

Postgraduate Award in Teaching and Learning in Higher Education

Account of teaching practice by Natércia das Neves Rodrigues (u1461461)

This account of my teaching practice will cover three main topics: feedback from students, resource design and teaching observations. I shall start by highlighting the importance of student feedback and detailing my approach and rationale to collecting, analysing and reflecting on feedback, with a brief comparison between feedback received at a departmental and national level. Following from my demonstrated commitment to student feedback I will proceed to describing how I used the student voice to inform my resource design. Finally, I will discuss the value of teaching observations for continued professional development and once again reflect on feedback I received – in this instance, from one of my peers.

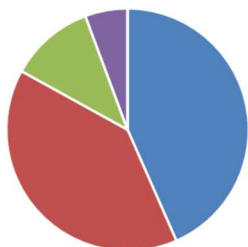
1. Feedback from students (UKPSF A1, A5, K5, K6, V3)

The importance of providing feedback to students is widely recognised and extensive advice on effective feedback is available on the literature (Evans, 2013; Li and De Luca, 2014; Brookhart, 2017). What seems to not be so explicitly recognised is that teachers and teaching institutions are themselves continuously learning to deliver teaching that will enable, empower and inspire their students. That being the case, they to – the teachers and teaching institutions – ought to seek timely and informative feedback upon which they may act to improve their practice (Harvey, 2003; Brennan and Williams, 2004; Richardson, 2005). Tuition fees have shifted the social context of the university institution, so that the role of the university is now to provide an educational service and students may, therefore, be seen as customers whose expectations need to be met (Newson, 2004; Wellen, 2005; Bunce, Baird and Jones, 2017). Student satisfaction is, in fact, one of the factors that contribute to university ratings (Douglas *et al.*, 2015; Yusoff, McLeay and Woodruffe-Burton, 2015). Addressing student feedback therefore becomes more than good teaching practice: it is a crucial business requirement and students are increasingly demanding that their voice is listened to and acted upon (Bohms, 2011). I am particularly interested in comparing internal and external student feedback (that is, feedback given at departmental level compared to that given in the National Student Survey, or NSS), understanding how these vary and explore mechanisms by which departments and universities can be proactive about student feedback.

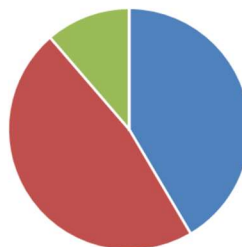
My interest in this topic arises from my findings regarding student feedback on a teaching activity I have recently developed – an undergraduate chemistry experiment involving commercial sunscreen lotions. When developing this experiment, I aimed at developing critical thinking, fostering a student-as-researcher approach and providing a transformative experience that would facilitate deep learning. To understand if I had achieved this, I asked students to complete a feedback questionnaire which had a section with questions to be answered on a scale from ‘strongly agree’ to ‘strongly disagree’ – the answers to which (based

■ Strongly Agree ■ Agree ■ Neutral ■ Disagree ■ Strongly Disagree

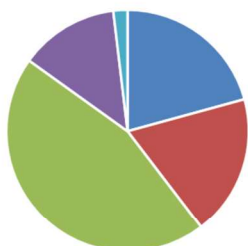
The final objective of this experiment was clear to me from the outset.



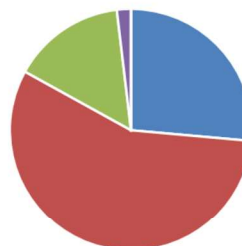
It was clear to me why the data I collected was necessary to fulfil the aims of the experiment.



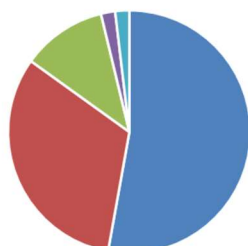
I was free to take measurements other than the ones specified in the protocol.



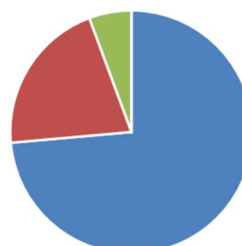
This practical activity treated students as researchers and encouraged critical thinking.



