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Education in Practice

Edited by Jon Green and Michael Grove

TA Teaching Academy

Education in Practice

Contents

Editorial

We are delighted to welcome you to this third issue of *Education in Practice*, a journal developed and hosted by the University of Birmingham with the aim of sharing effective practice in learning and teaching and educational enhancement. *Education in Practice* has been designed for all University staff working in support of enhancing the student learning experience, be they academic members of staff or staff from professional or support services. Contributions are also welcomed from both undergraduate and postgraduate students.

This issue contains five case studies and papers from colleagues within the University, and in one case outside of it, writing about different aspects of their learning and teaching activities. Pritchard reports on providing formative feedback in advance to help students improve their performance as they approach summative assessment; this will be of interest to anyone running project or activity based modules across the University. Burns et al. analyse the findings from a groupwork skills training programme and explore how the learning from it is applicable to anyone involved in running a training experience. Grove and Pugh summarise work first undertaken through the National HE STEM Programme, which was hosted by the University of Birmingham, to explore whether predictors of sustainability exist for learning and teaching initiatives; their work will be relevant to anyone seeking to initiate or commission learning and teaching projects or activities. Delbauve et al. report on a highly topical project, particularly given the national development of the Teaching Excellence Framework (TEF), that explores an alternative way of viewing and approaching peer-observation; this is a recommended read for all academic Schools. And finally, Jenkins and Jones report on the use of a flipped classroom and blended approach to teaching in a module.

One of the questions that we are often asked is 'Why should I write about my teaching?' In the simplest analysis, publication allows your work and ideas to be tested and challenged so that a deeper understanding can be obtained from the observations of others, but also allows it to make a contribution to the publicly available knowledge on educational practice and theory. However there are more personal reasons for publishing.

Writing about our teaching forces us to calmly think about, or reflect upon, our own practice. We are all busy, but writing allows time to reflect upon successes, challenges, concerns and even frustrations. As scholars, be it our own disciplinary research or teaching, our aim is to continually improve and to find new, or more effective, ways of doing things. Writing forms part of this process of continuous improvement. It allows us to analyse and understand what we really think and believe, and we can learn just as much from what doesn't work if we seek to calmly understand the reasons why. But committing our thoughts to paper achieves something even greater; it makes us part of a much larger community, one that transcends the traditional boundaries of our disciplines, and one where we can engage in scholarship to develop a wider identity, sense of belonging, and achieve external recognition for our work. Most significantly membership of this community will not only help us develop as teachers, but it will also contribute to an enhanced experience for all our learners.

There exist many different publication routes and they can be considered as a spectrum ranging from a news report, which may be a few paragraphs in an educational newsletter or email, up to a fully peer-reviewed research report in a journal that provides sufficient detail to allow a study to be replicated and audited. *Education in Practice* has been designed as a publication route that 'bridges' the interface between newsletters and journals of educational research; as such, it is an ideal first publication route for those new to publishing on teaching and learning, and an opportunity for those who are more experienced to share and test their ideas with other colleagues from across the University. It provides an accessible publication route for those looking to disseminate teaching and learning practices, ideas and developments or outcomes from education-related projects.

We warmly welcome contributions from anyone working at the University of Birmingham. We would be delighted to hear from you.

Jon Green and Michael Grove
June 2017

Case Study

15 days that changed the world: Getting students to appreciate feedback within tight marking deadlines

Jeremy Pritchard
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Summary
'It is well known that the more rapidly feedback is provided to students the more useful it is to aiding their learning and the better appreciated it is. However a challenge is providing feedback to large cohorts on extended pieces of work in a timely manner so that it can be used to inform their learning. Here we report on an approach used within the School of Biosciences that uses a series of formative feedback exercises to develop understanding and skills as students approach the final summative assessment.'

Separating grading from feedback

As academics we spend a lot of time providing a summative grade along with feedback at the end of an assessment. Combining the summative (grade) and formative (feedback) components of the assessment does not maximise the impact of this information on the students' performance (Barton, Schofield, McAleer & Ajjawi, 2016). In programmes constructed from individual modules students do not see feedback as useful to improve their grades in the future (so-called feed forward). As academics we may ourselves be guilty of giving the impression that the grade is more important than the learning that preceded it (Morrell, 2014). Indeed it has been suggested that provision of summative grades may in fact reduce or dilute the perceived value of the associated formative feedback; for example, *'A grade therefore may actually be counter productive for formative processes'* (Sadler, 1989). Additionally, the process can be inefficient as feedback may only be read if the summative mark does not match the mark that was expected (Wojlas, 1998). Thus, in providing feedback that is not necessarily used to improve learning, we are potentially wasting time if that feedback is not used by students to *'monitor, evaluate and regulate their learning'* (Barton et al., 2016).

The more rapid the feedback the more useful it is to students and the better appreciated it is (Robinson, Pope & Holyoak, 2013). Partly as a result of this paradigm it is now a requirement at the University of Birmingham that marks and feedback are returned to students within 15 days from submission, including moderation and office time. While rapid feedback is a general aspiration there is a danger that to satisfy the requirement for speed, the provision of quality feedback could be challenging. There is a potential solution; school teachers do not provide summative and formative feedback together at the end of an assessment. Rather, a series of formative exercises develop understanding and the necessary skills prior to the final summative assessment. The final piece of work is graded and marks returned, often without any additional feedback.

This report describes a second-year plant biology module (designated Bio237) in Biosciences in which the in-course assessment consists of a formal scientific write up of a practical project. There are 80 students on this module; it was decided that it would not be possible to mark 80 scripts and return them with meaningful individual feedback within the 15 day requirement. A decision was made to separate the formative training from the final summative assessment.

There was a danger that students would negatively view the lack of feedback at the end of the assessment. However, in an alternative approach, formative feedback can be provided in advance to help students improve their performance as they approach the summative assessment. Such advance 'training' allows students to reflect on the feedback they get as the module progresses. In the current Bio237 exercise the training for the summative assessment came from two sources: 1) experience in previous modules (for example, reflection on previous feedback) and: 2) direct training in the current module.

Formative training for the practical write up (see Appendix 1)

The first piece of feedback the students were expected to reflect on and use in the current assessment was the comments and experience they received in a first-year module that formed a prerequisite for the Bio237 module. This assessment consisted of a write up of experimental data in a shortened format with clear criteria that mirrored some of the components of the required full scientific write up.

A detailed set of criteria were presented to the students before the experimental work for the second-year module commenced. Thus the students were aware in advance of the purpose, direction and expected outcomes of the practical component of this module. Once practical work was complete, a series of face-to-face workshops and online sessions developed the skills the students would need in the final summative assessment. An exemplar paper on a different topic from the practical activities was provided to illustrate best practice. Students also looked at abstracts from real scientific papers and identified the components of these. They then wrote an abstract of the exemplar paper and received feedback on this through peer marking. Finally, an abstract of the exemplar paper was provided.

A marking session was held where students marked a set of anonymous exemplar write ups from previous years' modules. The exemplars were subsequently put on the VLE (Canvas) with an oral (audio) commentary, indicating the good points and where the work could have been improved. Students were then provided with a set of detailed marking codes that had been compiled from generic feedback on the same exercise over previous years. Students were encouraged to use these codes to critically mark drafts of their own work before final submission.

Before students were encouraged to begin the final write up, each practical group was required to submit a one-page proforma detailing the title, objectives, methods, results and the main conclusions. The objectives of this part of the exercise were twofold: firstly to ensure all the members of the group were aware of the data they had collected, and secondly to emphasise the formal structure of the paper before writing would begin in earnest. To highlight the marking criteria, rubrics for each sub-component of the paper (eg, title, abstract, introduction, graphs, etc,) were set up on Canvas SpeedGrader. These rubrics reinforced the criteria encapsulated in the previously circulated marking codes.

Marking on SpeedGrader

The grading was the key aspect of this approach with the rationale being that solely grading a submission would be rapid, in contrast to having to also provide individual feedback. Once underway it was clear that grading was indeed fast, taking about ten minutes per paper. Grading 80 scripts took a total of just over 13 hours, whereas if also providing detailed individual feedback this would have been over 45 hours.

Marks analysis and feedback to students

A Microsoft Excel file of student marks, broken down into the individual rubrics, was downloaded and used as the basis of a mail merge (Pritchard, 2014). Each student was emailed their scores breakdown and class ranking along with some generic feedback compiled while marking. Tweets using the module hashtag #Bio237 were also used when the marks had been released and emphasised how quickly after the submission deadline this was:

'#bio237 @UoBbiosciences practical write up marked & moderated. Check email for mark break down. Hand in was 14th Jan, marks back in 7 days...'

Student reception of the marks and feedback

Less than 30 minutes after the email went out a student emailed back asking for a personal meeting to get more personal feedback. The student was responded to positively but there was a concern that this may be the beginning of a larger response from students that would completely undermine the approach: if students had not recognised the formative feedback during the module then the approach would not have been successful. Two more emails came in, both with specific questions about a sub-component of the marks. Replies were sent including examples of best practice that addressed their specific questions.

It is difficult to get any feedback from students on this assessment strategy since Module Evaluation Questionnaires (MEQs) are completed before module assessment has taken place. However it was encouraging to receive communication via Twitter that came following the release of the marks in from students who had taken the module, for example:

'@DrJPritchard @UoBbiosciences unbelievably quick turnaround with mark break down and detailed feedback, how did you do it?'

To evaluate student perceptions of the feedforward process in more detail a retrospective quiz was undertaken which shadowed questions from the MEQs, asking the students for their view on the process now they had received the marks. The numerical scores were good, with high positive scores which were generally higher than the scores for the equivalent questions in the whole module evaluation undertaken before students had submitted the assignment (Appendix 2). Indeed the question 'I had access to materials (eg, online material criteria, exemplars etc.) that helped me prepare for the write up' had a score of 4.9 (where 5 is 'Strongly agree'). The question 'I received marks and feedback in time to help me improve subsequent assessments' received a score of 4.7.

