# Mentimeter

How Mentimeter increases and enhances engagement and learning in an educational environment

Overview of few educational research papers on how Mentimeter and student response systems improve the classroom experience and outcome
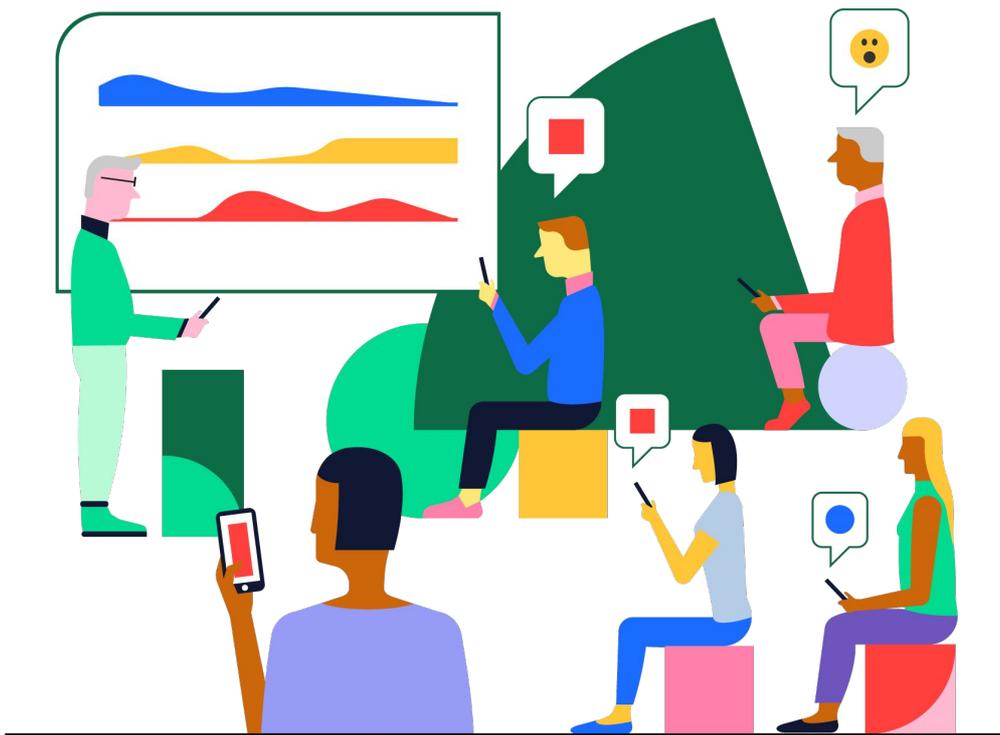
The impact of audience response platform Mentimeter on the student and staff learning experience

https://journal.alt.ac.uk/index.php/rlt/article/view/2397

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Research suggests that active and discussion-driven dialogic approaches to teaching are more effective than passive learning methods. One way to encourage more participatory learning is through the adoption of simple and freely available audience response systems which allow instant and inclusive staff–student dialogue during teaching sessions.

This article explores the impact of one of the most agile platforms, Mentimeter. It outlines impact on student satisfaction, enjoyment, voice and learning within small and large group settings across multiple disciplines drawing on 204 student survey responses. It also explores staff experiences and reflections on the key practical and pedagogical thinking required to optimise the use of this platform in higher education. The research responds to a need within the sector to react to rapid advances in teaching and learning technology, to provide evidence of impact for lecturers looking to improve student learning environments whilst being cognisant of the underlying pedagogy supportive of new practices.

Key quotations

Student satisfaction
Students across all disciplinary areas expressed strong levels of satisfaction. 191 students (96%) liked Mentimeter and 171 (82%) felt 'more' or 'much more' satisfied when Mentimeter was used in teaching sessions. In an additional question, 94% felt that Mentimeter should be used more. Three key themes are evident within qualitative and quantitative data which start to explain such high levels of satisfaction: firstly, the role of Mentimeter in enhancing enjoyment; secondly, the role of Mentimeter in enhancing the student voice; and thirdly, the role of Mentimeter in improving student understanding, learning and retention.

