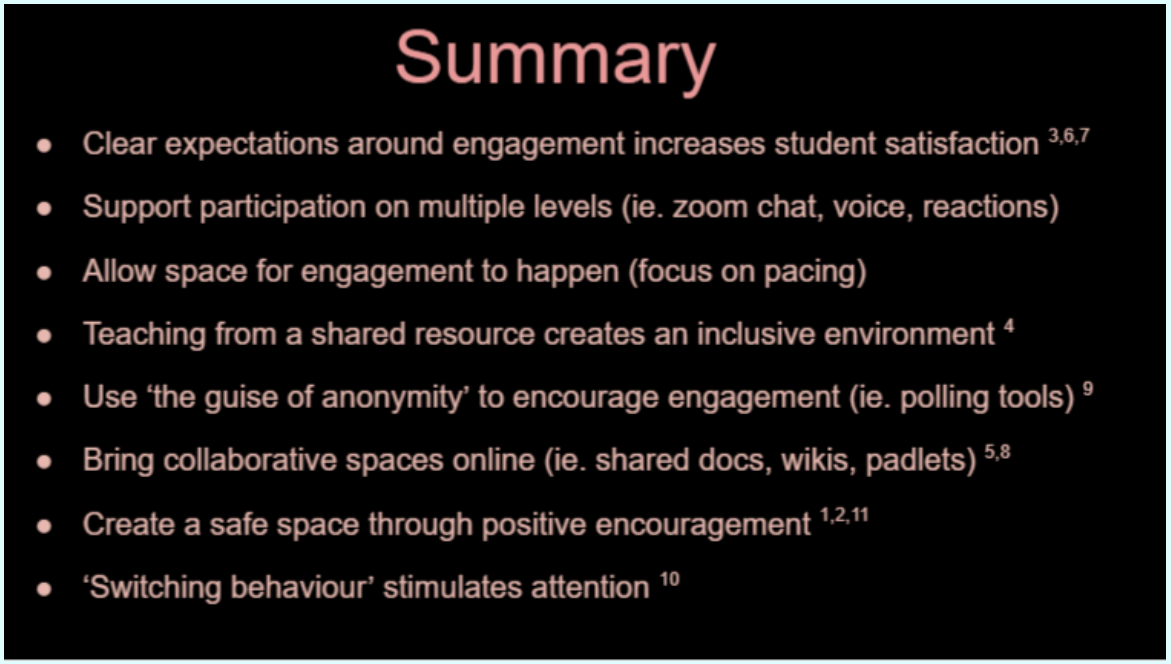
We've also used wikis and padlets to encourage the group to brainstorm ideas together, as collaborative elements work well to encourage engagement (6), and break out rooms can be time consuming and ineffective, particularly in a one-shot environment such as ours. These tools also have the potential to increase motivation and enjoyment as participants engage in the active learning environment (5, 8).

I've learnt not to be thrown off by participation rates or black screens and focus on the positives! **Praising those who engage makes the session more inclusive and makes it feel like a safe space for others to chime in (11).** It has been shown that building rapport by taking an interest in a student's efforts leads to positive effects in the amount of effort that they subsequently put in (1, 2).

An unexpected benefit of quiet groups is that the students who do engage have the time and space to go further with their lines of questioning, meaning that the worked examples presented in the session can become more sophisticated and more ground is covered. This would then have a flow on benefit to those students viewing the recording, as opposed to spending more time spent on troubleshooting and clarification.

Overall, I have reduced the content sections of classes or flipped them completely in some cases. In lectures where the time is longer and there is content to deliver, I break this up with regular activities. **This 'switching' behaviour provides a stimulus for students to stay engaged, even if they are not actively contributing, and I would argue it's necessary to speed up this process online compared to face to face (10).**

I now feel much more confident going in to teach within these dark worlds (!!), armed with these tricks up my sleeve.



REFERENCES

1. Dick G. Teaching online: Creating student engagement. Communications of the Association for Information Systems. 2021;48(1):7.

2. El-Sayad G, Saad NHM, Thurasamy R. How higher education students in Egypt perceived online learning engagement and satisfaction during the COVID-19 pandemic. Journal of Computers in Education. 2021:1-24.

3. Falloon G. Making the connection: Moore's theory of transactional distance and its relevance to the use of a virtual classroom in postgraduate online teacher education. Journal of Research on Technology in Education. 2011;43(3):187-209.

4. Hava K. The effects of the flipped classroom on deep learning strategies and engagement at the undergraduate level. Participatory Educational Research. 2020;8(1):379-94.

5. Jung I, Choi S, Lim C, Leem J. Effects of different types of interaction on learning achievement, satisfaction and participation in web-based instruction. Innovations in education and teaching internationally. 2002;39(2):153-62.

6. Khan RA, Atta K, Sajjad M, Jawaid M. Twelve tips to enhance student engagement in synchronous online teaching and learning. Medical Teacher. 2021:1-6.

7. Kim S, Kim D-J. Structural Relationship of Key Factors for Student Satisfaction and Achievement in Asynchronous Online Learning. Sustainability. 2021;13(12):6734.

8. Nguyen T, Netto CL, Wilkins JF, Bröker P, Vargas EE, Sealfon CD, et al., editors. Insights into students' experiences and perceptions of remote learning methods: from the COVID-19 pandemic to best practice for the future. Frontiers in Education; 2021: Frontiers.

9. Smith S. Finding the voice of students engaging in online alternative provision via digital data collection methods. British Journal of Educational Technology. 2021;52(2):899-914.

10. Toney S, Light J, Urbaczewski A. Fighting Zoom fatigue: Keeping the zoombies at bay. Communications of the Association for Information Systems. 2021;48(1):10.

11. Zhao H, Xiong J, Zhang Z, Qi C. Growth Mindset and College Students' Learning Engagement During the COVID-19 Pandemic: A Serial Mediation Model. Frontiers in Psychology. 2021;12:224.

TOOLS MENTIONED

FLUX	https://flux.qa/
PADLET	https://padlet.com/
WIKI	https://etherpad.org/