The free text comments showed a divergence of opinion, with some students clearly understanding the point of the process:

- *'The sessions we had on the write up allowed me to consolidate the learning in the labs and understand what I needed to write.'*
- *'Knowing the assessed criteria was extremely helpful in producing the write up as it gave me more confidence in the standard of the work I submitted.'*
- *'Rapid feedback also very good as the sooner you can identify areas to improve when doing scientific writing the better!'*
- *'… guidance and information given prior to the write up submission was very helpful… a great opportunity to practice and gain feedback before writing our specific experimental versions.'*
- *'Marks were returned to us extremely quickly which was much appreciated as this work provided a good guide on progress in scientific writing and could be used to benefit other assignments and modules.'*
- *'Abstract session and practice abstract was brill – I had never written an abstract before so the feedback received and the chance to read others abstracts was very helpful.'*

However some were less positive, not recognising the value of the feedback provided in the advance workshops:

- *'To me, getting at least some personalised feedback on the final submission is significantly more important than receiving my mark within the week.'*
- *'Being given the various feedback codes and then them not being used at all was a bit weird.'*

Clearly these students had not been convinced by the rationale of the process. These latter comments suggest that some students are relatively passive and are not able to reflect, despite the clear training and criteria provided in this module. However, the generally positive scores and comments indicated that the approach had been successful in providing a rapid return of marks and useful feedback/feedforward.

Conversations with students also identified an unintended consequence: a breakdown of marks had been provided for each of the individual rubrics rather than a single overall mark (Appendix 2). From individual questions received from students after release of the marks it was clear that they saw these rubric marks as feedback. Reflective students were able to identify where they were not performing and use the formative material and generic feedback to identify where they could improve next time. A couple of students asked for clarification, but this was not about why their overall mark was low but focussed on a specific part of the assessment where the component mark was poor. Thus even these students were developing reflective skills within the feedback framework. This process could be taken further in subsequent iterations by including an additional requirement for a post-mark reflective piece by each student.

Final reflections

The strategy to separate grading from feedback seems to have been successful. Marking and the return of marks was well within the 15 days deadline. Student reaction was positive and the overall quality of their work was good. There was no significant reduction in the overall mark for this practical write up in comparison to previous years: in this session the average mark was 71.6±5.7 which was not significantly different ($P>0.05$) from the same assessment in 2014/15 where the average mark was 73.4±9.4. While some students have been in touch to question their mark, and required more individualised feedback, there have not been many instances of this and the questions have been directed and indicate reflective use of the mark breakdown. This approach was more efficient than written feedback that would have been repetitive and largely unread and is consistent with the view that formative feedback allows students to engage with material without the fear of the summative grade (Elawar & Corno, 1985).

Despite the apparent success a final student comment is slightly exasperating(!):

- *'Impressed with the fast turn around of marks, however as they were returned in one week, why not utilise the other two weeks available to provide some personal feedback/comments as well?'*

References

Barton, K.L., Schofield, S.J., McAleer, S. & Ajjawi, R. (2016) 'Translating evidence-based guidelines to improve feedback practices: the interACT case study', *BMC Medical Education* 16:53.

Elawar, M.C. & Corno, L. (1985) 'A factorial experiment in teachers' written feedback on student homework: Changing teacher behaviour a little rather than a lot', *Journal of Educational Psychology*, 77, pp162–173.

Morrell, L.J. (2014) 'Use of Feed-forward Mechanisms in a Novel Research-led Module', *Bioscience Education*, 22(1), pp70–81.

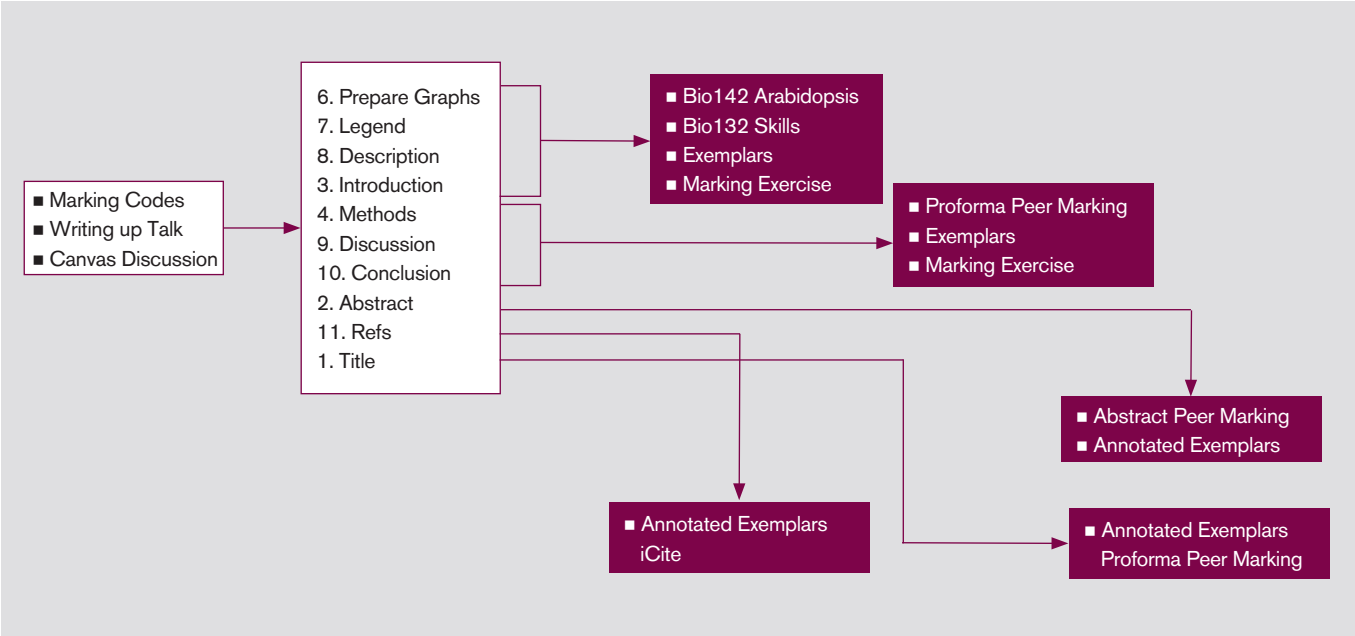
Pritchard, J. (2014) 'Case study: Rapid Personalised Feedback (and Feedforward) Using Mail Merge', *Education in Practice*, 1, pp16–17.

Robinson, S., Pope, D. & Holyoak, L. (2013) 'Can we meet their expectations? Experiences and perceptions of feedback in first year undergraduate students', *Assessment and Evaluation in Higher Education*, 38(3), pp260–272.

Sadler, D.R. (1989) 'Formative assessment and the design of instructional systems', *Instructional Science* 18, pp119–44.

Wojtas, O. (1998) 'Feedback? No, just give us the answers', *Times Higher Education Supplement*, September 25.

Appendix 1 – Sources of feedback/feed forward provided during and after the Bio237 module.



Appendix 2: Post-assessment quiz

This quiz was posted a week after the assessment had been returned to the students. The figures in brackets are the average score for the related questions in the MEQ that was completed before the practical write-up, hand-in and return of marks. Students would have undertaken the training workshops at this point but not yet started the writing up.

Question	Mean Score 5 = strongly agree 1 = strongly disagree
I found the teaching methods used in the practicals were effective in helping me learn	4.3 (4.1)
I had access to materials (eg, online material criteria, exemplars etc.) that helped me prepare for the write up	4.9 (4.6)
Assessment requirements/criteria for the practical write up were made clear to me	4.9 (4.4)
I received advice and feedback that helped me to understand how to write a practical report	4.7 (4.5)
The practical and associated write up helped develop key skills I will need in the future (eg, data analysis, practical skills, numeracy, scientific writing, presentation, group work)	4.5 (4.5)
I received marks and feedback in time to help me improve subsequent assessments	4.6 (NA)
The marks breakdown and generic feedback have helped me identify where I can improve in subsequent assessments	4.3 (NA)

Paper

'Skills don't transfer themselves': Translating training courses into lasting behaviour change

Victoria Burns[1], Jennifer Cumming[1], Sam Cooley[1], Mark Holland[1] and Norman Beech[2]
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Abstract
Opportunities to attend training courses abound for staff and students alike, either as compulsory elements of academic programmes or contracts, or as voluntary options for self-development. It is generally assumed that the content of the training programme will be utilised in future experiences in a process known as transfer (Gass, 1999). However, while training providers typically evaluate whether or not training programmes are well received, there is often less consideration of the extent to which these programmes result in lasting changes in behaviour and performance. Further, evaluations rarely explore which elements make the provision more or less effective, and consider the perspective of different stakeholders. For example, which aspects of the training have the greatest impact? Why do some participants make lasting changes to their behaviour, and others revert to old habits when they return to their usual lives? Do their tutors, supervisors, or line managers see differences in the participants following the training? These omissions are unfortunate considering the substantial amount of time, money, and effort that is invested in these opportunities for, and by, our staff and students. The research presented here was conducted in an outdoor pursuits setting, but gives general, evidence-based advice about what can be done before, during and after a training experience to ensure that we maximise its benefit.

Introduction

Our research has focused on the work of the Raymond Priestley Centre[1]; the University's own outdoor-pursuits centre in the Lake District, which specialises in groupwork skill training for undergraduate and postgraduate students. These groupwork skill courses are typically 3–5 days long, and are embedded in several academic programmes, particularly, although not exclusively, in Engineering and Physical Sciences and the Business School. They aim to enhance cohort cohesion and to develop the skills needed to work effectively in diverse groups at university and other settings. This includes, for example, both task groupwork skills (ie, engaging in behaviours that contribute to the management of the group, including setting goals, strategies and schedules, and establishing roles for group members) and interpersonal groupwork skills (ie, contributing to the interpersonal dynamics of the group by providing emotional support and being sensitive to the feelings of others).

In collaboration with the professional staff at the Centre, our research team has collected quantitative and qualitative data over several years from current and past participants, the commissioning academic staff, and the outdoor learning practitioners. Through this process, we have evidenced the effectiveness of these courses, illustrated the benefits of evidence-based frameworks for evaluating provision, and have generated a series of specific recommendations for maximising the benefit of training courses in general (Burns, Cumming, Cooley & Holland, 2012; Cumming, Burns, Cooley & Holland, 2012; Cooley, Holland, Cumming, Novakovic & Burns, 2013; Cooley, Burns & Cumming, 2015; Cooley, Cumming, Holland & Burns, 2015; Cooley, Burns, & Cumming, 2016). This paper summarises our recent findings, generalising them for outdoor and non-outdoor training programmes.