Mentimeter increases student enjoyment
Of those that responded, 95% said that their learning experiences were more enjoyable and 62% said that their lectures or seminars felt 'less formal and fun.

Attention
When asked how Mentimeter impacts the levels of attention in teaching sessions compared to sessions that do not use Mentimeter, 74% of all responders said that they had experienced either higher or significantly higher levels, mirroring Elliot's (2003) findings exploring the impact on attention of basic handheld response systems.
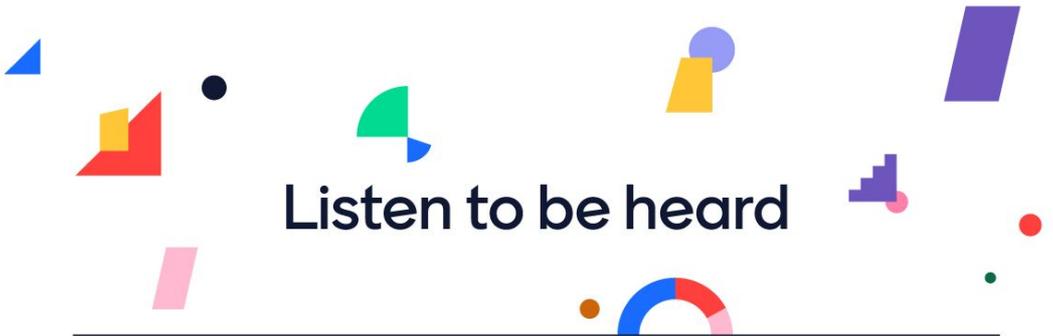
Listen to be heard

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Key quotations

Mentimeter enhances the student voice
Students were similarly positive when asked about Mentimeter's impact on the student voice. A key theme was that Mentimeter allows all students to engage and, because this engagement is easy and completely anonymous, students are less restricted by a lack of confidence or other constraints. In all, 72% said that Mentimeter helped them to feel more confident participating in seminars and lectures (28% said that Mentimeter had no impact). When asked to identify whether Mentimeter changed their learning experience, 56% chose to highlight that their lecture or seminar felt more inclusive for all types of learner. A total of 35% chose to highlight that they felt their voice was being heard.

Sense of belonging to a learning community
Benefits extend beyond increased student–lecturer dialogue. Students also point to the use of Mentimeter in facilitating peer-to-peer interaction; in some sessions leaders would use voting results, for example, as a starting point for further student-led small group discussion. This may help to explain why 72% of responders felt that Mentimeter encouraged them to feel part of a learning community.
In addition, when asked to identify any ways in which Mentimeter had impacted their learning experience, 51% of students highlighted that they felt reassured by seeing how fellow students answered questions and what kind of questions they were asked because they then felt that they were not the only one thinking the same thing and that they were 'not the only one struggling'.

Dynamic
More broadly, because Mentimeter enables the student voice to be heard so easily, some responders have reflected on how it starts to alter the dynamics between lecturer and student, consistent with ideas around dialogic teaching approaches: 'It creates an atmosphere for interaction between the teachers and students and thus aids learning and encourages debate'. Part of this change in dynamics also comes from lecturers adopting a more agile approach to teaching, using the additional student responses to expand or facilitate further debate

Mentimeter can help to improve student learning
Students were asked, how they felt Mentimeter impacted on the amount that they had learnt. A total of 68% said that Mentimeter either increased or significantly increased learning. Almost all other responders said that the level of learning was the same. Four key themes were identified – knowledge, application, flexibility and retention.

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Benefits and challenges surrounding the staff experience

Five key themes were identified following content analysis of staff-focus group discussion. Like students, staff also identified the potential of adopting a more agile approach to teaching and, where time allows, session content. Lecturers surrender some control over the vocal ownership of the lecture, build in space to respond to issues raised by students, and must be prepared to change the focus of the class dependent on student responses. This might mean reiteration and further explanation of a concept, argument or text, or discussion of a new unpredicted area, and acceptance that the learning domain is shared and collaborative. Students become involved in a two-way dialogue, rather than being positioned (and positioning themselves) as passive observers of the teaching that is being 'done' to them. This has led to a **greater sense of partnership for staff**.

