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Welcome to the Summer 2023  
edition of *Physiology News*

## Introduction

- 5 How is higher education changing in the aftermath of the COVID-19 pandemic?
- 6 Celebrating our vibrant community

## News and Views

- 7 Policy Committee meeting report
- 8 The future funding for basic research in Ireland
- 9 STEM for Britain 2023: Hijacking cancer gene regulation
- 10 See you!
- 11 From pitfalls and pressures to culturing curiosity and creativity in early career physiologists
- 12 Ben, how is it that you manage to make learning respiratory physiology fun?
- 14 Outreach video assessment for neuroanatomy students
- 15 Problem-based learning for authentic assessment in a large class setting
- 16 Is simulation the ultimate integrated physiological experience?
- 17 Developing a bespoke e-workbook
- 18 Do bears poop in the woods?
- 20 Using AI to develop transferable skills

## Features

- 21 Transdisciplinary science and art
- 24 Pandemic positives
- 27 "Sounding out the students" ultrasound in undergraduate anatomy education
- 30 Team-based learning
- 33 Variability: responders, context and noise?

## Events

- 38 Meeting Report: Europhysiology 2022 Teaching Symposium Report: Research-Based Learning Design and Active Learning Spaces in Physiology Teaching
- 40 Meeting Report: Innovation and Updates in Teaching and Student Education across Physiology and STEM in the UK
- 42 Meeting Preview: Regenerating the Cardiovascular System: Mending Broken Hearts and Beyond
- 43 Meeting Preview: Physiology in Focus 2024

## Membership

- 44 Training Hub
- 45 To what extent do you think COVID-19 has impacted physiology teaching?
- 46 Space physiology: Broadening the horizons of health research

## Pandemic positives

### Replicating the online chatbox in the physical classroom



*Professor Louise Robson*

School of Biosciences, University of Sheffield, UK

During the COVID-19 pandemic we had to pivot our lecture classes online, using a range of approaches to teach and engage with our students, including platforms such as Blackboard Collaborate, Microsoft Teams and Zoom. These platforms all had a chatbox for students to ask questions, and ask questions they certainly did. I had way more questions than I ever had in my classroom sessions, and students clearly valued the opportunity for feedback.

As I pivoted back to face-to-face teaching at the start of the 2021/22 academic year, I wanted to replicate the chatbox in my physical classroom. To do this I enabled the question tool in Encore (our Echo360-based lecture capture platform), and ended up with several hundred questions being asked over the year. Students told me they valued being able to ask questions and get feedback, but they also valued listening to answers to questions other students had asked as well. Providing the in-class chatbox allows me to provide a low-risk and supportive environment for students, and provides additional synchronous communication within the classroom, helping develop the learning community.

#### The pandemic chatbox

I teach large physiology classes, so during the COVID-19 pandemic I had to pivot my teaching online (we didn't have a lecture theatre large enough due to social distancing). I took a blended approach, flipping content-based sessions into chunked video recordings, and running active learning sessions online using Blackboard Collaborate. This allowed my students to study content asynchronously, with synchronous active learning sessions consolidating their knowledge and

understanding. During the online sessions I used the Collaborate chatbox in a number of different ways. The first was to help provide an informal learning environment. I would start each session with everyone posting their favourite emoji, and I used emojis to "sense" the room, e.g. asking about their confidence levels in a topic using the thumbs up or down emojis (Fig.1). I also encouraged students to use the chatbox to post questions, so that I could provide additional feedback and guidance for their learning, and asked students to type answers to questions as well (peer-to-peer support). Over the 2020/21 academic year I had hundreds of posts and questions, and in my final online session I asked the students (using a poll) whether they valued being able to type questions. 100% of those who responded said yes! It is rare to have something so universally valued by students, so for me this was a strong indication that being able to type questions was something to implement as I returned to the physical classroom.

#### The classroom chatbox

That return to teaching on campus was (for me) the 2021/22 academic year, with teaching essentially "back to normal". However, I felt that it was critically important

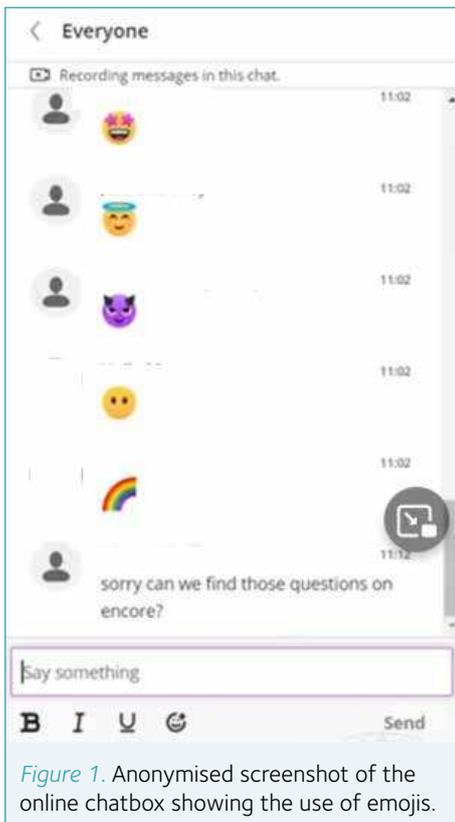


Figure 1. Anonymised screenshot of the online chatbox showing the use of emojis.