Using evidence-based frameworks to evaluate provision

Our research has shown that evidence-based frameworks can provide useful guidelines to explore the effectiveness of training provision in a systematic way. For example, the Kirkpatrick Model of Training Evaluation (Kirkpatrick, 1994) reminds us to look not only at the immediate reaction to, and learning from, the training programme (Levels 1 and 2 of the model), but also to explore the longer-term impact of the training on behaviour and results (Levels 3 and 4). Whatever the intended learning outcomes of your training programme, the Kirkpatrick model can be used to design quantitative or qualitative questions to assess the extent to which these goals are achieved and subsequently maintained.

Although usually focused on outcomes, there have been recent calls for the Kirkpatrick model to be used to also explore the factors or processes that influence the extent of these outcomes (Kirkpatrick & Kirkpatrick, 2014). Identifying these processes helps to clarify how and why the outcomes came about, and to uncover ways that the training could be improved. Some example questions for assessing both outcomes and processes are given in Table 1.

Evidence-based recommendations for practice: The Model for Optimal Learning and Transfer

By using the Kirkpatrick model to systematically explore which aspects of provision most influenced participants' experience at the Raymond Priestley Centre, we subsequently developed our own evidence-based framework called the Model for Optimal Learning and Transfer (MOLT; Cooley et al., 2015a; see Figure 1). This is based on thematic analyses of qualitative data from 95 stakeholders including student participants, alumni of the training programmes, the academics who commissioned the courses, and the outdoor education staff who delivered them. The MOLT summarises which aspects of provision affected the extent of the benefits seen at each of the four levels of the Kirkpatrick model. Although developed in an outdoor education context, we have demonstrated that it is a useful way to evaluate other types of training provision and development opportunities (for example Burns, Cumming, Stewart & Cooley, in submission[2]).

The left hand side of the model in Figure 1, ie, 'Reaction & Learning', shows the factors that predict how positively participants react to the programme (Level 1) and how much they learn through participation (Level 2). These factors are broken down into three main themes: Preparation; Learner Characteristics; and, Learning Context.

[1] www.sport.bham.ac.uk/raymondpriestley
[2] Available from the lead author on request.

Kirkpatrick Level	Example outcome question	Example process question
Level 1: Reaction How the participant felt about the training experience (eg, was the content appropriate and enjoyable?); in higher education, this is often conceptualised as 'student satisfaction'.	How have you found the overall training experience?	Which experiences taught you the most? What factors have made it more difficult for you to learn? What characterises the participants that you think get the most out of the training?
Level 2: Learning Learning is the extent to which participants acquired the intended skills, knowledge and attitudes, from pre- to post-training.	What, if anything, have you learnt in the training that you could use in your work/study/other settings?	
Level 3: Behaviour Also known as the 'transfer measure', this involves measuring the behavioural changes that occur when participants return to their normal environment.	Have you applied anything you developed during your training since returning to work/study? Have you noticed any changes in other training participants since finishing the training programme?	Has anything helped or prevented you from using what you learnt during training since returning? Has anything affected the extent to which your training has resulted in the specific benefits you hoped for? What advice would you give to participants who want to transfer what they developed during training to their work/study/other setting?
Level 4: Results Results involve measuring the impact of any changes in learning and behaviour in terms of performance or other outcome measures.	Did your participation in training lead to any specific benefits (eg, improved marks; better teaching evaluations; increased research output)?	

Table 1: Kirkpatrick Model of Training evaluation (Adapted from Cooley et al., 2015a).

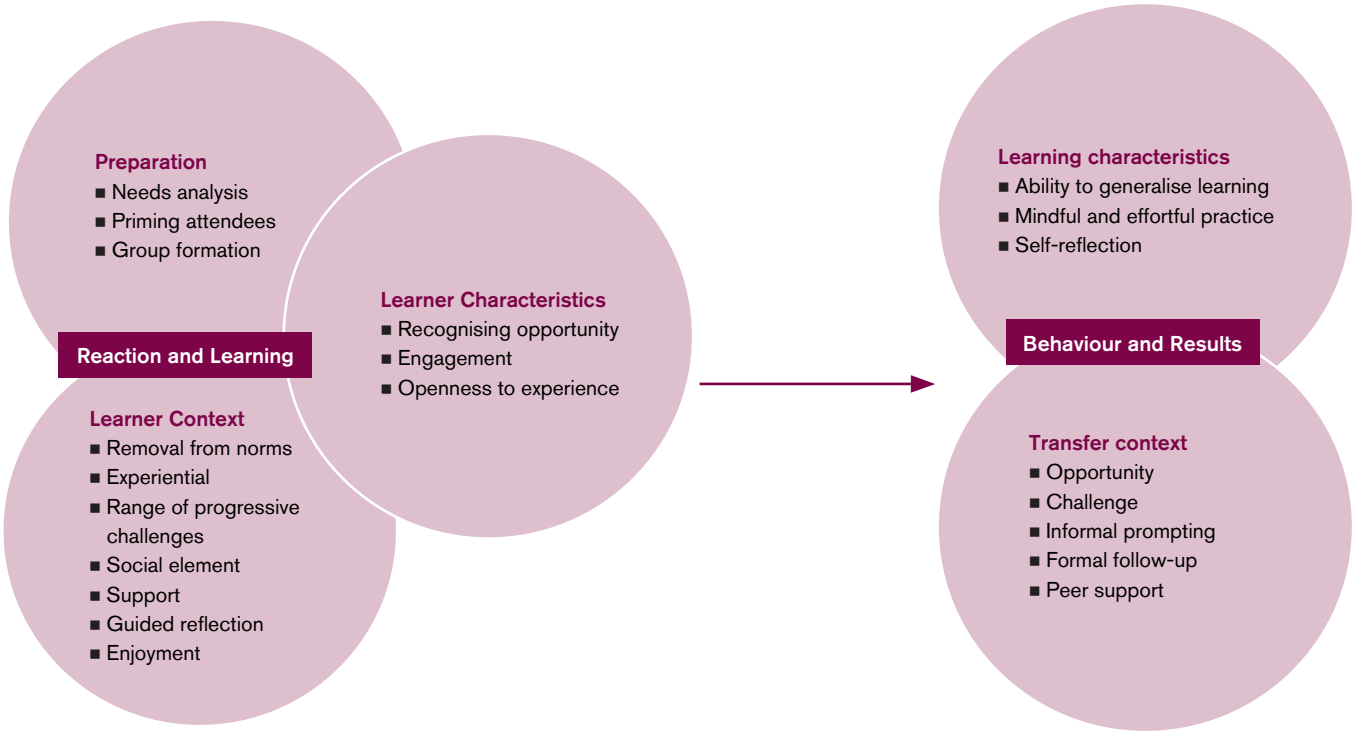

Figure 1: The Model for Optimal Learning and Transfer (Adapted from Cooley et al., 2015a).

Preparation

Our research confirmed that what happens before participants arrive at training can have a large impact on their learning and development, which is then likely to affect the extent of behaviour change and results gained. The training provider therefore needs to ensure that they lay the groundwork for an effective training experience. The first aspect identified was the needs analysis, in which training providers, potential participants, and other stakeholders ensure that the programme is going to meet the requirements of all involved. With an 'external' training provider, such as the Raymond Priestley Centre, this may include ensuring that the commissioning academics have really understood and communicated the backgrounds of their students, the desired learning outcomes, and how these fit with the academic programme in which the training is embedded (ie, the transfer environment).

For training in learning and teaching, this could involve analysing the previous experience of participants and the potential in their current positions to effect change at modular, programme or School level, and modifying the training accordingly. In self-selecting programmes, where participants sign up, it may be more about ensuring that the training provider is explicit about their expectations and assumptions, so that participants can make more informed decisions about whether to participate. Our research suggests that needs analyses are always considered to an extent, but more specific priorities are sometimes overlooked. For example, in the context of outdoor education, do the commissioning staff feel it is more important to build self-esteem through successful completion of challenging tasks, or to develop resilience by putting participants in environments where conflict or failure are likely? Although not mutually exclusive, a training practitioner can use these priorities to decide on levels of content, and how to structure the activities and reflective discussions.

A second element of preparation is group formation, both in terms of who participates in the training programme, and formation of any smaller groups within the training sessions. Again, this will influence both the learning in the session itself, and how this is used in the 'real world'. For example, we have found that, if given the choice, students tend to choose groups based on those who are similar to them, especially in terms of ethnic background. If the main purpose is for participants to learn a new skill in a comfortable and personally relevant environment, and transfer it easily to their own context, then allowing them to choose their own groups may be preferable. In contrast, if you want participants to develop an understanding of different perspectives and respect for cultural and disciplinary diversity, then it may be necessary to assign groups to ensure a good mix. Similarly, the purpose of the training course will influence whether participants work in the same groups all the time or not. Mixing groups regularly gives the opportunity for contact with more people, and so could be useful in inductions or training where networking is a priority. In contrast, we found that longer programmes with consistent groups allowed time for differences of opinion and interpersonal tensions to develop between members, which provided useful learning opportunities. Decisions about whether to offer staff training at University level, or in individual Colleges or Schools, should therefore carefully consider the priorities of the programme.

The third element of preparation is priming attendees for learning and transfer. This can be as simple as which information is provided to participants in advance; we discovered that some people from particular cultural groups were not signing up for the outdoor programmes because they saw swimming costumes on the kit list, and we now make it clear that entering the water is not compulsory. On less practical courses, it can also include clear guidance on the level of the training and expectations of participants. We also found that participant attitudes towards the topic of the training, and the programme itself (measured by questionnaire), predicts how much they enjoy and learn from the experience and whether they intend to use the new skills in their own context (Cooley, Burns, & Cumming, 2016). The participants who gain most are those who think that the skills that they will be learning are important and can be developed in this context, and who have better confidence in their ability to learn these skills. This may be particularly important when the training is a compulsory part of an academic programme or a staff requirement as there will be a greater range of positive and negative attitudes. It suggests that time spent enhancing both attitudes towards the activity, and the self-efficacy of the participant to learn the new skill, is likely to enhance the efficacy of the programmes. We have shown that simple interventions, such as a pre-course video showing previous participants taking part and describing their experience and its benefits, can improve attitudes to the course, self-efficacy, and the efficacy of the programmes (in preparation). In addition, attitudes are improved by authentic institutional support, reward and recognition for the training itself, and the skills being developed. This is likely to be particularly salient for teaching and learning training within the University as we move towards the Teaching Excellence Framework, and is a specific focus for the work of our Teaching Academy[3].