The second related theme in terms of **optimising use surrounds class management**. For staff , the use of Mentimeter does increase challenges surrounding time, content and class management.

The opportunity to engage in a learning dialogue with students in a session which cannot be predicted will not, therefore, be to the taste of all lecturers who may prefer that only one voice is heard. This touches on the third theme, also evidenced in student views, surrounding **the 'inclusive potential' of Mentimeter, 'giving a voice' to students** who are less likely to participate due to the influence of culture, gender, disability and other factors. One participant recalled a student with a speech impediment, for example, noting how Mentimeter enabled their full participation in discussion. Another said, 'It effectively says your opinion matters' to all students.

The fourth theme surrounds **timeliness**. As students identified, Mentimeter creates a 'real-time' assessment of understanding: 'It can give an indication as to whether the students have any clue about what is going on in the lecture'. This allows lecturers to act at a time when blind spots can be remedied. It also allows lecturers to be positively surprised.

The fifth theme surrounds **disciplinary variance**. Initially, lecturers thought that Mentimeter would be less easy to embed in humanities-based disciplines than in sciences and social sciences because of the discursive basis of humanities subjects and their resistance to binary 'answers'. Despite these misgivings, lecturers found that they could use Mentimeter discursively, and not just for questions requiring a 'correct' response or for testing technical vocabulary or historical knowledge. In the Philosophy department, for example, as a starting point for discussion, students were asked to situate themselves on a sliding scale according to where they sit in an argument.
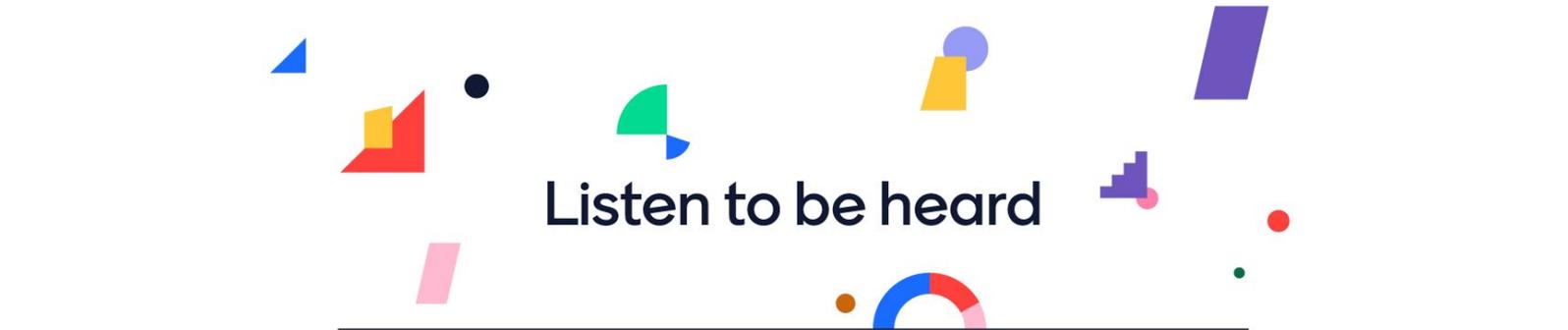
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Engaging students on their devices with Mentimeter

https://journals.gre.ac.uk/index.php/compass/article/view/843/pdf

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The article shares three key multi-disciplinary strategies that can be supported by Mentimeter to engage students: 'gauging opinion', 'engaging discussion' and 'voicing concerns'. The authors offer their ideas for future plans for the tool, with the hope of inspiring other higher education colleagues to trial Mentimeter or integrate it further – into lectures and seminars – in order to promote student engagement and enhance the teaching and learning experience for all.

Anonymous answers allow students to feel that they can contribute in a safe, nonjudgemental environment.

It can be used as a learning and assessment tool, pinpointing any misunderstandings that students may have and consequently enabling staff to alter the content of lectures and workshops or to publish additional online support.