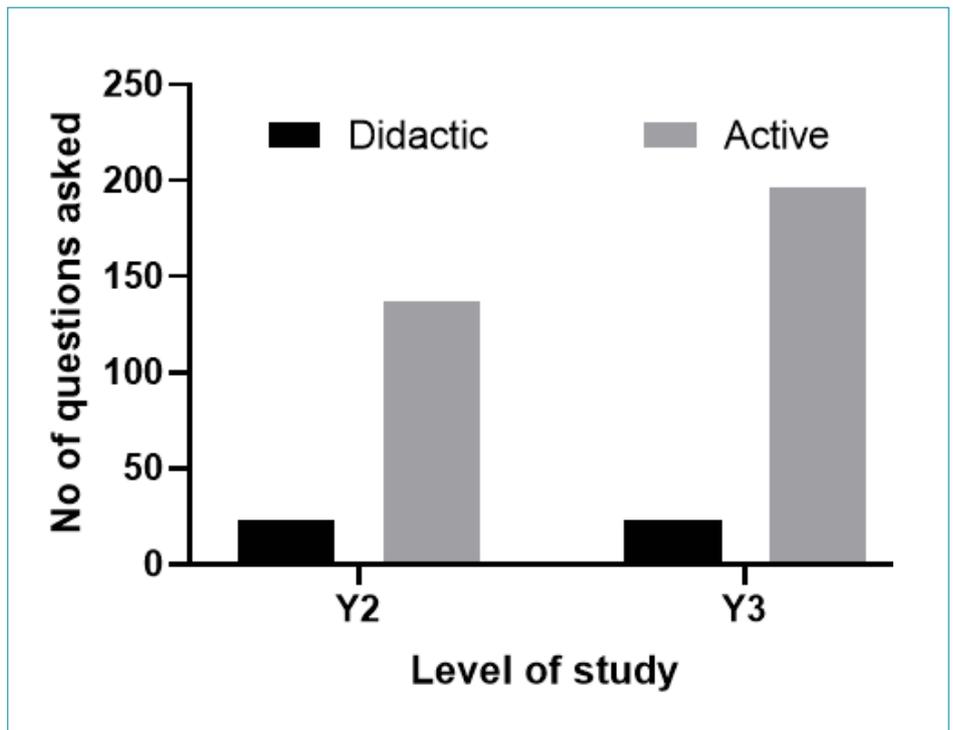


Figure 2. Analytics data on the number of questions asked across didactic and active learning sessions, and across second- and third-year cohorts.

to retain those aspects of the online pivot that could enhance the learning of my students. I retained some of my flipped recordings, and delivered a mixture of didactic lectures and active learning sessions in the classroom. I also enabled the question tool in our Encore system. Encore is our Echo360 lecture capture platform, but it's actually so much more than recording live lectures. I upload my Powerpoint slides into the system, and deliver my lectures from within Encore. This allows me to embed polling slides into my lecture, something that is particularly important in my active learning sessions, as it provides a low-risk environment for students to answer questions. I can also give feedback on answers as well (good points and areas for improvement). Turning on the question tool also allowed the students to ask me questions while in the classroom, just like in the online sessions.

Overall I had several hundred questions posted over the year, with between 11% to 22% of students on my modules asking questions (Fig.2). I observed more questions being posted in active learning sessions than in didactic classes, but this was a consequence of my expectation (setting less time to review and answer questions at the end of a traditional lecture), and also that students liked having time to assimilate their learning before framing their questions.

*"...when I go back to the lecture content ... that's when I identify my gaps and have questions to ask"*