Learner characteristics

Our research suggests that particular individual characteristics are associated with better reactions to, and learning from, training activities. For example, those who recognise the opportunity are more aware of teachable moments. Those who are engaged will push themselves and embrace new challenges, even when uncertain. Finally, those who are open to experience are curious about new ways of thinking and doing, and more likely to absorb new learning. These characteristics are likely to be exhibited most where the training is aligned with student or staff aspirations and personal identity, and where significant others value the potential skills and training.

As individual participants, we can work to embody these characteristics ourselves, but even as training providers, training commissioners, or personal development reviewers, we can support our students or staff to develop such attitudes before or during the training.

Learning context

The final aspect that predicts reactions and learning is the training context itself, including removal from the normal environment, experiential learning opportunities, a range of progressive challenges, and guided reflection. In the outdoor programmes assessed, stakeholders emphasised the importance of being in a novel environment away

[3] https://intranet.birmingham.ac.uk/staff/teaching-academy/

from their usual constraints and/or support networks. Even with other types of training, this physical removal can help participants stay focused on the content without the usual distractions of campus life. Participants also valued the experiential nature of the learning; they completed tasks, such as raft building, that had real physical consequences if unsuccessful! Similarly, experiential opportunities can be built into other training programmes; for example, in the Senior Leaders programme at the University of Birmingham, participants present a proposal to University Executive Board as part of the training. Additionally, PhD students in the College of Life and Environmental Sciences can complete project management or outreach training that involves organising a real conference or public communication event. In doing so, participants get an immediate opportunity to apply their learning and obtain immediate feedback on its success.

Support provided during training was also identified as a key predictor of reactions and learning. In our case, students particularly valued the opportunity to get to know their staff members, and benefited most when the staff were enthusiastic and informed about the programme, but also involved in the students' day-to-day lives back on campus. In staff training, it is often the interpersonal links with others that are similarly valued. The longer-term maintenance of these new friendships also relates to the final element of the training environment in our analyses; participants reported benefitting from the more informal, social activities embedded within a training course. Even with these informal aspects, we can consider how to incorporate activities mindfully to maximise their benefits. For example, social activities that mix up people's social groups, such as group quizzes, can help build new friendships, and more unstructured time allows participants to unwind and casually reflect on the day. Here it is worth remembering to avoid a focus on alcohol-oriented environments, to ensure that all participants are comfortable to engage in this informal, but important, part of any training programme. Even in shorter programmes, simple factors such as the provision of refreshments and meals encourages participants to stay and socialise rather than return to offices in between sessions.

Transfer context

The final, and in many ways most crucial, influence on behaviour and results is the education or employment setting from which the participants come and to which they will return. For students, this is initially their academic programme and then, in the future, their place of employment. For staff, it's their current academic roles. As an organisation, we must specifically plan immediate opportunities for participants to practise what they have learned and ensure that this is sufficiently challenging to require their new skills. For example, after a student groupwork skills course, this may be working on a specific group project in which they'll be expected to formally allocate roles, plan their activities, and reflect on their processes. For members of staff learning about curriculum design, this could be the opportunity to feed into an annual review or other quality assurance or enhancement process. Without this, we may struggle to make the course feel relevant and participants may forget their new skills before they have the chance to apply them. These opportunities should also be supported by informal prompting or more formal follow-ups, in which someone who is familiar with the training is able to remind the participants of what they learned and encourage them to reflect further on their development.

This aspect is often overlooked, with the perspective that once a participant has completed a programme, that box is 'ticked'. However, regular reminders and opportunities to continue to reflect can help embed new learning into our standard practice. For example, the Raymond Priestley Centre has developed a series of emails that are sent automatically to participants at set periods after their programme that remind them of different aspects of their learning and offering small tasks for reflection or discussion. Similarly, reflections on continuing professional development could be built more formally into the personal development review process.

Ongoing learning can also be encouraged through peer support, which was identified as another key predictor of behaviour change and improved results in our study. This can be facilitated by creating communities of practice, either in person or online, to further embed these relationships after cessation of the training. These are often established during programmes, but this argues in favour of supporting their maintenance after the training is finished. This could be as simple as providing a small budget for refreshments when the groups meet to discuss their practice. From an institutional perspective, if such activities encouraged participants to share their learning with others, it would also give the opportunity to disseminate new ideas, and to gain maximum benefit from the training.

Summary

Some of the factors that we have identified here as influencing training effectiveness may already be part of standard practice in your institution. Indeed, they are in line with the key tenets of mainstream learning theories, including Kolb's learning theory (1984), Gass's transfer of learning theory (1999), and Baldwin and Ford's model of the transfer process (1988). However, MOLT provides a systematic framework, through which we can evaluate our current provision. In doing so, we can also identify and implement evidence-based opportunities to enhance our practice and maximise the benefits of our staff and student training.

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Note: For further information about the groupwork skills courses at the Raymond Priestley Centre, please see www.sport.bham.ac.uk/raymondpriestley. For further advice on evaluating impact, and the processes underpinning impact, see the BEST website at www.bestskills.co.uk or the independent Charities Evaluation Service at www.ces-vol.org.uk, which has some excellent online resources. If you have any feedback on using the model, we would love to hear from you through email, the contact form on the BEST website or on Twitter @bestresearch1.

References

Baldwin, T. & Ford, J. (1988) 'Transfer of training: a review and directions for future research', *Personnel Psychology*, 41(1), pp63–105.

Burns, V.E., Cumming, J., Cooley, S. & Holland, M.J.G. (2012) *Developing skills for successful international groupwork.* Report to the Higher Education Academy.

Burns, V.E., Cumming, J., Cooley, S.J. & Beech, N. (2016) 'Improving our understanding of WHY outdoor learning is effective: Opening the Black Box', *Horizons*, 73, pp20–23.

Burns, V.E., Cumming, J., Stewart, E. & Cooley, S.J. (in submission) Uncovering What Works and Why: Using Systematic Qualitative Models to Evaluate a Cultural Integration Programme for UK and Chinese University Students.

Cooley, S.J., Holland, M.J.G., Cumming, J., Novakovic, E.G. & Burns, V.E. (2013) 'Introducing the use of a semi-structured video diary room to investigate students' learning experiences during an outdoor adventure education groupwork skills course', *Higher Education*, 67(1), pp105–121.

Cooley, S.J., Cumming, J., Holland, M.J.G. & Burns, V.E. (2015a) 'Developing the Model for Optimal Learning and Transfer (MOLT) following an evaluation of outdoor groupwork skills programmes', *European Journal of Training and Development,* 39(2): pp104–121.

Cooley, S.J., Burns, V.E. & Cumming, J. (2015b) 'The Role of Outdoor Education in Facilitating Groupwork in Higher Education', *Higher Education*, 69, pp567–582.

Cooley, S.J., Burns, V.E. & Cumming, J. (2016) 'Using outdoor adventure education to develop students' groupwork skills: A quantitative exploration of reaction and learning', *Journal of Experiential Education*, Advanced Online Publication. doi: 10.1177/1053825916668899.

Cumming, J., Burns, V.E., Cooley, S. & Holland, M. (2012) *Messing about on the river: Evaluating the transfer of skills developed in the outdoors into academia and employment.* Report to the Higher Education Academy.

Gass, M. (1985) 'Programming the transfer of learning in adventure education', *Journal of Experiential Education*, 8(3), pp18–24.

Kirkpatrick, D. (1994) *Evaluating Training Programs: The Four Levels.* San Francisco, CA: Berrett-Koehler.

Kirkpatrick, D. & Kirkpatrick, W. (2014) The new world Kirkpatrick model. Available at: www.kirkpatrickpartners.com/OurPhilosophy/TheNewWorldKirkpatrickModel/tabid/303/Default.aspx (accessed 28 April 2016).

Kolb, D. (1984) *Experiential Learning: Experience as the Source of Learning and Development.* Englewood Cliffs, NJ: Prentice Hall.

Paper

Defining 'sustainability indicators' for higher education teaching and learning innovations

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Abstract
Enhancement and innovation have been key aspects of Higher Education development in recent years. Government, professional bodies and individual institutions have committed significant funds to the development of teaching and learning innovation and benefits have been realised across the sector. However, in a changing funding landscape, the cost of teaching and learning innovation will fall on individual institutions to initiate and deliver. Whilst historically, many benefits have been realised from such initiatives, their longer-term sustainability should be examined. This paper firstly seeks to define what sustainability means in the context of teaching and learning innovation. We then examine the landscape for Higher Education teaching innovation and propose a number of qualitative indicators that might be used for a teaching and learning enhancement or innovation project to determine how likely its activities are to be sustainable, in some form, beyond their initial implementation stage.

Context: Teaching and learning enhancement and innovation in England

Teaching and Learning enhancement and innovation have become common features of English Higher Education. Until recent times, substantial funding for innovation and enhancement activity was made available by the Higher Education Funding Council for England (HEFCE) to universities (Trowler, 2013). With the changes to higher education funding that were initiated following the Independent Review of Higher Education Funding and Student Finance (Browne, 2010), the availability of such funding has been substantially reduced, and now universities are increasingly supporting these activities for themselves. This is exemplified, for example, by the rise in institutions establishing their own dedicated, and academically led, teaching and learning enhancement units (for example the Teaching Academy at the University of Birmingham and the Leeds Institute for Teaching Excellence and Innovation), and the complete removal of funding by HEFCE at the end of July 2016 from the Higher Education Academy, the UK's national body for championing teaching quality within Higher Education.

The Quality Assurance Agency (QAA) for UK Higher Education defines quality enhancement to be 'taking deliberate steps at Institutional level to improve the quality of learning opportunities' (QAA, 2015:32), and although HEFCE has indicated it will continue its investment in learning and teaching enhancement its approach will be guided by an enhancement strategy whereby 'priorities are addressed consistently, with clear leadership, over extended periods of time and with consistent attention paid to long-term sustainability' and that effects 'a culture change across the system' (Trowler et al., 2014). However, this must be considered in the context of a changing higher education landscape within England where the recent Government white paper (BIS, 2016) commits to replacing HEFCE and the Office For Fair Access (OFFA) with a single sector regulator and student champion called the Office for Students, and implementing a Teaching Excellence Framework (TEF).