An increase in real-time feedback has enabled tutors to develop and shape future teaching.

Key quotations

Engaging discussion
The authors found that application of this technique exploits well the otherwise wasted minutes at the start of a session when students are settling – it provides a written stimulus for immediate discussion.

Voicing concerns
Like Little (op.cit.), the authors found that students seemed more confident when asking questions using Mentimeter than doing so verbally in front of peers, which shows that Mentimeter could be particularly helpful when boosting confidence and comprehension regarding assessment tasks and when offering opportunities to voice concerns.

Possible areas for further exploration include Mentimeter and its ability to enhance team work, collaboration, engagement and the promotion of peer learning.
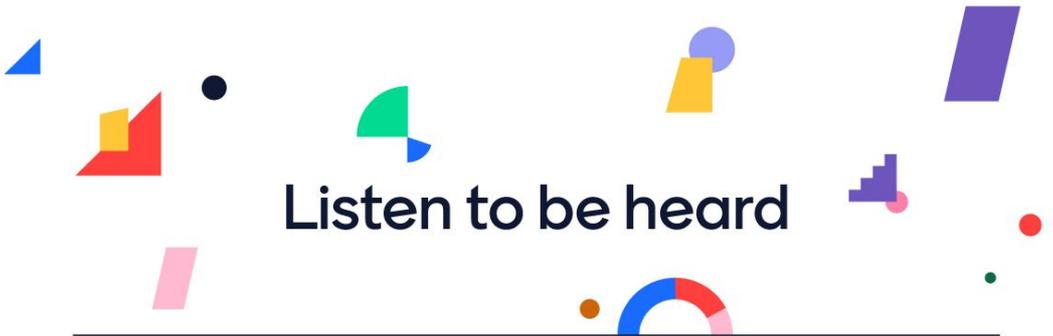
Mentimeter: A Tool for Actively Engaging Large Lecture Cohorts

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Lectures with large cohorts tend to be didactic in nature (Huggins & Stamatel, 2015), resulting in numerous authors (Howard, 2002) deeming them to be ineffective at engaging students in academic knowledge (Laurillard, 2002). This is particularly problematic for the current generation Z students who enjoy interactive learning (Hussin, 2018).

Key quotations

On an undergraduate employability skills module, I use the "Who Will Win" question type to encourage students to vote on the most appropriate answer in a job interview situation. The new "Ranking" enables students to realise the most common skills required by graduate employers, and as Mentimeter provides real time cumulative response rates, I encourage more students to provide an answer accordingly (Cline, Zullo, Huckaby, Storm, & Stewart, 2018). Regardless of the question type, I always give immediate feedback on answers, otherwise as Schmid (2006) warns, students' enthusiasm for learning tapers.

In sum Mentimeter and the multitude of question types and quiz elements for large lectures can be utilised to significantly enhance student enjoyment and engagement. For academics and students, the simple format and facilitation of deep learning opportunities, means that the benefits far outweigh some of the minor areas for development and I am excited to know what next lies in store in Mentimeter's offering.
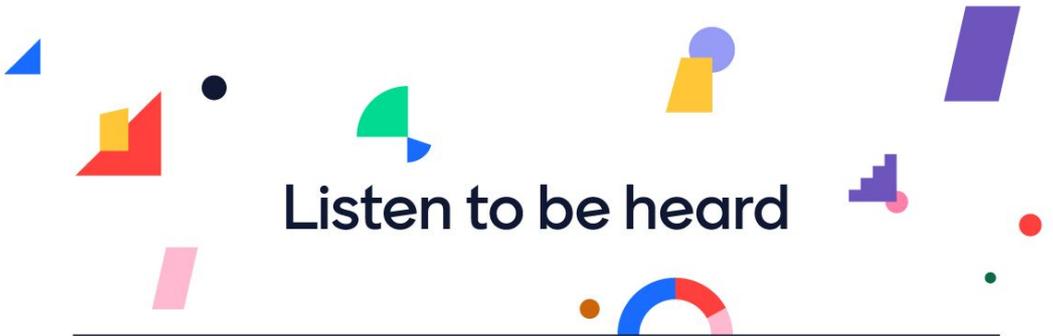
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Technological Review: Mentimeter Smartphone Student Response System

Chris Little
Keele University

Web Based systems reduce the logistical burden on the instructor by letting students use their own mobile devices to participate in the activity via the device's internet browser and a six-digit code sign-in to the quiz. This removes the process of handing out and collecting voting devices, thereby saving valuable time for teaching and learning.

