

multi-mode learning : enabling flexible access through simple content development

by [Brian Mulligan](#)

abstract:

Youtube has shown us that when something is of interest to a viewer, simplicity of presentation and production can be just as popular as expensively produced videos of high production value. Salman Khan has demonstrated this in education. The availability of cheap tools has resulted in an explosion of simply produced learning materials on the web as well as the ability for academics to easily create materials themselves if they choose to do so. It is now relatively easy for a professor to create an online course by assembling freely available materials or by creating their own materials. This does more than allow a professor to stop delivering the same content year after year. It allows them to change how they teach, giving them more time to interact with students. But there's more. Structuring a course around online content automatically increases its accessibility. Many more people can now access the content and interact with their professor and peers than previously could. Teaching that is based on simple online content has the potential to increase the quality of the learning experience, and even possibly reduce the cost of provision.

participant's summary

The point I want to make: If you can make your course available by very simple electronic content, makes it much more flexible to offer (and people who did that in the past, benefitted from this in the covid-19 era).

Why do some universities spend so much money on MOOCs? 50.000 euro per course. For the quality of learning, or for their reputation? Probably the latter.

Most of these MOOCs are xMOOCs: transmitting information, nothing more. People who like/need that information, like it.

Khan academy showed that very simple videos can be very effective.

If you are frightened by these high production costs, be aware that with simple tools you can get 80% of your effect.

Important slide with some guiding principles and making video themselves.

For video, avoid editing! Be mild to yourself, tolerate mistakes. At most, repeat the part that was bad, and cut the bad part out afterwards.

Presenting in front of a live audience and using that recording is better for some people.

Now Brian jumps to a mindmap:

Learning materials: can be collected/recycles from very different sources

Quizzes can help to keep the attention and to make sure people do look at the material.

Sources of materials: OER is useful, you don't have to create all of it yourself. Or you can send your students to existing MOOCs. Or you can build them yourself.

Labs are harder to move online. But a lab video is great to *prepare* students for labs.

Improving quality of learning is hard, also for digital teaching. But improving access to teaching is much easier online than face-2-face.

In which modes can these digital materials be offered?

To mature distance learners, even if you are teaching a niche topic. You can offer it also in self-study mode, which helps others but doesn't cost you anything.

For campus learners: you can use your online course in a flipped or blended way for your campus learners, which improves their learning quality. Or you can give the online courses as self-study, followed by project-based learning (in the former they learn the basics, in the latter they learn the practice).

Young distance learners: people who do not go to college but learn on themselves while working.

Multimode è use your same online materials for different audiences and delivery models. That's a great cost reducer.

Q&A

Q. I understand keep it simple. But why avoid animations? or video embedded, if they are pertinent and effective? are there technical or pedagogical reasons to avoid them?

A (J.L.): The most important reason is the time required to create animations and the time to edit them later on, for instance if they don't work educationally or if the content changes (progress in science & tech, new laws, etc.). In addition, animations can easily cause mental overload (too much going on) if not produced very carefully.

Q: how can you estimate the time requirement involved once you have virtualised the material? Both for preparing the material, and to estimate how long the students take to view and absorb it

A: for the first, can get down to x2 wrt classical methods. For the second very hard to estimate

A: from Jörn - Surveys show very low involvement in traditional f2f classes with 50% of ECTS estimates in some study programs. German study:

<https://his-he.de/publikationen/detail/orte-des-selbststudiums-2018>

A: Stefaan - iterate over years and ask for feedback on actual hours spent. Lots of variability, but can be refined

Q. What are the parametric quizzes?

A (J.L.): Sounds like LON-CAPA or STACK etc., that is, (mostly) computational problems with randomized values.

Brian: Wiris <http://www.wiris.com/en>

Q: why is improving quality so much harder? There is intrinsic efficiency in the traditional “ex cathedra facetime + possible live interaction” (I understood this was the baseline Brian is comparing to), also for psychological reasons imho

A:

Q: in my experience in ULiege (and mine in Bielefeld, J.L.), the problem is truly motivation (at least for 1st year students) - in many of your examples you presume someone who really wants to study - there is a large swath of students who just feel “obliged to study something and get a job”... These are very hard to reach, and my main preoccupation in going online.

A: (Brian) This is a huge problem - motivation. Many (if not most) students are motivated by grades and we all try to exploit that - e.g. a quiz after a video - the video does not have to be very sophisticated - just clear - a quiz directly afterwards may encourage students to pay attention and take notes. (Asidethis is why I am spending most of my time on developing Work-Based degrees - I find that our online distance learners are more motivated - this may work really well for engineers but I’m wondering if it can be done for a physics degree)

Q: there is a whole psychological layer in the teachers as well, who don’t want to give up their acre of land. Just curating other people’s work makes it hard to show your added value. Can we come up with a better way of “putting your mark” on a class and making it your own?

A: This is where I think “flipped” and Project BAsed Learning is of value. The added value from the teacher should be in helping students to “do” something and of course assessing their performance. However, in making education better we need to avoid pandering too much to the vanity of teachers.

Q: In the modes, you mentioned flipped learning. It is often associated with “peer to peer” learning, meaning the students are encouraged to discuss among them about the questions before having the solutions. Do you think it would be useful also online?

A: peer assessment shown to be effective, and a learning experience in and of itself. Online, it would add the feature to be, if wanted, asynchronous (forums etc...). The downside is the higher workload for the teacher and rethink the assessment.

bit.ly/labsonline link for discussing possibilities of online lab work

moocs4all.eu -> mooc to make elearning material

BM is using mindmeister.com for the mind map in browser