With the TEF soon (at the time of writing) due to report on its Year 2 outcomes, in its most recent phase providers who elected to submit to it have been assessed against three main aspects: Teaching Quality; Learning Environment; and Student Outcomes and Learning Gain. As described by Skelton, it is therefore timely that:

'We need to forge a productive relationship between teaching excellence and ongoing scholarship. We need a teaching excellence that has sustainability: one that is dynamic, enquiring and reflexive.' Skelton (2005)

Teaching and learning innovation and enhancement needs to be more strategic in its approach: meeting clearly identified needs; success criteria defined at the outset; rigorous evaluation to capture learning and determine impact; a clear role for students in the process; not just dissemination but wider 'uptake', that is mechanisms to enable the activities, approaches and resources to be directly utilised across and outside of the institutions in which they are developed; and, clear recognition and reward for those involved in excellent practice in teaching and learning.

Just-in-Time Teaching

As we continue into Year 3 of this new TEF-era, there will need to be greater selectivity in the enhancement activities that are supported. There will be an increasing emphasis on identifying and evidencing those that have a demonstrable impact upon students and their learning, particularly if institutions are able to submit a contextual statement as part of their TEF submission, and if we eventually move, as currently proposed, to a subject-based system of review. Whilst this must not discourage innovation and the trialing of new approaches, it will mean that understanding the impact of one's teaching and learning innovation practices long before results may manifest themselves in nationally available datasets will be vital.

It will also not be enough to trial new approaches activities, real thought must be given to how they might be sustained, or scaled, particularly if they have, or begin to show, the desired impacts. As such, while there is perhaps a clear understanding of what we mean when we discuss 'innovation' and 'enhancement', it is also important to be clear in how we define the constructs of sustainable and sustainability in the context of Higher Education teaching and learning development.

In its crudest sense, sustainability is often interpreted as an activity not requiring any additional financial investment for it to continue, and given the changed financial climate within UK higher education (Browne, 2010), ensuring activities are sustainable, is a priority for all universities. However in practice, this is unrealistic since any activity will require some form of ongoing resource investment in order to be maintained be it financial or more likely human. A definition of sustainability has been proposed (Wiley, 2007) in the context of Open Educational Resources, which considers sustainability as a project's *'ongoing ability to meet its goals.'* This can be achieved in retrospect, but it is also useful to establish if there are indicators at the start, throughout, and at the end of an educational initiative that can provide some indication of whether an initiative might be truly sustainable.

Activities established through national initiatives will typically have undergone some form of external evaluation at some stage during their lifecycle, most likely as a condition of funding. We can interrogate the reports of such projects to explore whether sustainability is considered, at what stage in the project lifecycle, and how the meaning is defined or interpreted. In beginning our analysis, however, there is a need to formulate a common understanding of what we mean by the construct 'sustainability' in relation to educational enhancement and innovation. We can propose that the sustainability of an educational enhancement activity or project is deemed to be realised when one, or more, of the following outcomes is achieved:

1. It continues, in current or modified form, within at least the Higher Education institution(s) initially involved in its development and implementation, after the period of project (financial) support ends.
2. It influences or informs the wider practices of a department, faculty or institution such that it brings about demonstrable changes to existing practices and approaches in line with the ethos of the original activity.
3. It influences and informs the attitudes, beliefs and values of those individuals involved in (or exposed to) the activity such that it changes their own individual practices and approaches.

Such a definition is broad, but the common element is that the activity continues in some form, either directly or indirectly, either through practices that become mainstreamed or institutionalised, or by equipping staff with a new outlook or skills that they continue to deploy throughout their careers. An activity needs to continue for a period of time in order to be judged sustainable (in its original or a modified form). We make no judgement here over what the time period is, as it will vary and indeed the enhancement process for teaching and learning must be a continuous one. We are not at this stage concerned with when we can make a judgement on sustainability, but how we might. Further, if we cannot make a conclusive assessment, are there indicators that might be used to determine whether the activity has 'sustainability potential'; by this we mean are there are supporting conditions in place at the outset that mean it is likely to be sustainable?

Indicators of 'sustainability' in teaching and learning: A case study approach

Here we consider one example of HEFCE's targeted approach to learning and teaching innovation and enhancement. In 2004 the Secretary of State for Education and Skills sought advice from HEFCE on strategically important, but vulnerable, higher education subjects or courses (HEFCE, 2005). A review was undertaken to identify subjects in need of support to address an imbalance between supply and demand, and a range of disciplines were identified where participation had been falling steadily over a number of years. In response, HEFCE initiated a programme of work to support subjects deemed strategically important and vulnerable. This included four pilot projects in chemistry, engineering, mathematics and physics designed to pilot and evaluate new approaches to increasing and widening participation in these discipline areas. In 2012 the £21 million National HE STEM Programme initiated a range of interventions designed to designed to enhance the way universities recruit students and deliver programmes of study within the same four STEM disciplines (Grove, 2013); a key feature of the National HE STEM Programme's work was transferring and embedding the learning from these pilot projects more widely so that they became part of the core practice of higher education institutions (HEIs) (Grove, 2013).

The National HE STEM Programme was one of the few initiatives where sustainability was explicitly embedded for consideration during the tendering phase. As a consequence, sustainability was taken seriously throughout the entire Programme:

'…our judgement is that both in terms of design, and in terms of implementation, sustainability is being taken very seriously across the programme.' WME (2011)

Given the prominence of sustainability for the National HE STEM programme, during its design, implementation and delivery, it seems appropriate to use it, and its activities, as a model for exploring whether there exist any indicators of sustainability potential within educational enhancement and innovation projects.

It is evident from the evaluation reports of many initiatives, for example the *'Summative Evaluation of the CETL Programme'* (SQW, 2011) that many such evaluations are undertaken as an activity concludes or shortly after it has concluded. This is perhaps understandable: for large-scale activities the infrastructure is in place to support the data collection that is necessary, and often, a judgement is needed as to whether it should continue to be supported post-funding period. However, there are inherent dangers in trying to determine whether sustainability will be realised so close to their conclusion:

'Robustly measuring sustainability is though inherently difficult when a programme was only just drawing to a close. It is only when the external support has been fully removed for six to 12 months (or potentially even longer) that sustainability can be conclusively demonstrated.' CFE (2013)

Whilst an activity may appear to be continuing, it could equally be the case that its development is still continuing, albeit without the support afforded through the project, or that insufficient evidence is currently available to make a judgement as to its overall effectiveness and validity in the longer term.

For an activity to be sustainable, it needs to offer some benefit for stakeholders. Such benefits might be identified in the longer-term through evaluation or research, but in the earlier stages could be indicated by the perceptions of staff, students and other stakeholders (albeit sometimes anecdotal) that the activity is offering incremental benefit to a department or institution. Equally, activities might continue to be modified and adapted so that they exist longer-term in an almost unrecognisable form, or even exert a wider influence beyond what was originally intended; here the activities will have a legacy, which may be much harder to determine.

Given such challenges, an appropriate analysis is to explore longer-term potential for sustainability by considering a series of 'sustainability indicators'. These give an indication of whether the environment is conducive to the activity having a high likelihood of continuation beyond the end of its funded period. If so, can these then be used as a proxy measure to infer the overall likelihood of sustainability of an activity?

Through the many activities (greater than 500) of the National HE STEM Programme, we have analysed individual project reports and considered data collected by both external (CFE, 2013) and semi-external (for example Tolley, Greatbatch & Mackenzie, 2013) evaluations of the activities undertaken as the Programme drew to a close. It is natural to treat statements made at project closure, by those who have run successful projects, with caution because there is often a feeling of elation. However, such individuals are often best positioned to identify the potential for sustainability, and are ideally situated to put appropriate plans in place.

Considering the reports and case studies produced through the National HE STEM Programme has enabled us to identify ten factors, or sustainability indicators, that appear to provide an indication of whether an educational activity is likely to be sustainable. These sustainability indicators are likely to contribute to an activity being sustainable in the longer term, and may therefore potentially be used to make a reasonable judgement relating to the sustainability of an activity during its earlier stages. The evidence in support of these indicators, extracted from the individual projects, is contained within the final National HE STEM Programme Final Report (Grove, 2013). The purpose here is not to represent this evidence, but to provide an overview of the indicators and offer suggestions, based upon our experience, of how they might be interrogated and analysed by those who have strategic responsibility for establishing and supporting learning and teaching interventions. This is summarised within Table 1.

Further work

At this stage we have merely identified potential indicators of sustainability and provided suggestions, based upon our experience, of how they might be investigated for individual projects and activities. It is to be noted that there is a degree of overlap with how they might be evidenced or demonstrated, however, it seems apparent that all indicators can be successfully interrogated by funders through regular dialogue (either through structured written reports or project meetings) with their projects. As such, our initial analysis offers recommendations for the structure and format of interim and final reports and case studies, but most significantly, makes the case that the idea and importance of sustainability should be highly visible to project leads.

At this stage we have not tested whether certain indicators are critical to sustainability or whether a minimum number need to be present, and indeed there is a need to refine our analysis further. This is the next stage of our work which will now be undertaken following the recent (2015) collection of data from these same National HE STEM Projects some three years (minimum) after their external funding concluded.

References

Browne (2010) *Securing a sustainable future for higher education: an independent review of higher education funding and student finance.* London, UK: Department of Business, Innovation & Skills.

Grove. M.J. (2013) *National HE STEM Programme – Final Report.* Birmingham, UK: The University of Birmingham.

HEFCE (2005) *Strategically important and vulnerable subjects – Final report of the advisory group.* Bristol, UK: Higher Education Funding Council for England.

BIS (2016) *Success as a knowledge economy: teaching excellence, social mobility and student choice.* London, UK: Department for Business, Innovation and Skills.

CFE (2013) *Summative evaluation of the National HE STEM Programme.* Leicester, UK: CFE.

Pugh, S.L. & Grove, M.J. (2014) 'Establishing Industrial Advisory Boards Using a Practice Transfer Model', *New Directions*, 10(1), pp20–25.

QAA (2015) *Higher Education Review: A handbook for universities and colleges with access to funding from HEFCE or DEL undergoing review in 2015–16.* Gloucester, UK: The Quality Assurance Agency for Higher Education.

Skelton, A. (2005) *Understanding Teaching Excellence in Higher Education: Towards a Critical Approach*. London and New York, Routledge.