Key quotations

For students, softwares such as this offer an opportunity to participate and engage without fear of making mistakes in front of peers, as well as giving an insight into the thoughts, feelings and knowledge of the rest of the group.

A small sample of evaluative students comments, from an induction session delivered to international students in January 2016, demonstrates the potential of interactive voting software such as Mentimeter:

"The word quizzes helped me see how everyone else felt and it kept me focussed"
"The interactive nature of it kept you engaged the entire time"
"I liked using my phone for the questions"

For staff, Mentimeter offers highly-customisable activities which can facilitate an instant analysis of responses, provide downloadable data sets and create an interactive teaching and learning experience for groups of varying sizes.
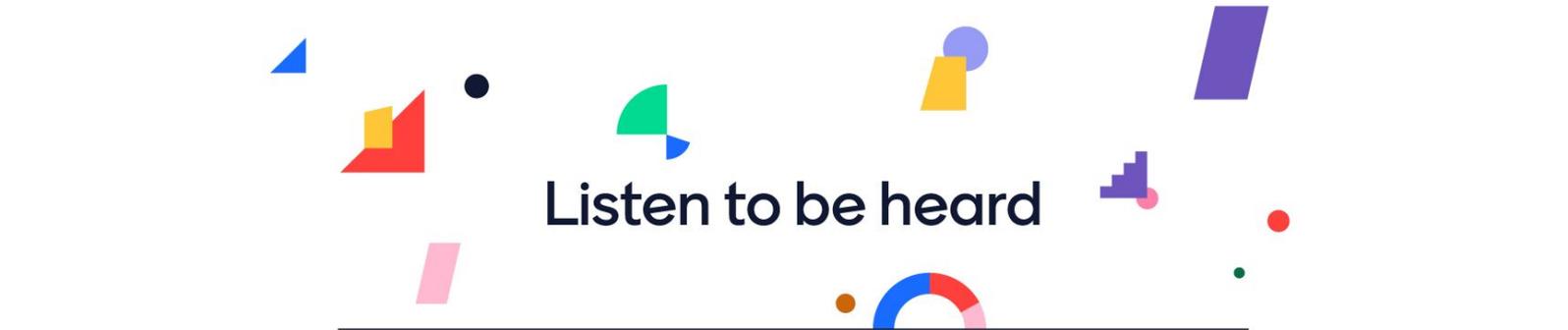
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Interactive presentation digital tool Mentimeter perceived as accessible and beneficial for exam preparation by medical students

https://www.syncsci.com/journal/index.php/AERE/article/view/358

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By analyzing satisfaction surveys, this study looked at the utilization of Mentimeter in a medical physiology course. Medical students overwhelmingly agreed that Mentimeter is a useful tool for exam preparation in clarifying difficult concepts and appreciated an instructor-led readiness assessment several days before their first exam. We believe that the use of this application can help explain basic concepts, make office hours more constructive, and bring a paradigm shift in readiness assessment for medical students in both preclinical and clinical curriculum.

Key quotations

Few aspects give an educator more anxiety than the fear that the audience is not understanding the topic as intended. By polling anonymously and in real time, an ARS gives educators a way to assess students' knowledge more accurately.

The use of Mentimeter will promote mastery learning a teaching and learning strategy based on the premise that students will achieve a high level of understanding in each domain if they are given enough time.

The following percentages of students reported either a 4 or 5 when asked about the following metrics of Mentimeter: 76.7% (n = 43) found it "helped prepare [students] for their exam", 80.9% (n = 42) found it "beneficial", and 87.5% (n = 40) found it "accessible via [their] cell phones".

