

Special issue: Innovative Teaching Personal Essays

## We Are The Teachers – But Do We Really Know What’s Best for Our Students?

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As academics we have had a great deal of autonomy when making decisions about the specific learning experiences we design for our students. In many cases, we take over a unit or block of lectures from a colleague with minimal handover: a broad unit outline; a series of learning outcomes (possibly); a set of PowerPoint slides; and the student evaluations from the previous year. Typically, we take possession of the teaching, and proceed to talk about “my lectures” and “my unit”. In many cases, we then decide to redesign the learning activities (lectures, labs, workshops etc). We can do this without submitting a unit amendment and even without consulting the course convenor or engaging other academics in discussion/review of our ideas. We innovate with the best intentions for our students.

What are the concerns with this scenario? Our thoughts would be.... where is the rigorous, scholarly approach – building on existing evidence, gathering and evaluating our own evidence and building on this – attributes that are core to our approaches to our disciplinary research but which often are not transferred to innovating approaches to teaching and student learning? So why do we handle our teaching innovations like this?

As well as the issue of what evidence we might use to decide on the new learning experiences, we are concerned about the ways we approach evaluation of this new learning. Indeed, is the new learning experience evaluated at all (beyond the generic student evaluation

survey questions)? Or do we just assume that anything new is better than what it replaced? If I *have* evaluated ‘my’ new unit, then further questions arise: What were the evaluation criteria? What evaluation tools were used? Who were the evaluators? Layered onto these concerns, is the reality that as academics we may be highly accomplished in our disciplinary research, but most of us have limited experience measuring the impact of learning design. The next questions are: how do we interpret the evaluation data, and how do we respond to it?

Many of us have had teaching experiences where we have designed what we think is a great learning activity only to be baffled by the students’ response after the class in some formal evaluation. This leads to the dilemma of how to proceed from there. How do we truly know if it was a productive teaching and learning activity? We want to address this vexing question by presenting a case study from an innovative learning activity we co-designed.

In the sciences, there is widespread agreement about the value of critical thinking strategies and deeper approaches to learning both for improving student engagement and helping students develop the skills necessary for the analyses and interpretation of scientific data and communication ([LTAS Project, 2011](#); [Kirkup and Johnson, 2013](#)). For instance, an increasing body of work has reported the benefits of learning with videos in which students are required to *produce* videos as an active learning technique as opposed to simply learning from videos posted online or shown in a classroom, which is invariably a more passive learning activity ([Jensen et al, 2012](#); [Schultz and Quin, 2014](#)). Based on the education literature that advocates the value of active video based activity, we implemented “student produced videos” in our units, to replace the traditional written laboratory reports, as an innovative assessment strategy with a stronger emphasis on data analysis and critical thinking ([Speed et al., 2018](#)).

We were very excited about this innovation. We had received funding from a peer reviewed faculty competitive grant process, which helped us to introduce this innovation and to evaluate its impact on the student experience. Informal observation of student behaviour during the lab classes reported that students were filming and taking photos of their experiments. They appeared far more engaged with the actual experiments set down for this topic than in previous years. When the videos were being marked, we received excited emails from the markers about the quality of some of the videos and the level of critical thinking demonstrated. Our review of selected videos confirmed that the students' critical analysis that was demonstrated was impressive, that some students had shown a high level of creativity, and that much effort and work had been involved.

Imagine our surprise, though, when we received very mixed student feedback, with a number of students almost aggressive in expressing their dislike of the activity. When asked in a survey of students at the end of the unit, "Would you suggest any changes to enhance this unit in the future?" one student responded: "..... the video report is the stupidest, most awful and least engaging assignment ever put forward by any unit." However, 53% of students agreed that it was an interesting approach to assessment and 59% agreed that it allowed them to think creatively. When asked, "What aspects of the practical did you find most enjoyable and interesting?" one student wrote: "The creative process and trying to communicate the results in a way that was understandable to the viewer" ([Speed et al., 2018](#)).

The question we were then confronted with was, 'Whose opinion of the learning experience do we value most?' Was it the staff's, who were generally favourable? Or the students', who were very divided in their responses? From our perspective as the teachers, we were confident that many students had engaged far more with the laboratory component than in

laboratory classes where a written report was required. We suspected (but don't have the evidence) that knowing they were going to present/perform in a video (a personal appearance) may have had an influence on some students' attitudes to the task. We had also emphasized that the assessment was focused on data analysis and critical thinking and encouraged creativity. Maybe this changed their focus.

So how do we measure the impact/productivity of this learning experience and decide if we retain it? Although we undertook some student evaluation in this first iteration of the assessment, there are still many more questions we would like answered from both the students' and teachers' perspectives. We can listen exclusively to the minority strident student voice and remove this innovative learning activity, which was based on the evidence in the literature. This would appease the negative student voice (22%) and probably improve our student evaluation scores. Alternatively, we can adopt the proposition that "Good teachers expect and demand high levels of performance of students" ([Ben Johnson, Edutopia, 2013](#)). This effectively leaves us with two pathways: assume we know what's best for our students or repeat with further evaluation. Currently we are retaining the video reports in our 2<sup>nd</sup> year unit and reviewing them for our 3<sup>rd</sup> year unit.

Yes – we are the teachers, but we don't innately know what's best for our students. However, as educators, researchers and scholars it is our responsibility to take a scholarly approach to our teaching. We propose that as educators we need to adopt the approaches we use in our disciplinary research - building on existing evidence, gathering and evaluating evidence in our own context and building on this, and apply these to teaching and learning. This will require us to develop different research skills or collaborate with experts in the area. We must be rigorous, evidence based and unbiased.

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