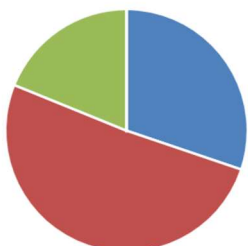
The connection to a commercially available product made this experiment interesting.



I have a better understanding of how sunscreens work after having completed this experiment.



The contents of this lab activity are well connected to material I have covered before in the course.



I have a better understanding of photophysical concepts after having completed this experiment.

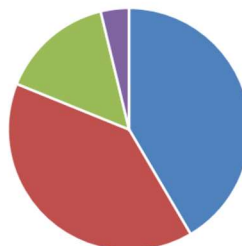


Figure 1 – Questions asked to students in my feedback questionnaire, with a pie chart of answers for each one. The 53 students who answered these questions did so at the time of online submission of their post-lab activities. The answers were given on a scale from ‘strongly agree’ to ‘strongly disagree’, colour coded as described in the figure.

on a sample of 53 students) are shown in Figure 1 – and a section where students could leave open comments regarding their experience and suggestions on how to improve the activity. The feedback was positive, with most students finding the experiment a meaningful exercise, well aligned with other course materials, which in broad terms met my initial goals. The use of off-the-shelf products also seemed to have a positive impact on student engagement, even though some students did not feel the connection to ‘real-world’ enhanced the experience.

It was in the open-ended section of the feedback questionnaire that the most interesting comments arose, however, particularly regarding students' attitudes towards challenge. For example, a student shared *'there was a lot trial and error involved therefore it was a bit of a challenge but I enjoyed it'*, while another said *'the most challenging and enjoyable part of this experiment was the second part (...) as I felt a strong relation between the measurements we were taking and its reason/importance; while also encouraged to figure out by ourselves what these results meant'*. Indeed, there is a part of the experiment where students are purposely given little guidance so that they may think about the necessary steps and plan their actions to achieve a required result. During the practical activity, it is clear this challenge causes some discomfort, but all students eventually complete the task. The comments in the feedback from students reveal that, despite the initial struggle and confusion, students welcome the challenge. This is a fascinating practical observation of Piaget's theories regarding the need for disequilibrium for learning to take place (Renner and Marek, 1990; Blake and Pope, 2008; Bormanaki and Khoshhal, 2017). The students were placed in what Vygotsky would call the Zone of Proximal Development (Blake and Pope, 2008), *i.e.* they were faced with a task for which they did not have a ready answer, but instead required the reorganisation of previous knowledge and use pre-existing skills for a solution to be found. Importantly, upon reflection students were able to recognise the value of such an experience.

Apart from these (and other) interesting remarks, the feedback I received from students regarding this experiment also provided potentially transformative information regarding the structure of laboratory activities in our department. Some of the comments in the questionnaires hinted that students are not happy with post-labs, *i.e.* activities they have to complete up to a week after the laboratory activity and which are designed to make them reflect on their experience and thus further benefit from the teaching activity. The comments regarding this issue in the feedback questionnaire were not very clear, however. Therefore, I organised a focus group to gain more detailed feedback on these and other matters. Despite a smaller student sample (4 vs. 53 for questionnaires) the issue with post-labs resurfaced: it was made clear that students felt these tasks were an 'afterthought' with which they had difficulty engaging. In particular, the fact that any thoughts or ideas they had during post-labs were 'wasted', as they cannot act upon them, was pointed as a de-motivating factor. Moreover, students mentioned they would prefer having longer tasks *before* the laboratory activity that could provide more guidance and preparation ahead of the laboratory session – perhaps more in line with a flipped-classroom approach (Gilboy, Heinerichs and Pazzaglia, 2015; Jensen, Kummer and Godoy, 2015). The focus group activity thus provided valuable information that may inform the department in rethinking its approach to practical teaching. In addition, it was a very rewarding experience to hear students say *'I'm probably not going to forget this experiment any time soon, because it was probably the first physical chemistry experiment I enjoyed'* or *'to look at the data and compare brand A and brand B and actually see the difference (...), that actually made me smile'*.