Combining the survey data with encouraging student narratives, these data suggest that using Mentimeter could be a beneficial tool for educators to use, especially when preparing for exams or assessing students' understanding of historically challenging concepts (as medical physiology tends to be). The students commented on the value of these tools appreciating the Mentimeter quizzes that provided instant real time feedback on their knowledge retention and potential areas to review before exams

"The readiness assessments with Mentimeter have been a great way for me to evaluate how much of the material I've learned and potential areas to focus on before the exam."
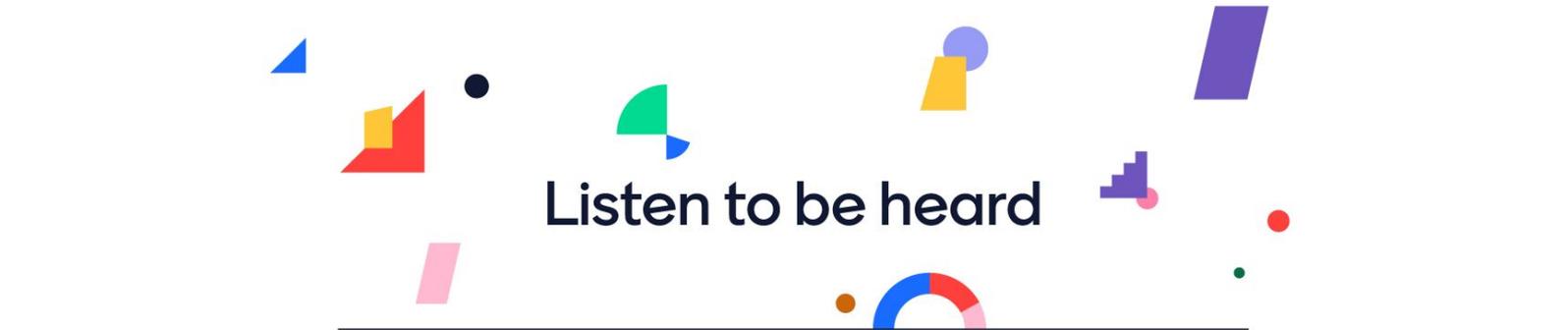
No Longer a Silent Partner: How Mentimeter Can Enhance Teaching and Learning Within Political Science

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New cohorts of students expect universities to meaningfully incorporate the use of technology-enhanced learning within their provision and they respond particularly well to an active approach to learning.

A growing body of pedagogical literature, across a range of discipline areas, suggests that active and student-centered approaches are more effective than passive learning methods (Michael 2006; Knight and Wood 2005). Understanding and learning gain increase when the process of learning includes interaction which requires active student engagement.

Key quotations

Word cloud—the whole cohort can collaboratively create a word cloud to brainstorm a topic.

Open ended—students submit comments which are instantly displayed, anonymously, in speech bubbles, one by one or in a flowing grid. This is a particularly useful tool to gather questions from a lecture class or in a large academic conference to encourage mass engagement.

Question and Answer—students can ask questions using a separate dedicated slide or throughout a presentation, on each slide. Each question can be marked as answered as they are addressed.

2-by-2 matrix—students are able to enter items within a simple matrix where each axis label is determined by the instructor. This might be used to explore causal relationships or in the form of an action priority matrix to gauge which topic to address first, for example.

Quiz—individual students or groups can answer timed questions, score points and win a place on the leaderboard to gauge knowledge and understanding.

Communication Theories Applied in Mentimeter to Improve Educational Communication and Teaching Effectiveness

https://www.researchgate.net/publication/340300196_Communication_Theories_Applied_in_Mentimeter_to_Improve_Educational_Communication_and_Teaching_Effectiveness

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Two observations were carried out in two different classes. Since the Mentimeter is usually used in at beginning of the class as a recap, the observations lasted for about ten minutes from the beginning of the class. The observations were done at the same university in China with the same number of students, which was 30, in each class. The two classes both were teaching knowledge about English Education. The same teacher taught two different classes separately by using different recapping method. In one class, the teacher applied a traditional quiz as a recap, while the Mentimeter was used in the other class.