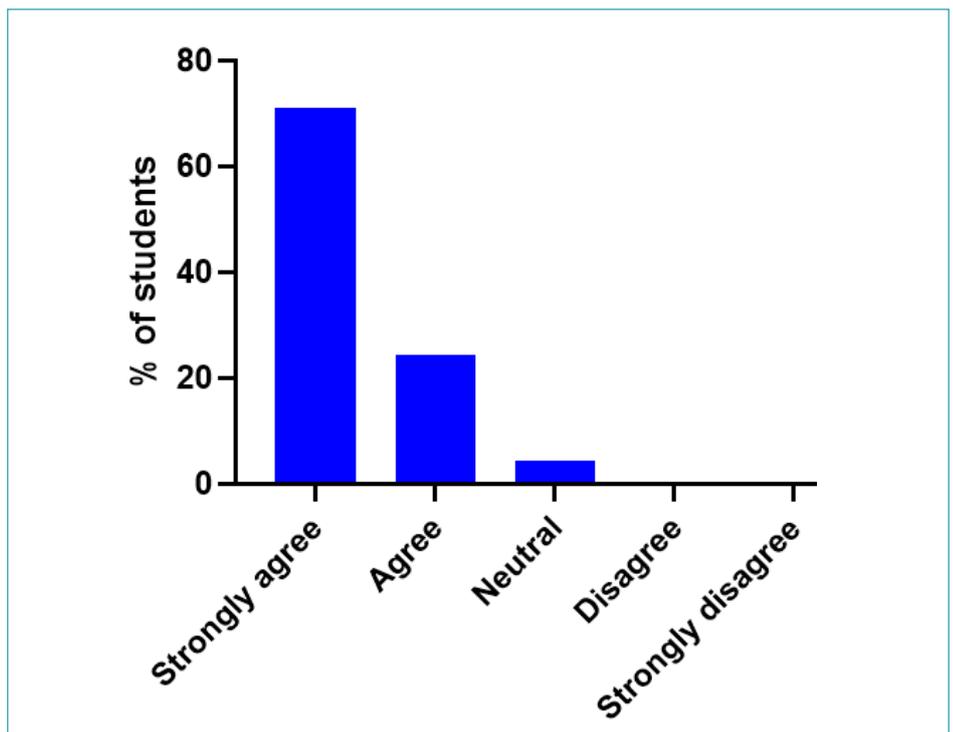


Figure 3. Bar chart showing student responses to the statement "It was helpful for my understanding and learning to be able to listen to answers to questions posted in class, even if these questions were not posted by me".

### What do students think?

To evaluate the question tool value, I started by asking students how they liked to ask questions, and unsurprisingly 92% of students stated that they preferred to type questions (with the remaining 8% saying they prefer not to). Not a single student selected the option to ask a question verbally in class.

*"Inner barrier to ask a question is much lower when you can type a question and post it anonymously"*

*"I feel more confident being able to type my questions as I feel it gives me longer/more thinking time to really refine the question".*

"Providing an in-class chatbox has enhanced my support for student learning. It provides additional guidance, feedback and support for students, and allows them to ask the questions they want to, but might be too shy to actually ask."

| Accessibility theme  | Learning theme   |
|--|--|
| Anonymous, personal, can access afterwards, student friendly, reduces anxiety, Q asking accessible to all (even shy students), helps the whole class, easy to access, can "hear" questions more clearly. | Others think in a different way, which helps other students learn, encourages attendance, leads to a constructive dialogue between staff and students, instant feedback, solidifies and consolidates understanding, reinforces learning, helps them see the areas they don't understand, clears confusion. |

Table 1: Accessibility and learning themes.

67% of students strongly agreed or agreed it was useful being able to post questions in a didactic lecture. This rose to 83% when they were asked about posting questions in active learning sessions. Interestingly, only 48% percent of the students had actually posted questions themselves.

Students also valued the opportunity to listen to answers to questions posted by other students, with 71% of students strongly agreeing it was helpful for their understanding and learning to be able to listen to answers to questions posted in class, even if these questions were not posted by them (Fig.3).

I also undertook a thematic analysis of free-text comments, and these could be subdivided in two main themes: accessibility and learning (Table 1). For me these comments highlighted that the chatbox provided a supportive and inclusive learning environment for all of my students.

Overall, providing an in-class chatbox has enhanced my support for student learning. It provides additional guidance, feedback and support for students, and allows them to ask the questions they want to, but might be too shy to actually ask. It has transformed my active learning sessions, which are now even more interactive, because we are all able to ask each other questions. It's challenging for me (I don't always have the answers), but I love that my students have an opportunity for synchronous communication. This is something we identified as being important during the pandemic (Nordmann *et al.*, 2020), but actually, it's something we should be providing in the physical classroom as well.

### Interested in using an in-class chatbox? Here are my top tips

1. Set expectations about when you will look at questions in a session - there are differences in my approach in didactic versus active learning sessions.
2. Set expectations around asynchronous questions - the question tool is only (in my sessions) for during class.
3. Clearly articulate these expectations in the handbook (and make sure students have guidance on the technical aspects of using your question tool).
4. If you have questions but have run out of time, consider posting the questions and answers on your discussion board (and remember an answer doesn't have to be typed, I often make videos of answers).
5. Don't be afraid to say actually, I don't have the answer to that question. Let me go away and do some reading and I will get back to you on the discussion forum.
6. I find it helps to have two computers. The desktop computer is used for the lecture (it's on the main screen). I open the question platform on my laptop. Remember, if students are posting questions it also means they can see them on their own laptops/devices as well.

If you want to find out more, just email me at [l.robson@sheffield.ac.uk](mailto:l.robson@sheffield.ac.uk)

## References

Nordmann E *et al.* (2020) Ten simple rules for supporting a temporary online pivot in higher education. *PLOS Computational Biology* **16**(10): e1008242. <https://doi.org/10.1371/journal.pcbi.1008242>