Finally, I return to the comparison between this type of feedback (departmental) and that collected during the NSS, as I mentioned in the opening of this session. One of the reasons departmental feedback can be useful is that, at the time it is collected, action can be taken to improve the experience of the same students who provided the feedback. With the NSS, however, feedback happens at the end of the learning journey, when the student experience can no longer be improved. This is aggravated by the fact that the NSS questionnaire

(‘National Student Survey 2017 - Core Questionnaire’, 2017) covers important aspects of the student experience which are not commonly covered in departmental feedback, such as academic support, organisation and management, learning resources and community. It is possible, therefore, that universities are missing opportunities to improve on such areas because feedback is not available, or is not sought in the same proactive and timely manner as departmental feedback. It is my opinion that closer attention should be paid to the differences and similarities between departmental and national level feedback in an effort to better align them – both in terms of information sought and timings – so that the use of the student voice to improve teaching practice in universities may be optimised. I believe this has the potential to become an extensive and fruitful field of educational research with potential to generate high impact in the higher education sector.

2. Resource Design (UKPSF A1, A4, K2, K3, K4, V1, V2, V3)

I have recently had the opportunity to expand my teaching experience to an e-learning environment when re-designing the Moodle component of *Preparing to Teach in Higher Education* (PTHE), a teaching skills development programme for first-year postgraduates at the University of Warwick.

As discussed previously, seeking meaningful and timely feedback from students can have a transformative impact on teaching practice and student experience. Therefore, I based my approach to re-designing the Moodle component of the PTHE activity on feedback from students collected during the face-to-face session of the PTHE programme. Two main points were of particular importance:

1. Students consistently report finding the Moodle exercise too long or too intensive, or even boring. Nevertheless, some students also find it useful and informative. This suggests that the *content* of the Moodle is relevant; it is the *delivery* of the content that needs to be addressed.
2. Students identify sharing of experiences amongst peers as one of the most valuable aspects of the face-to-face session of the PTHE. Realising they share worries and concerns with others, and understanding how others have dealt with teaching problems, students find, is both helpful and re-assuring.

Feedback from students was, once again, useful to me in guiding my efforts for continued improvement: with these two points in mind, I decided to make the Moodle component more interactive and based on the sharing of experiences from other teachers (postgraduate students and otherwise).

One of the challenges of e-learning is to avoid students passively interacting with the content and instead build a motivating online resource with which they can actively engage and from which they can learn. This can be done by careful design of online content, and especially by fostering *interactivity*. (Pappas, 2015) Interactivity has been empirically proven to enhance the learning process, with several authors recognising the importance of interactivity for student learning in multimedia learning environments (Violante, 2015; Wei, Peng and Chou, 2015).

In recognising the importance of interactivity for learning, and particularly for e-learning, I used h5p (<https://h5p.org/>) – an easy to use online tool for making interactive material, with

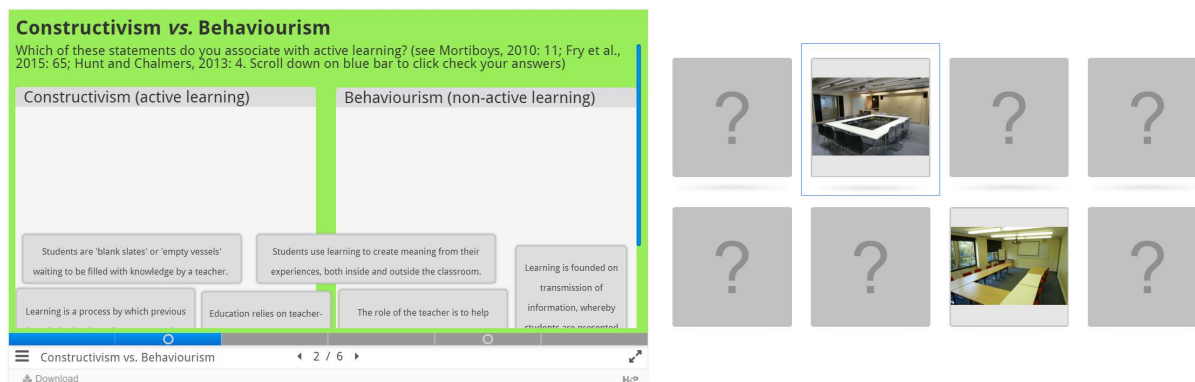


Figure 2 – Examples of interactive activities included in the Moodle component of the PTHE activity to improve content delivery. On the example on the left, students are asked to drag-and-drop a series of statements regarding teaching into either the 'constructivist' or 'behaviourist' box. For the activity on the right, students must match pictures of different room layouts, a description of which then pops-up along with its benefits and disadvantages for teaching activities.