Key quotations

By using Mentimeter, the core knowledge in the last class could be asked in different kinds of questions again and again. Students used the knowledge to solve various questions which helped them review the knowledge repeatedly. The impression of the knowledge was strengthened. Therefore, after the recapping part, most of them could grasp the knowledge firmly. The purpose of enhancing the core knowledge of the recapping part could be reached.

Last, for the benefits those educational digital tools can bring to educational communication and teaching effectiveness, they are mostly shown during the interaction process. Because of the automatic answer-collecting function, all the answers are collected in a short period. Teachers do not need to waste time to collect answer sheets or pick up students during the class. They can talk about the answers shown on the screen immediately and give feedback to the whole class. During the process of discussion, teachers grasp the chance to scaffold students. They can use questions and explanations to guide students step by step. With this kind of scaffolding and discussing, students can solve their problems efficiently and independently in the end.
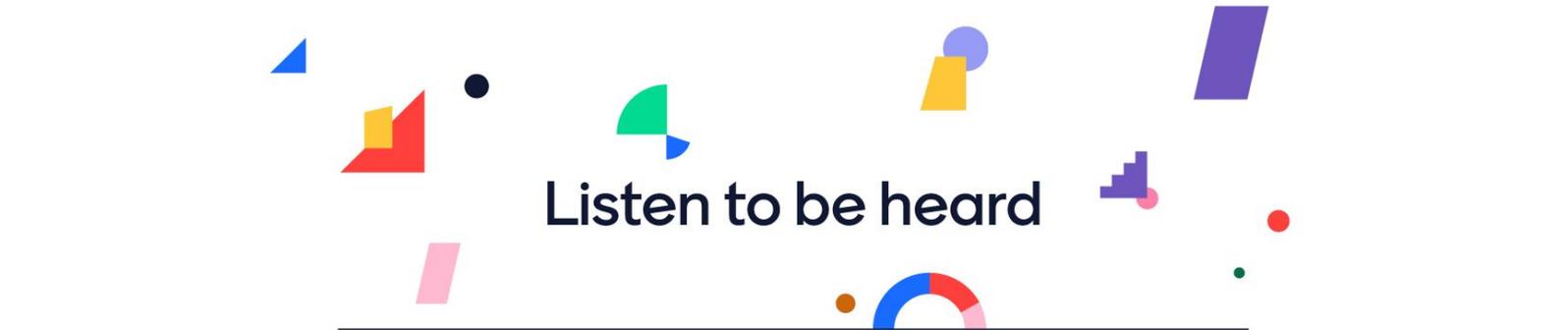
Listen to be heard

Using audience response systems to enhance student engagement and learning in information literacy teaching

https://ojs.lboro.ac.uk/JIL/article/view/PRA-V11-I2-2/2573

Paula Funnell
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A controlled study was carried out on two cohorts of medical students at Queen Mary University of London comparing the use of clickers, online response tools, or a mixture of the two, to teaching without ARSs. Class observation and student evaluation were used to measure student engagement, and quizzes and student confidence levels to measure student learning. Results of the study showed that ARSs, when used as part of an active learning pedagogy, are an effective tool in terms of increasing student engagement, and have a generally positive impact on student learning.

Key quotations

Didactic teaching and passive learning do not provide opportunities to develop IL skills which require practical application.

Active learning approaches are highlighted as being important and effective within higher education, as they encourage deep learning and enable students to take responsibility for their own learning.

Active learning in IL teaching has been shown to engage students and increase motivation by enhancing interactivity, getting them involved in the classroom, combating the IAKT syndrome and stopping them from getting bored. Utilising a range of interactive methods helps to facilitate learning and improve understanding by ensuring that teaching is fully inclusive; accommodating a variety of learning styles and enabling involvement of those with disabilities, and others who could potentially feel excluded.

Observations in class suggested that the students were more engaged in the groups using ARSs, which was supported by increased levels of satisfaction.