

How to design unforgettable class activities that help students learn better

Jonathan Sim shares teaching techniques designed to pique the emotions as a way to lodge key lessons more firmly in students' memories

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A problematic trend I notice when conversing with students is how many of them struggle to remember what they did in modules from previous semesters.

These discussions got me thinking about how to design learning activities that are unforgettable. Albert Einstein, among other figures credited with the quote, famously said that “education is what remains after one has forgotten what one has learned in school”. I want to ensure my students remember what they have learned from me, especially after all the hard work they put into the course.

So, I began experimenting with techniques that I used as a student. I had a very unorthodox method that was inspired by the comedian and counsellor Mark Gungor. He said that if you take an event and attach a strong emotion to it, that event will be seared into your memory for good. I applied this principle to my learning and created jokes for everything I wanted to remember. The funnier the joke, the stronger the emotion, and the better my memory of it.

Activities to reinforce learning

I thought it would be interesting to apply this approach to my teaching, regardless of whether it was through a quiz, a group project or a tutorial activity. So, every learning activity I created came packaged with its own scenario. The more fun the scenario, or the more shocking the conclusion, the better the students remembered the learning points and their efforts to achieve it.

I can tell how effective this approach has been when students consult me for help. Instead of explaining the concept, I can just invoke the name of the relevant learning activity. For example, I could say: “Do you remember how you found the spy in the ‘Who’s the spy?’ activity?” Immediately, students light up as they recall the concept or what they did.

Engaging the imagination

This is not the only ingredient for making learning activities unforgettable. The other reason I create fictitious scenarios and situate learning activities in them is that it provides fertile soil for the students’ imagination. This is particularly powerful when we invite them to role-play. There, students step out of their identities to be someone else – which enables them to have more fun learning.

This works well for group projects and discussions, where students within the group may differ in abilities and competencies. Fast learners may not feel a need to help their slower counterparts, and slower learners may be too embarrassed to seek help. In the context of the role-play, learners unite around a common mission to solve a problem and save the day.

This group mission prompts learners to emotionally invest themselves into the topic and to collaborate with each other in order to solve the problem. Given the chance to temporarily be someone else, students can put aside the stress that they often impose on themselves and have fun. As someone else, students are more inclined to engage in peer teaching and learning with each other. They can contribute their own insights and help one another out if they find themselves lost without additional prompting. This helps to reinforce the culture of collaboration that we try to foster in the module.

Difficulty and challenge

However, there is another issue. If we design activities meant for stronger students, the weaker students will feel lost and disengage from the class. If we design for the weaker students, stronger students will complete the task quickly on their own, become bored and disengage from the class.

To solve this conundrum, I found it effective to borrow two categories from game design: “difficulty” and “challenge”. A problem can have a low difficulty, or be easy, but be challenging or it can be difficult but not challenging at all.

A problem is difficult when it is hard to accomplish, and it depends very much on the learner’s ability to succeed. A sharp learner, for example, may not struggle much with a difficult problem, but a slower learner may feel lost and be unable to solve the problem unless someone steps in.

On the other hand, a problem is challenging when it requires effort rather than ability to solve it. Hence, a challenging-yet-easy problem can be solved by both fast and slower learners, and they will both need to work hard to find the solution since the answer is not immediately achievable.

With these categories in mind, we can design learning activities that have low difficulty but are still challenging enough for stronger students. This is achieved by providing just enough scaffolding and guiding resources, such as a Q&A resource page, that weaker students can refer to for help. This mirrors the way computer games leave clues and hints lying around.

For formative activities, I calibrate them to be easy yet challenging. In my course, this means that someone who has just learned Microsoft Excel will be able to solve the problem even with minimal experience. But it is challenging in a sense that the most experienced Excel user will not find the answer immediately and will have to work towards the answer, too.

For summative assessments, I will calibrate them to be just as challenging but with a higher difficulty level. There will be fewer scaffolds and guiding resources available. I typically pick out scenarios without clear answers, and so students have to talk within their groups to convince themselves of the right solutions.

Satisfaction and shock

The greater the challenge of the activity, the more we must ensure that students find the activity satisfying, as a reward for completing the challenge. Some activities are satisfying once the learner completes them. But sometimes the satisfaction may not be enough. To combat this, I usually test these activities with my teaching assistants, who are all undergraduates. I observe their behaviour and note their feedback for improvement.

Role-playing is useful in augmenting satisfaction levels. Depending on the assigned scenario, accomplishing the task can leave students feeling as if they've just solved one of humanity's greatest dilemmas or that they have made the world a better place with their solution.

Sometimes, we can conclude the activity with a shocking revelation or a mind-blowing learning point that they least expect. For example, in one of my learning activities, students are tasked to develop an allocation algorithm to enrol children for a special learning programme with limited slots. Students feel incredibly accomplished finding the solution. However, when we get them to reflect on their solution, students soon discover that they had unintentionally prioritised children from more privileged backgrounds.

Like a plot twist in a movie, the students' sense of accomplishment is almost immediately replaced with shock as they realise how their solution perpetuates inequality. This has a profound impact on them, making them more cautious about such issues when they carry out subsequent exercises.

These learning activities may be somewhat theatrical. But they help in generating strong emotions, which helps to sear the learning deep into students' memories.

The result: an unforgettable learning experience. I stay in touch with many former students from two years ago and they still fondly remember various activities and learning points from the module. I believe this is an education that Einstein would be proud of.

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