available plug-ins for use in Moodle – to adapt content being delivered in the Moodle component of the PTHE activity simply as text and present it in more interactive ways. Some examples, shown in Figure 2, include a 'drag-and-drop' activity to highlight differences between constructivism and behaviourism and a 'memory game' in which students have to match pictures of different rooms with similar layouts (boardroom, lecture style, empty space, etc.). Once students match the pictures correctly they are given information regarding the uses, advantages and disadvantages of such a layout in a teaching and learning context. It is important to note that these activities are accompanied by clear instructions to the students on how to interact with them and how to progress through the Moodle, making the experience 'easy and intuitive', as recommended by Kristof and Satran (Kristof, 1995). Figure 3 demonstrates how adopting the aforementioned approach changed the visual aspect of the Moodle pages – their improved visual appeal, *i.e.* the emotional design of this online resource, may also have a positive impact on learning, as suggested by Mayer (Mayer, 2014). While the new version of the Moodle component has not yet been made available to students, and hence there is no student feedback available to evaluate the success of my proposed approach, my objective is to make the Moodle easier to navigate and to deliver information in a way that is easier and more interesting to engage with.

Another challenge of e-learning is to humanise the online experience, to create a sense of community and avoid isolation. This aligns with the PTHE students voicing that the sharing of experiences is valuable in the face-to-face session. In bringing these two aspects together, I have included several videos throughout the Moodle activity. These videos include testimonials from other postgraduate students who teach (sense of community), experienced teachers' experience (sharing knowledge) and undergraduate students sharing their expectations from teaching (to prompt discussion in the face-to-face session, further fostering the flipped-classroom approach).

Video is a form of narrative media, that is, a linear presentational medium which provides logical structure for content delivery but lacks interactivity (Laurillard, 2002). While the visual elements in video content may be engaging, the fact that it cannot, obviously, answer the audience's questions is a significant drawback. Nevertheless, videos have been found to be

(a)

Useful techniques

There are many methods that can be used to facilitate actively learning in the classroom. A number of common, widely used, and effective examples are listed here. Not all of these will be applicable in every scenario or for every topic / subject. Many can be combined or modified.

Buzz Groups A short, focused discussion task carried out in pairs, which is useful for generating new content and energy. It can also support greater peer interaction within a group of students unfamiliar with each other.	Cross-overs Groups work on different tasks. A representative from each group then joins another group so that outcomes / feedback is shared.
Rounds This activity involves everyone in the group taking turns to contribute something on a particular issue or theme. It gets everyone involved but should be used sparingly, especially with larger groups as it can be time-consuming.	Brainstorming Learners are encouraged to contribute as many ideas as they can about the issue being discussed - all of which are noted down. Ideas can then be discussed further and follow up questions / solutions identified. This activity generates lots of ideas about an issue or problem.
Note Takers Assign a learner or learners to take notes for the session, summarizing the main points discussed. These can be written up and circulated to all learners. It is important to assign different students to this role in different sessions.	Presentations Ask learners (or groups of learners) to present their ideas / work to the rest of the group. This could be a more formal presentation on pre-prepared work, or could just be the outcomes of an activity undertaken in the class itself. This develops learners' skills and confidence and also results in clear output.
Problem Solving Give learners problems to work through on their own or in groups. This will help with the application of knowledge and identification.	Poster Tours Individuals or groups can produce a poster summarizing their discussions / activities. These can be displayed around the room for everyone to look at and discuss. The posters may be formally prepared in advance, or using flip chart sheets, etc., prepared in the session that outline key points in bullets or pictures.
Case Studies Provide learners with case studies to work through to help 'bring to life' the subject being covered. This could be hypothetical or based on real examples.	Role Plays Ask learners to take the role of different people in a case study or debate. They may be asked to prepare both content and personal style. This requires preparation in advance.
Debates Set up discussions about opposing viewpoints. You can assign learners to take particular standpoints rather than letting them choose, which encourages different perspectives and avoids them getting too personal. You could also consider setting up courts of inquiry using formal procedures, such as calling witnesses, etc.	Reading Allow short periods of time during the session for everyone to read a hand-out or section from a key text / paper. It also allows a quiet time to collect thoughts and refocus the class.
Peer Assessment An activity in which the learners assess their peers' presentation or written work. Either use a proforma with assessment criteria or hold a class discussion to select the criteria at the start of the activity. This helps learners to understand assessment criteria and gives them feedback on their work.	Line Ups Ask the learners to line up across the room or indicate (by sticking a post-it note or drawing a mark on a paper line on the wall) where on the continuum they think they stand. Encourage them to negotiate with those either side of them to make sure they are in the right place on the continuum in relation to those around them. This guarantees involvement and getting 'off the fence'.

