

Higher Education Psychology Teacher of the Year Award finalist paper

Using evidence-based strategies and open-access to improve learning and teaching

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Summary

MY PRIMARY work has been guidance for how to use lecture recordings effectively for staff and students. This involved a peer-reviewed publication (Nordmann et al., 2020) and a set of infographic guides that have been adopted at institutions internationally. This work also led to the development of a generic course that teaches study strategies to support students learning on lecture-based courses and I have focused on embedding evidence-based study strategies and teaching techniques from cognitive and educational psychology throughout the curriculum. Underpinning all my work is a commitment to open-access and open science and I have shared my work widely and freely using modern approaches to academic dissemination including preprints, open educational resource repositories, free webinars, and blogs.

Reasons for introducing this teaching method

Key aims

1. To help support the transition to university for first year students and to reduce the impact of the hidden curriculum, particularly for widening participation students.
2. To improve pedagogical guidance surrounding lecture capture for both staff and students.

Personal motivation: As a first-gen student, I struggled with the transition to university during my undergraduate degree, in large

because of the enormity of the hidden curriculum. I did not have the words to describe what I was lacking, rather, an omnipresent awareness that my engagement with higher education had greater friction than for many of my peers. My teaching practice is undeniably driven by that experience and by a desire to make the implicit, explicit.

When completing the taught component of my PGCert in Higher Education. I was struck that coverage of cognitive and educational research concerning learning and memory was minimal compared to more abstract debates of constructivist vs. positivist approaches, despite its importance, robustness, and concrete applicability to all teachers at all levels. As psychologists we have a key role to play in improving teaching and learning across all of higher education – whether you take a constructivist or positivist approach to teaching does not change our cognitive architecture and how we acquire, retain and retrieve information.

I am lucky to have worked at institutions with a fully developed teaching-track and to have been able to advance my skills and experience as an educator. However, most academics are research-focused and, even with the best intentions, do not have the time to devote to pedagogy. Consequently, my focus has been to provide concrete, pragmatic examples and guidance to help academics improve their practice. I believe

that we should extend our colleagues the same courtesy we strive for with students when it comes to managing anxieties and there are few better examples of how poor communication has led to widespread anxiety than lecture capture.

Pedagogic research motivation: Guidance on how to maximise the pedagogical effectiveness of lecture capture does not seem to have caught up with demand (Witthaus & Robinson, 2015) and there have been calls for support for both students and instructors (French & Kennedy, 2017; MacKay, 2019) in recognition that neither should be expected to instinctively understand how best to use lecture capture without explicit guidance. Morris et al. (2019) also argue that lecture capture has made it even more crucial for instructors to highlight the importance of note-taking, understanding, and extra reading as part of the learning experience. Our focus on general study skills was based on the self-regulation literature. Richardson et al. (2012) reported that goal setting, effort regulation, and academic self-efficacy were the strongest correlates of GPA whilst Lent and Brown (2006) suggest that these three areas are more malleable during early skill development and interventions should occur early in the university process. Additionally, Hockings et al. (2018) found that first year students in particular used their experience of homework in high school to frame their conception of independent learning and this led to many feeling overwhelmed, uncertain as how to best spend their time, and lacking the self-motivation to study independently when they would not 'get in trouble' for failing to do so. Dörrenbächer and Perels (2016) report that content-independent self-regulation training is effective and this was the primary driver for the focus on improving general study skills, rather than psychology-specific content.

Benefits

The key benefit is reducing the hidden curriculum and giving students the skills they need to succeed and by doing so, supporting

widening participation students. It is difficult to measure the exact impact of this (see limitations) but student testimonials (see below) support the evaluation that my work has made learning more accessible to students from diverse backgrounds. Additionally, an evaluation of our recently developed Making the Most of Lectures course found that 67.5 per cent of participants agreed with the statement 'The information presented in this course was new to me'. That the course was not released until the second semester suggests the study strategies contained with it were not being effectively taught elsewhere during, for example, the induction period.

My work has also benefitted educators and students across a range of settings. A commitment to making my work open-access and wide dissemination has allowed me to impact teaching practices far beyond my own institution. Our work on lecture capture was shared as a [pre-print](#) prior to formal publication and has nearly 3k downloads, whilst the [infographics](#) have over 5k downloads. The guides have been adopted by or are referenced on the lecture capture guidance pages of at least [14 institutions](#) – and this was the case prior to publication showing the power of open-access. The cumulation of my work has been a recent paper on supporting the move to online learning as part of the response to Covid-19 (Nordmann et al., accepted). Whilst this work is not specifically about study strategies, we embedded cognitive principles of learning throughout the guidance and the network I have built on the premise of sharing good practice has, in part, driven the dissemination of this paper with the [pre-print](#) being downloaded over 3.5k times before formal publication.

