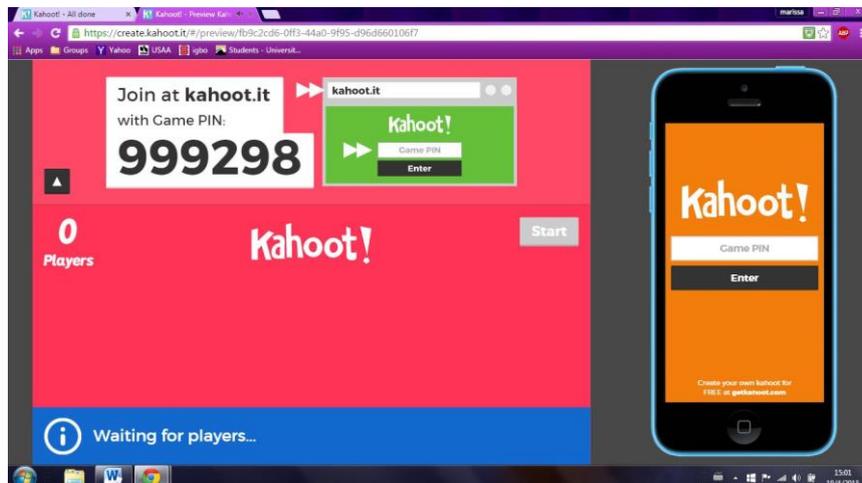## Polls and Quizzes:

Kahoot

What is it: Kahoot is a tool for making polls and real-time quizzes. Kahoot can be used by students in a more quiet and contemplative way by using polling - or in a frenzy of fun when doing pacy multiple-choice quizzes against their friends.

Getting set up: Lecturers need to go to https://getkahoot.com/ to sign up and make their quiz or poll. When the time comes, the lecturer projects the quiz onto the board and students log on using a game pin.

Application in lectures: Kahoot quizzes can make a punchy plenary or an energizing starter.

Repeating the same poll near the start and end of sessions can highlight whether activity has had an impact on the opinions of the class. Using 'ghost mode' students can even play against their past selves! Spooky!

If you're giving Eric Mazur's peer instruction a go, where students pair up with someone they disagree with on a topic to discuss their thinking, the polling can help you to keep track of whether enlightenment or misconception is spreading across the room.

Similarly, polls are great for hinge-point questions. A single cleverly-devised hinge-point question can give teachers an excellent insight into the understanding of a class. These hinge-point questions highlight whether a class are ready to move on from a concept or if they need further explanation.

Worth bearing in mind: Whilst the speedy and competitive quizzes are without doubt the most fun use of Kahoot, they often depend on surface learning. Odd-one-out quizzes can encourage students to apply understanding rather than just memorise surface features.

Also, be aware – Kahoot can cause terrible cases of 'sour grapes' as students embrace their competitive sides. Great learning points can arise from those indignant in defeat: it's worth taking time after these activities to discuss the results (which are instantly made into a visually-appealing report) and students' reasoning.

Finally, the reports don't actually tell you *who* knows what.

Cost / requirements: Both making and taking part in a Kahoot quiz is free. Writing effective quizzes and good hinge-point questions requires more time than you might think, however. Students will need a Smartphone to play along but can do so in pairs easily.
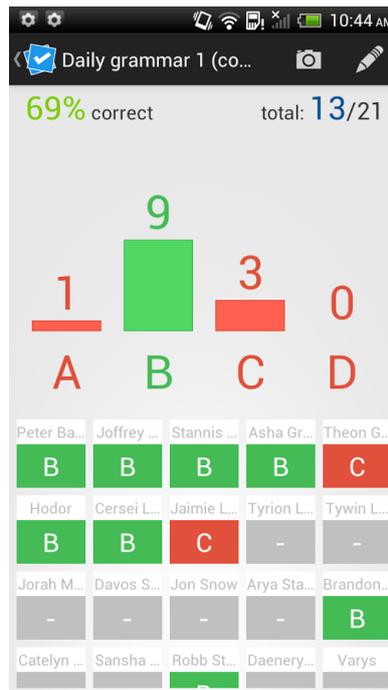
Plickers

What is it: Plickers is a blend of 'Paper' and 'Clickers.' It allows for multiple choice and 'true or false' questions to be asked as a method of formative assessment. Students are given a piece of paper that they hold up and the lecturer scans in the answers in the same way wipe-clean mini whiteboards are used. However, unlike its low-tech predecessor, students' answers are basically anonymised. The way they hold their card supplies the app with their answer so students who aren't sure are free to take part without fear of being called out on their incorrect answer.

Getting set up: To get set up you'll need to download the app and have a list of your students. When you've counted how many students you'll have in your class, print off the appropriate amount and size of Plickers cards here: https://www.plickers.com/cards

Plickers is smart enough to create data on formative assessments no matter where your students are sat – so no need to impose a seating plan to scan in answers. How clever!

Application in lectures:

In the lecture, you'll use your smart phone for scanning students' answers and your computer for controlling the app.

Plickers displays the results to the teacher whilst Kahoot displays the results back to the class. Therefore Plickers might be useful to measure understanding and inform the approach of future teaching

Worth bearing in mind: It's worth remembering to switch off the projector when you're using the app in lectures as students' answers immediately show up next to their names and whether they're correct or incorrect.

Whilst the cards usually scan easily, it's preferable to print them on white card. The scanning process can slow down or fail if you're in an extremely bright back-lit room or if you're standing less than six foot away.

Cost / requirements: Plickers doesn't require students to have smartphones but does require them to have the numbered card that corresponds with their name. It is up to you whether you want to write names on the cards, hand them out and collect them back in; or if you want students to take care of the cards themselves across a series of lectures. Some lecturers have found that getting the students to glue the cards on the inside page of their note books is a way of keeping the right cards in the right hands.

Answergarden

What is it: Answergarden is an online platform where your students can create a live word cloud in response to a question.

Getting set up: You can create an account online at https://answergarden.ch/ and simply send out the question to students via Moodle or email.

You can send out your question locally (within a particular space) if everyone you want to reach is in the lecture theatre.

Application in lectures: Answergarden allows you to ask more open ended questions whereas the former apps tend to be best for closed questions. Therefore Answergarden is great for exploring complex issues.

Answergarden works beautifully as part of a starter activity where students can show you what they know at the beginning of a lecture. Time can therefore be spent more effectively challenging misconceptions and filling in gaps in student understanding. Additionally, it is an effective and quick way to check students' understanding of videos that have been given to them as a part of a 'flipped' session. Used in these ways, Answergarden is also is respectful of the knowledge, skills and life-experience that your students bring to the lecture.

It also can be a handy tool for plenaries to check understanding in order to provide clarification live in the lecture, via video or in the next lecture. Picking out individual answers or grouping into themes can be a nice way to react to what you're seeing

Worth bearing in mind: Students can write up to 40 characters (you can limit it to twenty if you wish) so you may be faced with a lot of text to digest. You may like to react live to the Answergarden cloud but chances are, you'll need to acknowledge to the group that you can't digest it all instantly.

Cost/requirements: Students will need a smartphone or device with access to the internet in order to take part in this activity.