For more information on many of these (and other ideas besides), you can also refer to:


- 'Group work in the classroom: types of small groups', Centre for Teaching Excellence, University of Waterloo (Canada).
- H. Strawson, 53 Interesting Things to Do in Your Seminars and Tutorials (Ry, UK: The Professional and Higher Partnership, 2012).

(b)

Useful techniques

In the activity below you can explore several teaching techniques by clicking the circles in the pictures. While these techniques have been placed in one of the two teaching scenarios presented, this does not make them exclusively suited to one or the other.

You can get a summary of all the teaching techniques mentioned in this activity here.



Download <> Embed

Figure 3 – Example of how my interventions on the PTHE Moodle page have changed its visual aspect; (a) shows the content as delivered before and (b) after my interventions. In the activity shown in (b) students are asked to click each green icon to open a box that will deliver the information in the table in (a), thus breaking up the long wall of text.

effective educational tools if some important factors are taken into account when producing them (Allen Moore and Russell Smith, 2012; Kay, 2012; Lloyd and Robertson, 2012; Rackaway, 2012; Hsin and Cigas, 2013). First of all, it is important that educational videos are *purpose made*, i.e. while filming and sharing a lecture may be helpful, when developing e-learning materials it is important that the video is tailored to the specific environment, aims and audience of that online course. Video content that is not relevant, feels out of context or is not tailor made to the needs of the e-students may negatively impact their engagement with the material and motivation towards the course, and thus it may lead to poor learning and student experiences (Brame, 2013). The videos I produced for the PTHE Moodle certainly meet the purpose made criteria: the videos were specifically built for the Moodle environment and for the needs of the students on the PTHE programme, based on their feedback, and all the filming and editing was done from scratch. Importantly, these videos were kept short (one to three minutes) and used a conversational tone, which are other

aspects highlighted by Brame and other authors as important for successful pedagogical videos (Brame, 2013). However, since these videos were used as a way of sharing perspectives on teaching rather than to deliver content, the use of interactivity and guiding questions recommended for pedagogical videos was not applied in this case. Nevertheless, the value of the video content I have added to the PTHE Moodle is two-fold: it contributes to the improved emotional design of the Moodle pages, as discussed before (Mayer, 2014), and it fosters a sense of community which is essential for the motivation and engagement of students using e-learning environments. (Yilmaz, 2016; Luo, Zhang and Qi, 2017)

3. Teaching Observations (UKPSF A5, K5, K6, V3)

In setting advice on *Becoming a Critically Reflective Teacher*, Stephen Brookfield identified four lenses through which the learning facilitator should examine their practice (Brookfield, 2017). The first, as has been extensively discussed throughout this piece, is the student lens – the student perspective and opinion on the teaching. There is also the personal lens, through which the teacher should reflect on their own practice to inform future development, and the literature lens, which encourages an evidence-based approach to teaching. These two lenses, while as important as the remainder, will not be further discussed here. The Brookfield lens to which we shall finally turn our attention is the one concerned with the colleague's perception of the teacher's teaching. This lens usually takes the form of peer observations of teaching, after which the observer and the observe should engage in reflective discussion regarding the teaching practice (Martin and Double, 1998; Lomas and Nicholls, 2005). Teaching observations are widely encouraged as effective mechanisms for teachers to receive feedback and thus engage in best practice and continuous professional development (Carroll and O'Loughlin, 2014; Yiend, Weller and Kinchin, 2014). Moreover, fostering reflective teaching environments where teachers are encouraged to engage in teaching observations may be transformative for the teaching culture within institutions (Thomas *et al.*, 2014). Nevertheless, as Blackmore highlights in a review of the peer teaching observation method, in order for the process to be meaningful and useful, it is necessary that both parties are properly trained (Blackmore, 2005). Training could solve the confusion regarding the purpose of teaching observations – to learn or to assess? – to which Cosh has referred (Cosh, 1998).