SQW (2011) *Summative evaluation of the CETL programme: Final report by SQW to HEFCE and DEL.* Bristol, UK: Higher Education Funding Council for England.

Tolley, H., Greatbatch, D. & Mackenzie, H. (2013) *Investigating Longer-Term Curriculum Change and Institutional Impact Within Higher Education.* Birmingham, UK: The University of Birmingham.

Trowler, P., Ashwin, P. & Saunders, M. (2013) *The role of HEFCE in teaching and learning enhancement: a review of evaluative evidence.* York, UK: The Higher Education Academy.

Wiley, D. (2007) *On the Sustainability of Open Educational Resource Initiatives in Higher Education.* Paris, France: OECD Publishing.

WME (2011) *National HE STEM Programme Sustainability Report* [Internal Document]. UK: WM Enterprise.

Table 1: Sustainability indicators for learning and teaching enhancement.

Sustainability Indicator	Description	How might this be interrogated/evidenced?
1. Embedding the Importance of Sustainability at the Outset	Ensuring that sustainability is seriously considered by project leads during the development stage of an idea and is subject to rigorous (peer) scrutiny. Then, ensuring sustainability is considered and questioned throughout the lifetime of an activity.	■ Include, within initial proposals and guidance, a section that explicitly asks proposers to highlight how they will sustain/continue their activities. ■ Ensure interim reports explicitly ask that project leads address the question 'Describe your current progress towards sustainability?' ■ Ensure the final project case study/report template contains an explicit section on sustainability – make this available to project leads immediately upon project commencement, and make them aware that case studies will be made widely available.
2. Proven Starting Point	The development work and learning has already been applied elsewhere, and the opportunity exists to build upon what works and commence the activity from an advanced starting point based upon the knowledge and expertise. Resources may exist, and the value and impact of the activity will often be evident.	■ Asking project leads to articulate, at the proposal stage, how their work aligns with the existing body of practice, and, if appropriate, how the project will build upon this. ■ Similarly, asking staff to articulate the anticipated impact of the activity or intervention at the outset, and then commenting upon progress towards this within subsequent reports. ■ Where there is an existing starting point, are the activities undertaken in conjunction with (or with the support of) those with existing expertise or utilising existing resources/materials?
3. Up-Front Investment	Many developmental activities require an initial 'up front' outlay. This may be to develop resources, purchase equipment, or to buy-out staff time. After this initial work, ongoing delivery costs will be lower if there are no consumables costs. The significant resource cost then is staff-time which, if there is perceived to be benefit to an institution, can be allocated to the ongoing continuation of an activity.	■ To what extent does the proposal request non-consumable resources? ■ Are there clear examples and plans for how these resources or equipment will be used? Are their subsequent examples (case studies) of their use? ■ How will the resources or equipment continue to be made available and used?
4. Alignment of Activity with Wider Priorities	The activity aligns with a wider set of priorities, for example institutional or national and, as such, provides opportunities for leveraging additional support or commitment.	■ Encourage project leads to explore the wider context of their work, for example within the context of departmental, faculty, institutional or disciplinary priorities or national/international events. For example, does the activity align with an institutional Office for Fair Access (OFFA) Agreement? ■ Seek evidence from senior staff, within the department(s) where the activity is based, of its contribution to the work of the department, including its impact on staff/students. ■ Is the activity becoming embedded as part of the curriculum, or departmental/institutional practice?

Sustainability Indicator	Description	How might this be interrogated/evidenced?
5. Institutional Commitment	Direct buy-in or support is provided by the institution. This may be additional financial resource for development, to ensure on-going delivery, or in-kind support, such as the allocation of additional staff time or incorporation of the activity within workload timetabling.	■ This extends beyond a senior level letter or statement of support at the outset of the work. ■ Solicit, during the proposal stage, evidence of the 'in kind' commitment to the project, both financial and human. Ensure this is validated during interim and final project reports. ■ Seek evidence of the (unexpected) 'in kind' contributions made throughout the project by others – how have they contributed to its work? ■ How have senior management been engaged in the activities of the project? Senior management engagement has been found to be a key factor in successful implementation/delivery (Tolley, Greatbatch & Mackenzie, 2013).
6. Wider Value	This might also be termed 'transferability': the potential of an activity to extend beyond its initial sphere of influence to be used by others within the institution or across the sector. There will be clear value and benefit to others.	■ Many projects begin with an initial impact in mind. Mechanisms should be embedded to encourage project lead(s) to reflect upon the ongoing impacts of their project at key points in its lifecycle. For example, the impact upon stakeholders (students, departmental colleagues, institutional staff) and policy and practice (departmental, faculty, institutionally). ■ Has the scale, and/or scope of the project been extended from original plans? ■ How is the project contributing to the national policy debate? ■ Have there been stakeholders, beyond those originally envisaged, engaged in the project? Are there 'user stories' or evidence from learners?
7. Evaluation	Evaluation is an important part of the educational development process. A robust commitment to (internally) evaluate should be in place prior to the commencement of any project.	■ While all proposals should demonstrate a commitment and plan for evaluation at their outset, evidence is needed that this is embedded throughout a project and not only at its beginning and end. An evaluation plan should be maintained and updated. ■ Systematic evidence of not only the capture of data throughout, but also changes to the project or activity in response to emerging findings should be sought throughout the project lifecycle. Evaluation should include the views of key stakeholders at all stages. ■ Is there (new) engagement of project lead(s) with institutional and national activities relating to evaluation and educational research or specific learning and teaching events and activities?

Table 1: Sustainability indicators for learning and teaching enhancement. (continued)

Sustainability Indicator	Description	How might this be interrogated/evidenced?
8. Dissemination	Dissemination indicates there is a substantive story and an individual belief in the ideas being shared. It demonstrates a clear personal commitment to the activities and ideas.	■ Evidence of (ongoing) awareness raising and sharing information about the project and its activities within the host department and institution (including online). ■ National dissemination of findings and learning through, for example, conference talks and published works, or work with professional organisations. ■ Collaboration with others to encourage uptake of developed practices, for example through 'practice-transfer' schemes (see for example, Pugh & Grove, 2014).
9. Developing a Community Identity	Bringing together like-minded individuals or those who wish to learn from each other, share ideas and practices, or oversee the ongoing nature of activities within a community, through a co-ordinating and networking function.	■ Encouraging projects to include an initial literature review to explore the context of their proposed work relative to existing international practice. ■ Networking, through conferences and events, but also through activities and meetings established by the project lead(s) both within their institution and outside of it (including online). ■ The visibility of the individual within their community and institution. For example, invited talks, or contributions to learning and teaching consultations.
10. Professional Development and Recognition	Professional development includes individual learning, learning amongst other engagers, or a concerted effort to transfer the knowledge and expertise to others through mentoring or training events. Recognition involves an independent acknowledgement of the contribution an individual has made through their work and activity.	■ Collaborative activities with others to develop ideas and inform practices. For example through mentoring. ■ Participation in workshops, events and special interest groups related to the theme of the project. ■ In project reports, seeking evidence of how the skills and outlook of the project lead(s) have developed, through new experiences, and possibly evidenced through a reflective component in the project reports. ■ What is the expertise of the individual in relation to learning and teaching enhancement? Is there either a track-record or a clear personal rationale for the activity? ■ Reward and recognition received by the individual as related to their work. For example: professional fellowships, institutional and national teaching awards, and promotion.

Case Study

Collaborative Conversations: Developing a new way to view and approach peer-observation

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Summary
Staff who teach at the University of Birmingham are required to undergo peer-observation on a regular basis (every two years in the case of full-time staff and every three years in the case of part-time staff). However there were inconsistencies in peer-observation practices across various Schools (Centre for Learning and Academic Development (CLAD), 2014). This led the School of Education to seek volunteers from the three departments within the School of Education during Autumn 2014 to undertake a project aimed at developing 'a new, effective and respected model for implementation' which would then be disseminated more widely. This case study describes the adopted approach.

The project team

The self-selected project team represented the diversity of the departments within the School of Education with specialisms ranging from teacher training (Primary Mathematics, Secondary Religious Education and Modern Languages) to special educational needs and disabilities and psychology. Their roles encompassed research, personal tutoring, teaching, admissions, welfare, PhD supervision and mentoring, and work on courses as varied as professional full-time courses to distance learning programmes, with undergraduate as well as postgraduate students.

The initial idea

Right from the beginning the project team felt strongly that they wanted to develop a new approach to peer-observation which would be truly collaborative. They felt it ought to be supportive of both the 'observee' and the 'observer' and their professional development, and would go beyond the mere observation of teaching to include the myriad of activities that staff may be involved in, be they module development or the mentoring of a newly appointed colleague. As educationalists the team members were very familiar with the value of using reflective practices (Donnelley, 2007) and agreed that this would be at the heart of the approach that would be designed. It was discussed that including a range of contexts in addition to teaching observation would allow colleagues to develop a *'community of practice'* (Harper & Nicolson, 2013:266). This would afford opportunities for colleagues in groups of two or more to meet for *'focused and planned confidential conversations to foster development and encourage the sharing and understanding of problems and solutions'* (Harper & Nicolson, 2013:266). The notions of community of practice (Harper & Nicolson, 2013; Wenger, 2000) and of collegiality (Bell & Cooper, 2010; Byrne, Brown & Challen, 2010; CLAD, 2014; Donnelley, 2007) were strongly favoured by the team and it was agreed that the new approach would be described as a 'collaborative conversation'.

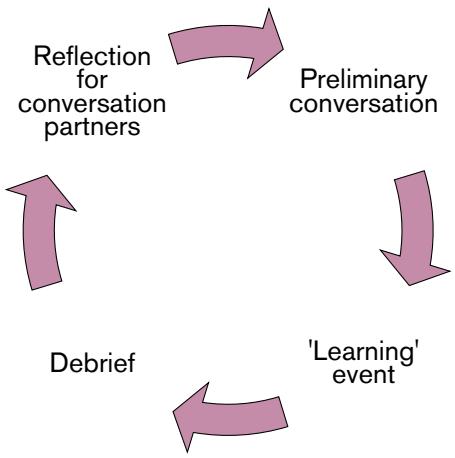
Collaborative Conversations

The project team developed a set of values which they felt needed to constitute the foundation stones of the new approach:

1. It is collaborative and it is democratic. This would allow for developments and improvements to be identified by colleagues working in the traditional model, in pairs as 'observer' and 'observee', or in larger, more flexible combinations, as co-observers at a common 'event'.
2. It is a dialogue between colleagues. This would allow a wider range of events, not just formal teaching sessions with students, or with students in attendance, to be used as the basis for Collaborative Conversations; for example, programme or module-level development meetings, assessment moderation, pastoral or supervision tutorials, mentor or distance tutor training, or professional development of post-doctoral teaching assistants.
3. It is undertaken in a spirit of co-operation and is a supportive experience. It should in no way be seen as a judgement of performance. The sole purpose of Collaborative Conversations is an opportunity to engage in a constructive discussion on an aspect of student learning and/or the wider student experience in order to improve the quality of education in one's own subject.

