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# The Consequences Of Posting Learning Online

## Shelley Kinash and Matthew McLean

One of the heated debates in university education today is whether or not to provide lectures online. No doubt this conversation exists beyond the halls of academia, across the corridors of our schools. In the school context, the debate is often framed as a question of whether classrooms should be *flipped*, so that students watch content videos online and apply learning (the idea of homework) in class under the supervision of their teachers. Students at all levels are calling for online delivery, whilst educators are concerned about its implications on attendance and learning. This mismatch of perception between students and academics has placed universities worldwide at a crossroads, as senior executives walk the tightrope of student demand and academic pedagogy.

A comprehensive review of literature and data exploring this issue identifies four questions at the heart of this conversation:

1. Does student attendance decrease when online content is made available?
2. Does it matter to achievement whether attendance is online or face-to-face?
3. Is online content better suited to some pedagogical tasks than others?
4. Do some types of online content work better than others?

### **Does student attendance decrease when online content is made available?**

Academics are naturally concerned that if students have access to online content, they will no longer attend in person. To an extent these fears are justified, but the evidence suggests that resulting declines in attendance are unlikely and minimal. One team of researchers analysed end-of-semester surveys of 197 first year medical students in a program whereby at least 95 per cent of lectures were recorded and made available to students. Ninety per cent of respondents reported that

the availability of online lectures made no difference to their class attendance. Another analysis of survey responses from 70 dentistry students indicated that 91 per cent reported using online media to review lectures already attended and only 9 per cent as a substitute to attending class.

In addition to these quasi-experimental studies, there is a growing body of noteworthy qualitative evidence. In one instance where researchers interviewed a purposive sample of healthcare students, they found that access to recorded lectures did not influence their attendance decisions. Instead, the determining factors of attendance were whether the lecturer and topics held the students' interest and attention. The answer to the question above is simply that if student attendance decreases at all, it will be only marginal and can be recovered through lecture style and presentation.

### **Does it matter to achievement whether attendance is online or face-to-face?**

The focus of the debate regarding whether or not to provide lectures online in digital formats may be misplaced. Surely as educators, the decisive evidence in this kind of discussion should be framed around learning. On this matter, a wealth of writing and data can be sourced from researchers all over the globe and across disciplines.

In a quasi-experimental study in the context of introductory biology, researchers found no significant difference in student achievement between cohorts of students experiencing lectures entirely face-to-face and entirely online. Another team of researchers tracked the on-campus attendance, grades and student access to streamed lectures of 108 engineering students. Once again, achievement remained unchanged regardless of the lecture's medium. A third research team conducted a

quasi-experimental study comparing the examination results of psychology students taught face-to-face and those instructed through podcasts. The results revealed statistically higher achievement of the students in the podcast group. Finally, the learning experience of 211 geology students attending exclusively face-to-face lectures was compared to that of 153 students who also had access to video streams of these lectures. The results indicated that although lecture attendance reduced with access to content online, there were no overall differences in achievement between the two groups. Notably, grades went up alongside frequency of lecture viewing.

The leading UK survey on use of university information technology (IT) asked respondents to advise whether or not usage enhances their learning. Of the respondents, 79 per cent accessed course-specific materials online including lectures and podcasts. From within this group, 74 per cent were of the belief that IT was very useful in enhancing their learning. Similarly, a recent study in Australia found that lecture streaming was perceived to help 67 per cent of students in a significant or moderate way to achieve better results. When the same students were asked if lecture streaming made it easier for them to learn, 80 per cent indicated that it had, while only 7 per cent felt it did not.

Authors writing on the theme of online digital content and student attendance agree that there is no significant difference between student achievement when they view face-to-face or online lectures. In terms of achievement, it would appear attendance does not matter. A point worth pondering, however, is whether removing the necessity of on-campus attendance has an impact on the student experience such as participation in clubs, sports and social opportunities.

### Is online content better suited to some pedagogical tasks than others?

Most academics agree that lectures are well-suited to online delivery whilst other learning tasks such as labs and recitations should continue as a face-to-face teaching exercise. A blend of online and on-campus pedagogical tasks also addresses the previous concern of a well-rounded student experience.

Historically, learning through discussion has been recognised as a fundamental part of the learning experience. Many educational theorists agree that sound learning designs through prodigious use of information and communication technology in teaching will support quality learning outcomes. Some leaders in the field of education are writing that online content such as podcasts need not be restricted to didactic pedagogy. These authors discuss the potential for digital content to be transformative, such that reflecting on, designing, creating and distributing podcasts has the potential to change teaching conceptualisations and approaches from didactic lectures to constructivist learning.

Each of the authors whose work is described in the context of pedagogy wrote that learning should be the constant guide of what and when technology can serve as the vehicle through which teaching is facilitated. Of course, some online content is better suited to some pedagogical tasks than others and academics should also have this principle front-of-mind as they decide which content to make available online and which should remain face-to-face.

### Do some types of online content work better than others?

This question asks which education technologies or instructional design formats are more effective to promote student learning. Some authors canvassed a number of forms and media through which online content can be delivered.

Including social media, interactive whiteboards and YouTube, academics have an increasing range of digital applications available to them. These researchers also addressed best practices for technology-enhanced teaching and learning, putting forward the notion of hybrid course development incorporating both face-to-face and online lectures using instructional technologies such as the Blackboard Academic Suite, PowerPoint, Adobe Presenter, Respondus and Google Blogger.

A few studies experimentally compared multiple approaches as independent variables to producing digital content. One research team analysed 70 survey responses from dentistry students. One of the questions asked students to indicate their preference between audio-only podcasts, audio synched with PowerPoint slides and video podcasts (vodcasts) made by recording lectures. Of those who indicated using the media, 66 per cent preferred audio-only, 21 per cent preferred video and 13 per cent preferred audio synched with PowerPoint slides.


In general, across the studies, students indicated a preference for mobility and completeness. Some types of online content work better than others. For now, however, findings are mixed and do not lead definitively to format design decisions.

### Conclusion

Grave concerns about the effect of lecture streaming on student attendance are largely unsubstantiated by published research. Of higher priority than attendance, fears about student achievement are misplaced. Not only does the evidence suggest that lecture streaming does not have a negative impact on learning, in many instances digital content has been demonstrated to heighten student achievement and outcomes. Some online content is better suited to some pedagogical tasks than others, while some types of online content

work better than others.

The examined research was framed on the basis of an interruption to the status quo. The question of the impact of digital content is situated in the traditional university structure and format of students attending lectures, where they listen to long speeches accompanied by text-based notes and then process and apply the content through tutorials and sometimes labs. Blended learning and digital content is a game-changer and there is a wealth of evidence to suggest that so far as teaching and learning goes, this is a profoundly positive change.

Whereas some authors are amenable to digital content, provided that it is confined only to delivering lectures, others believe that the capacity of online tools, resources and communication should be explored as a disruptive innovation. The question of whether students feel compelled to attend on-campus lectures calls the traditional pedagogy into question. The entry of digital content and communication into the arena of university education is an opportunity to re-examine why students enrol in university and what teaching approaches best support their learning. 

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