Despite the importance of peer teaching observations being clearly reported in the literature, current research on the topic reveals challenges to its implementation within institutions, mainly due to resistance from staff to engage with the process. Such resistance is related to concerns regarding the process of teaching observations itself (time-consuming, possible lack of objectivity from reviewers, *etc.*) but other challenges to involvement from academic staff have also been reported, such as faculty resistance to change (Knight, 2002), lack of incentives (Lomas and Nicholls, 2005), observations being seen as an intrusion into the learning environment and teachers feeling they are an attempt to control their professional autonomy (Blackwell, 1996) or even to challenge their academic freedom (Lomas and Nicholls, 2005). It is important, therefore, that teaching institutions place some effort into demystifying the peer observation process and reiterating to academic staff that they will benefit from it (White, Boehm and Chester, 2014). A supportive teaching environment and trusting relationships between observers and observes are essential to enhancing academic engagement with the peer teaching observation process (Carroll and O'Loughlin, 2014).

Personally, I have had positive experiences with peer teaching observations, as I have always found them useful and informative, and a good way to identify areas for improvement. An example of such an exchange took place very recently, when a peer – Sara Hattersley – observed one of the face-to-face sessions of the PTHE programme (mentioned above), which I co-teach. Coming from a scientific background, I am used to teaching in a laboratory environment and guiding students through their experiments, answering their questions and help them make sense of their protocols and results. In the PTHE face-to-face session, the teaching is much more discussion based, however, and leading discussion is something I did not have much experience with. That being the case, in the advised pre-observation meeting (Siddiqui, Jonas-Dwyer and Carr, 2007) I asked Sara to pay particular attention to my practice as a discussion facilitator as feedback on this point would be of most use to me. In general, the feedback was positive – I had lead discussions in a well-paced, well-humoured and dynamic manner, to which the group reacted positively.

However, to me, one of the most useful aspects of being observed is that often the observer identifies certain aspects of my teaching that I had not considered or wasn't aware of – the improved self-awareness on its own is a reason to engage with teaching observations. For example, in her feedback from observing my PTHE co-teaching, Sara mentioned that when leading discussion I challenge students too soon. I remember the teaching moment which generated this comment very well: a student shared their perspective on the topic at hand and, while I did not disagree, I challenged it in order to spark further discussion; this is a technique I often resource to. Sara made clear that fuelling discussion in such a way is not necessarily bad practice, but in that case, she noticed the student's apprehension at being so directly challenged. Perhaps because I had no intention to prompt it, I failed to notice this reaction in my student and therefore may have failed to reassure them. Moving forward, I now make a conscious effort to identify situations in which my attempts at generating debate may have a counterproductive effect on introverted or less confident students. In more general terms, Sara also pointed out opportunities to improve on briefing the student in the session plan and timings, to improve on the coherence of the session (connecting topics more explicitly) and using more varied teaching aids.

As it becomes apparent from this piece, I believe feedback – from both students and peers – to be one of the most useful tools in a teacher's professional development tool-kit. I find that, particularly as a new teacher, it is easy to default to what you found useful as a student and thus fail to provide for a diverse community of students. In addition, when preparing a teaching activity with care, attention and dedication, it is equally easy to become attached and thus biased, potentially overlooking flaws or opportunities for improvement within your teaching practice. Therefore, I find listening to the perspectives of other people who not only are detached from the creation process but also may think differently from me is incredibly valuable and enhances my both my teaching activities and my practice.

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