The aim of the new proposed process was one in which observation as a formal process between two people was replaced by one in which organic and democratic Collaborative Conversations between peers became central. The proposed Collaborative Conversation model has a tripartite structure (a preliminary conversation; an event which is 'observed'; and a debrief). The three parts of this process are imperative in order that the aims and values of the new proposed process are met – a Collaborative Conversation leading to the enhancement of best practice. The tripartite structure (Figure 1) has been designed in order to ensure that the conversation partners have meaningful and purposeful dialogue throughout the process and that the new proposed system is one in which the potential negativity or 'tick box' approach to observation is replaced by continual professional dialogue which has positive outcomes for the 'observer', 'observed', and learners (if applicable).

Figure 1: Collaborative Conversation cycle.



Trial

Three trials of this process were undertaken which allowed the project team to ascertain whether the new system met its intended objectives, and whether the accompanying documentation (guidance and template) supported the process effectively. This enabled the team to make any amendments that were needed as a result, as well as build a manageable bank of short case studies to support staff in the future to undertake a Collaborative Conversation.

The project team explored each case-study or trial using a simple framework considering three different aspects: the Collaborative Conversation's focus and approach (what did they do?), how it compared with the original 'peer observation' (what was different about this approach?), and finally the strengths of the new approach (what was positive about it?).

The Collaborative Conversation approach was trialled in three very different contexts: observation of a seminar, reflection on marking and feedback, and a module review. Our reflections on these trials are summarised below, using this developed framework.

Case Studies

Case Study 1: Observation of a seminar

What did they do?

This trial took place in the context of teacher training, where two colleagues engaged in a Collaborative Conversation prior to, during, and after a seminar session. The two teacher trainers each delivered a separate seminar and the 'observing' colleague was, in each case, a 'participant observer'. As such, Collaborative Conversation was integrated into the seminar at particular points, for example when students within the seminar were working independently, or during group work. The 'participant observer' and 'observee' had the opportunity to engage in powerful dialogue during the seminar; the collaborative conversation was centred on a specific focus agreed by the 'participant observer' and 'observee' prior to the seminar, for example the use of 'observee' questioning, and the integration of academic sources and policy sources into teaching. This approach integrated the Collaborative Conversation into the seminar session. Following the seminar session, a debrief was undertaken which focused on sharing good practice and empowerment. This approach was one of cooperation and formalising what the two teacher training lecturers already do informally to share best practice.

What was different about this approach?

Unlike a traditional peer observation, undertaken in response to a request to arrange to be observed, the timing and focus itself was at a point of need. Moreover, the 'observer' was a 'participant observer' and as such was active within the seminar; discussion between the 'observee' and participant took place during the seminar being observed; minimal formative notes were recorded as feedback was instant and purposeful. The conversations that took place prior to, during and following the 'observation' were powerful and focused. This was a collaborative and democratic approach rather than one person offering a judgement of another's performance. This approach to an observation was one which reinforced the importance of 'working together' and 'exploiting' lecturers' own strengths for the benefits of students.

What was positive about it?

This approach enabled an organic, naturalistic and positive conversation throughout the 'observation' rather than the static formalised comments of 'observations' in a traditional manner. This approach of 'observee' and 'participant observer' also helped both parties to reflect upon a specific element of their own teaching and provided an opportunity to discuss this with the participant observer as the lesson was progressing. It was felt that this approach was very beneficial and empowering. The written notes afforded both parties involved with comments which can be used for probationary paperwork, however, the powerful Collaborative Conversation dialogue was seen to be most beneficial in terms of formative and summative progress.

Case Study 2: Reflection on marking and feedback

What did they do?

This trial took place in the context of teacher training, where two colleagues engaged in a Collaborative Conversation about marking and giving feedback on a Masters-level primary teaching assignment. The second marker, a member of the project team, also had the role of mentor to the first marker and had previously undertaken a traditional observation. The focus on marking emerged during the process of second marking and through dialogue about students' academic work. In particular, a Collaborative Conversation took place about feedback to try to improve the quality of resubmissions. This was undertaken in a spirit of co-operation to share ideas and improve practice.

What was different about this approach?

Unlike a traditional peer observation, undertaken in response to a request to arrange to be observed, the timing and focus itself was at 'point of need.' The focus was important to both colleagues at the time, and the conversation about assessment raised the profile of the wider aspects of teaching and learning. It was also a collaborative and democratic process, rather than one person offering a judgement of another's performance.

What was positive about it?

The fact that the conversation was driven by the immediate needs of those involved, rather than imposed, contributed to the supportive and meaningful nature of the collaboration about the nature of feedback and the response of the students to the feedback. It helped both lecturers to reflect on their practice to date and shaped their ongoing marking practices. The written notes also afforded wider evidence to support the mentee's probationary paperwork.

Case Study 3: Discussion around a module review

What did they do?

This trial took place in the context of an annual review of a module of a professional doctorate programme. Two co-workers engaged in a consideration of the impact of their contrasting inputs to the module. The lecturers co-present and purposefully offer alternative views. The Collaborative Conversation revolved around the impact of co-presenting on students' learning and professional practice. The approach and content were reviewed and implications identified for next year's programme planning.

What was different about this approach?

The Collaborative Conversation facilitated each lecturer's thinking and reflection on discrete aspects of teaching and learning. The act of conversation allowed the co-workers to explore learning outcomes more deeply. The new approach was interactive, allowing for constructive criticism of one another's approaches, and flexible enough to be used in a context other than an observation of teaching.

What was positive about it?

There was no need for a third person to observe as both co-workers engaged in reflective discussion together. They took away from the Collaborative Conversation a greater awareness that students' learning changes over time, which would not have emerged from the more traditional peer observation of teaching model. Overall, it enabled a broader and more longitudinal reflection than 'snap-shots' of single teaching sessions.

Dissemination

The team presented the proposed new approach to colleagues further afield at two in-house conferences: the University of Birmingham's Teaching and Learning Conference in June 2015 and the School of Education's Research and Scholarship Conference in July 2015. Informal feedback obtained at these two conferences further fed into refining the Collaborative Conversation documentation. Other colleagues in the School of Education are currently trialling the approach and resources. A Canvas course has been created to house the Collaborative Conversation pilot key documents.

Conclusions

We are aware that these trials were undertaken by members of the project team with colleagues within the School of Education. Our reflections on the original trials highlight emerging synergies and so far the results are encouraging; the Collaborative Conversation trials allowed the participants to carry out a reflective observation beneficial to all participants ('observer'/'observee'), and offered them the opportunity to enter a dialogue on their practice and work co-operatively, in a range of teaching and learning contexts.

It is clear from the above trials that the format of the Collaborative Conversation provided colleagues with a focus at 'point of need' and helped all participants to reflect on their practice. The Collaborative Conversation approach positively supported cooperation and discussion to the mutual benefit of all participants as well as being democratic.

Having engaged in these trials, and having reflected upon our own Collaborative Conversations, we have come to appreciate the value of the co-construction of knowledge (Vygotsky, 1978) in this approach. When we work with students, we discuss the ways in which learners actively construct their own understandings in a social context, and we now recognise that the new collaborative approach extends this practice to working with colleagues. The conversations supported the development of a repertoire of good practice, and contributed to the situated learning of colleagues (Lave & Wenger, 1991).

The values set out earlier in this paper; collaborative and democratic dialogue undertaken in a spirit of cooperation, offer a social context for reflection, and hence learning, to take place. This project, in bringing together colleagues from different departments, created a new community of practice, and this, together with dissemination activities, has positively shaped our own thinking about learning and teaching.

References

Bell, M. & Cooper, P. (2013) 'Peer observation of teaching in university departments: a framework for implementation', *International Journal for Academic Development*, 18(1), pp60–73.

Byrne, J., Brown, H. & Challen, D. (2010) 'Peer development as an alternative to peer observation: a tool to enhance professional development', *International Journal for Academic Development*, 15(3), pp215–228.

Centre for Learning and Academic Development (2014) Report on the CLAD Project: 'Review of Biosciences Peer Observation of Teaching (POT) scheme'. Birmingham, UK: Centre for Learning and Academic Development, University of Birmingham.

Donnelley, R. (2007) 'Perceived Impact of Peer Observation of Teaching in Higher Education', *International Journal of Teaching and Learning in Higher Education*, 19(2), pp117–129.

Harper, F. & Nicolson, M. (2013) 'Online peer observation: its value in teacher professional development, support and well-being', *International Journal for Academic Development*, 18(3), pp264–275.

Lave, J. & Wenger, E. (1991) *Situated learning: Legitimate peripheral participation*. Cambridge, UK: Cambridge University Press.

Vygotsky L.S. (1978) *Mind in society*. Cambridge, Massachusetts: Harvard University Press.

Wenger, E. (2000) *Communities of Practice: Learning, Meaning, and Identity*. Cambridge, UK: Cambridge University Press.

Case Study

Using 'Blended Lectures' to deepen student engagement: The experience in a second-year module on Cultural Geographies.

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Summary
This case study reflects upon the outcomes of introducing a 'blended lecture' approach to teaching on the engagement of a group of second year students. It reflects upon the quality and level of their engagement and the implications this has on performance in exam assessment.

Module context

A second-year optional module in Cultural Geography, provides students with a theoretical and thematic grounding in the subject. For the 2015/16 session, as part of a reconfiguration of the module content and to address student feedback requesting more seminar-style interaction, 'blended lectures' were introduced.