Peer testimony

In June I downloaded your pivot guidance and attended a webinar, and I found it invaluable. I really didn't have much of an idea of how to deliver effectively online and keep students engaged without face to face teaching. I'm in FE and although your work talks about

pivoting online in HE, it is equally applicable in our sector too. I now have a proper plan for delivery for the start of 2020–2021 (and slightly reduced anxiety levels!), and I don't think I would have got this far if I hadn't come across your guidance. Dr Katherine Baxter, Lecturer in Sciences, Ayrshire College

I was asked to lead a Task and Finish group last year on recorded teaching content and we found the paper 'Lecture capture: Practical recommendations for students and lecturers' to be really valuable, and this informed a set of recommendations for WGU staff produced by our group. We have also made use of the related infographic advice 'Using lecture recordings: A guide for students' – our academic skills team have produced their own advice but also linked to your guide. Finally, I've been referring colleagues to the outputs from the QAA collaborative cluster on Widening Participation and Lecture Capture, in particular the top tips. Alicia Owen, Wrexham Glyndŵr University

I've especially found your lecture capture guides and your blogs about pivoting incredibly useful, I have passed them on to other colleagues and they have informed what we are doing at Sussex. Also I find your infographics super pleasing. Thanks for sharing all of these things with the world - I'm sure they are helping lots of other people who normally just lurk! Dr Eleanor Miles, University of Sussex

Issues

Resistance: Although our lecture capture work has been generally well-received it is not the case that it is accepted by all academics. There is still significant resistance towards lecture capture. Most of this concerns policy issues, however, the belief that recording lectures affects attendance (and that attendance and engagement are the same) is so ingrained that it has proven difficult to overcome in many individual cases. I hope that a positive outcome of the Covid-19 disruption is a greater understanding of the bene-

fits of flexible engagement, but this does not change the fact that currently even an evidence-base is not enough to change attitudes or behaviour.

Evaluation: As with many educational interventions, obtaining objective, reliable data on the impact on actual behaviour is difficult and so evaluation is largely based on self-report data or the uptake of the materials. Additionally, a key aim was to disseminate the recommendations and guidance both internally and externally and so the resulting impact on students and staff in other institutions or courses is difficult to determine beyond usage statistics.

Covid-19: Our lecture capture work was conducted during the old normal and presupposed face-to-face lectures. There is much in our guidance that maps directly to online learning and indeed, my aim has been to focus on strategies that work with our cognitive architecture rather than being specific to a pedagogical approach. However, the impact of the upheaval from Covid-19 is yet unknown. What we know about effective online learning is based on students *who chose to learn online* and my research focus for the foreseeable future is trying to understand how that body of work can be applied to 'involuntary' remote learning.

Student's perspective

'I found your introductory lectures an immense help, due to being a mature student returning to education. I had forgotten how best to approach study and would have been the student armed with multiple highlighters and getting nowhere. Having pointers of do's and don't's was invaluable when it came to exam revision and was deeply appreciated...'

'I found going through the different study techniques really reassuring – knowing how exactly the different techniques aided revision was helpful in understanding my own study habits. Knowing why I was doing various techniques made me more conscious of how I approached revision and I felt more relaxed and in control

as I knew why some things worked better for me than others. Similarly with the information on note taking and pre/post lecture prep, I appreciated what I was already doing being reinforced as the right approach – sometimes I would wonder if I was doing enough/too much and having your lecture as a guide was really helpful in reducing my overthinking/obsessing over the ILOs!

Reflections

My work on evidence-based learning and teaching forced me to confront my own teaching practices and my understanding of ‘engagement’ has changed dramatically. Much has been written on the death of the lecture but a live lecture done well can be an incredibly positive experience for both sides of the podium and face-to-face lecturing is a part of my job that I get a huge amount of pleasure from. My lecture capture work and how it relates to widening participation forced me to reflect on the message that I was sending – that attendance, rather than engagement was key. I changed the way I talk about lectures to a more flexible approach that values consistent engagement rather than physical attendance – I should not have been shocked to find that the size of my ‘audience’ did not suffer but that students hugely appreciated the recognition that sometimes they have competing demands on their time that make attendance difficult.

I also hope that my work has helped to promote the teaching-track. I am hugely proud to be a teaching-focused lecturer and I will not suffer any notion that we are somehow second-rate and I am forever grateful for organisations such as DART-P that promote the track. Using formal and informal dissemination routes and my focus

on providing concrete, practical ways to improve learning and teaching has allowed me to reach people who would not normally engage with teaching and pedagogy. I also believe that I provide an example of why the teaching-track is necessary and a driver of excellence, particularly given that I am still at an early-mid stage of my career.

Dissemination and publication

The lecture capture recommendations and infographics are formally published as Nordmann et al. (2020). The Making the Most of Lectures Moodle has been made available on [OpenLearn Create](#) and is also available through [GitHub](#) with a CC-BY licence. I have shared my practice at multiple invited talks, seminars and keynote speeches including Abertay, Cardiff, Durham, eduHub Days 2020 (Bern Switzerland), Media & Learning Conference 2019 (Leuven, Netherlands), OpenCast Summit 2020 (Ghent, Belgium), UCL, Edinburgh, Ljubljana, and Strathclyde. I am also currently in early discussions with [OneHE](#) to create a micro-course based on this work. I use [social media](#) extensively to share my practice. On my [personal website](#), I host a blog and keep a record of my open educational resources. My How to Study lecture, for example, has been downloaded 243 times at the time of writing. As part of a QAA Scotland funded project, our work on lecture capture and widening participation is available through a range of outputs at the [QAA resource hub](#).

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