Lectures that had previously been delivered in the lecture theatre, and later provided as an online podcast, were pre-recorded using Panopto, and posted on the VLE Canvas allowing the students to watch them in advance of interactive sessions. The students were also required to have read a related article before the lecture session, providing the focus for a structured seminar replacing the conventional lecture for a 'flipped' format (Rowley & Green, 2015). The seminar session required students, in small groups, to consider key questions raised by the paper, before moving on to address a chosen case study, that picked up the lecture themes, with structured questions and discussion. The result is the doubling of content delivered in the module, whilst providing a structured depth of engagement with key ideas via face-to-face interaction.

Staff expectations

The module team expected the students to watch the lectures at a time convenient to them and to reflect on key ideas before engaging with the seminar material. This flexibility of engagement would allow students of varying abilities to engage with the content at their own pace. More importantly, blended lectures would do more than simply mix traditional and online content, but would encourage students to develop independent learning strategies to reinforce their understanding of the subject (Hinterberger et al., 2004; Moore & Gilmartin, 2010; Kanard, 2013). By providing all material a minimum of five days in advance of the session, students were also afforded plenty of opportunity to engage with the module team during office hours if required. Following Kanard (2013), the team also believed that blended delivery would improve exam performance, due to the students being more secure in their abilities to deploy their critical understanding of the subject matter.

Concerns

One concern with making the lectures available in advance, was an anticipated decline in attendance by those that did not perceive value in attending the seminar sessions. Likewise, there was a concern that students would over-rely on the recordings rather than engaging with the breadth of module material. These concerns were borne out by the level of attendance. The module had 80 students registered, but the average attendance for the seminar sessions was in the mid-20s. This matches the experience of a number of studies, which recorded a drop in attendance compared to live sessions (Brook & Beauchamp, 2015; Kanard, 2013).

A previously unconsidered issue that emerged was a change in the delivery dynamics of the lectures, as the course material was prepared in advance of the session. Prepared by staff members talking to the PowerPoint slides it was found that the vitality and performance qualities engendered by presenting to a room was diminished, which may have detracted from the student's engagement with the recordings.

Evaluation and assessment of engagement

To gauge the reaction to the new delivery format and the overall response from the student body we evaluated the module in three ways:

- Using the standard module feedback forms.
- Issuing students with an additional form at the same time which asked specific questions about the students' experience of using Panopto (lecture recording) and of attending the workshops.
- Follow-up focus groups were held by a neutral party after the examination was taken. Two groups – one that had attended 80%+ of workshops and one that had attended 20% or less – were then invited to discuss whether they felt their engagement had influenced their exam preparation.

By triangulating these different evaluations, we hoped to gain a greater depth of understanding about how the students perceived the change in delivery, the workload and the course material. The focus group aimed to provide a qualitative element to examine if there were any links between the level of engagement with Panopto, workshop attendance and exam performance.

Is there a connection between engagement and performance?

It is always difficult to evaluate the impact of teaching intervention after one cycle of implementation, however, some initial indicators of impact can be identified. One measure of the success of blended/flipped lectures can be seen in exam performance. Panopto allows the instructor to examine a range of statistics as to who accesses the online lectures, how often they do so, and for how long. It also enabled the team to observe engagement during the semester's teaching period, and the two week period immediately before the exam (cf. Owston et al., 2013).

Observations

The 20 students who engaged most fully with the lecture videos were identified by the number of minutes watched at the end of the second semester. Out of these students, those that attended 80% or more of the seminar sessions were noted (12 out of 20). This cohort's exam performance was then checked. All of these students scored 66% and above for each exam answer, with half the students scoring marks >70% on at least one question.

Of those that only engaged in watching the online videos, and who attended 20% or less of seminars the average mark was 58%.

This matches the comments made by students made in the focus groups following the exam. For those that attended most sessions, they noted that, *'… although it felt like a lot of work, it was worth it, and was a massive advantage going into the exam.'* One student observed that *'it made it easier to move beyond the lecture material in the exam'* enabling them to engage with the exam questions in a more critical and reflective manner.

Reflection on practice

In light of our observations, along with student comments and feedback, a number of positives can be taken from a blended/flipped teaching approach to this module. This must be tempered, however, with improvements in delivery and expectation management going forward.

Students like the flexibility of access to the pre-recorded lectures on Canvas, allowing them to listen and make notes at their own pace. For those attending the seminars regularly, this enabled them to be proactive in targeting reading around the topic areas. A significant number, however, preferred the spontaneity of traditional face-to-face lectures and only really engaged with the recordings as exams approached.

As a theoretically driven course, the seminars encouraged the students to explore and debate ideas, and apply these to practical examples. For those that regularly attended, this fostered debate and wider thought. However, for many the prospect of speaking in front of other students was onerous and even intimidating. The discussed format for delivery will be used again in the 2016/17, with some minor tweaks. Greater attention will be paid to setting the expectations of work-level, at the beginning of the module, as well as reinforcing the key skills that will be developed. In addition, strategies will be developed to increase the ways in which students feedback to the group.

Table 1: Examples of student responses and comments.

Positive	Negative
How much of the course content did you engage with?	
'Did all the wider reading and watched the videos, but the seminars were a bit scary.'	*'I listened to all the lectures, but not all the way through.'*
'All of it and felt the seminars helped challenge your ideas.'	*'Hard to get it all done (reading and listening to language) especially when expected to engage so if haven't done work you really unlikely to go.'*
How do the pre-recorded lectures rate against attending a live lecture?	
'Easier to make comprehensive notes.'	*'I get easily distracted at home and often forgot to watch the lectures.'*
'Panopto allowed you to focus, you could pause and make notes.'	'Less motivating.'
What aspects of the seminars did you like?	
'Makes you feel like you are discussing ideas properly.'	*'The way people reported back was at times awkward and repetitive.'*
'You had a better interaction with the staff and it forces you to engage with the ideas.'	
'Talking and hearing – wider sense of what's being said – not just what's being lectured.'	
How useful were the workshops for developing your understanding?	
'… it builds on the lecture material and due to talking about it… you remember it more.'	*'If you hadn't done the work it was hard to engage.'*
'It brings more purpose to the lecture…'	
'Alternative interpretations of ideas/readings could be explored.'	

References

Brook, I. & Beauchamp, G. (2015) A Study of Final Year Education Studies Undergraduate Students' Perceptions of Blended Learning within a Higher Education course. *Educational Futures*, 7(1) pp18–38.

Hinterberger, H., Fassler, L. & Bauer-Messmer, B. (2004) From hybrid courses to blended learning: A case study. ICNEE, 27–30 September 2004. Neuchatel/Switzerland.

Karnad A. (2013) Student use of recorded lectures: A report reviewing recent research into the use of lecture capture technology in higher education, and its impact on teaching methods and attendance. London, UK: London School of Economics.

Mitchell, P. & Forer, P. (2010) Blended Learning: The Perceptions of First-year Geography Students, *Journal of Geography in Higher Education*, 34(1), pp77–89.

Moore, N. & Gilmartin, M. (2010) Teaching for Better Learning: A Blended Learning Pilot Project with First-Year Geography Undergraduates, *Journal of Geography in Higher Education*, 34(3), pp327–344.

Moore-Cherry, N., Healey, R., Nicholson, D.T. & Andrews, W. (2016) Inclusive partnership: enhancing student engagement in geography, *Journal of Geography in Higher Education*, 40(1), pp84–103.

Owston, R., York, D. and Murtha, S. (2013) Student perceptions and achievement in a university blended learning strategic initiative, The Internet and Higher Education, 18(1), pp38–46.

Rowley, N. & Green, J. (2015) Just-in-time Teaching and Peer Instruction in the Flipped Classroom to Enhance Student Learning, *Education in Practice*, 2(1), pp14–17.

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Original articles may include: reports of educational research; evaluations of learning and teaching activity and innovation; summaries of outcomes from learning and teaching projects; or discussion papers. They should contain an appropriate level of data and evidence to support any arguments made or conclusions reached; such evidence may be obtained either through individual work or an analysis of existing educational literature to support the ideas. They should offer a high degree of academic integrity by being evidence informed, reflective and scholarly in nature. Each original paper should typically be around 2,000-3,000 words although exceptions will be made for papers that contain a substantial element of original qualitative data.

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Case studies, typically up to 2,000 words in length, are sought that describe examples of current individual and departmental activity and practice and outcomes from learning and teaching projects. They might relate to ongoing activities and projects, or initiatives that have proved particularly successful or insightful. Where case studies describe successful or insightful interventions they should contain a level of data or evidence in support of any claims that are made.

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Reviews, which may be literature reviews of particular thematic areas, analyses of topical areas of interest, or, 'think pieces' exploring applications of theory to inform practice, should typically be no more than 3,000 words. Their focus should be upon critically analysing the current literature to identify the implications of current or emerging findings to University of Birmingham practices and approaches towards student learning. On occasions, the Editors will commission reviews on topical areas of learning and teaching activity.

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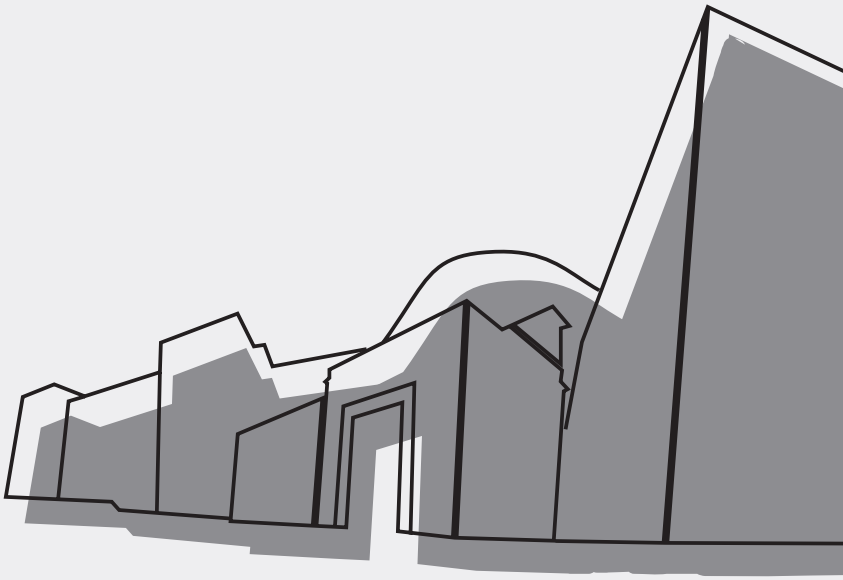

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