

Feedback on Teaching: Non-standard Minute Paper Methods

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ABSTRACT

The importance of feedback in the learning and teaching context is widely recognised. In recent years, its primary focus has been on the provision of feedback to students, a unidirectional flow of information from educators to students on their formative and summative assignments. Feedback on teaching makes learning visible; however, this visibility depends on the teacher awareness of their impact on students. The uptake of end of class student feedback is relatively small in large classes. This paper reports on three lecturers' account in collecting and responding to regular feedback on teaching in the School of Computing Science at the University of Glasgow. The lecturers' accounts of their experience may be used as a starting point for educators willing to implement regular routine feedback on their teaching. Based on our experience, we propose guidelines emphasising structure and regularity in the collection of feedback on teaching.

KEYWORDS

Feedback on teaching, higher education, large classroom, student feedback, minute paper

1 Introduction

The importance of feedback in learning and teaching is widely recognised. In recent years, the focus has been on feedback to students, a unidirectional flow of information from educators to students. Feedback on teaching, arguably the most powerful feedback channel (Evans, 2013; Hattie, 2009), is often neglected (Hattie and Zierer, 2018). Many institutions use end-of-course student feedback as a form of quality control (Shevlin, Banyard, Davies, and Griffiths, 2000; Zabaleta, 2007; Arthur, 2019) despite its ineffectiveness in improving teaching and learning (Arthur, 2019).

In contrast, regular, per-class feedback from students can help educators directly observe student learning (Hattie and Zierer, 2018). It is a powerful channel that enables the educators to directly and responsively improve teaching and become role models in openness, vulnerability and willingness to learn (Davies, 2019). Regular teaching feedback is a way of monitoring and adapting to changing student practices, prioritising what is taught, when and how it taught, sharing good practices among classes, establishing a common class experience and ethos, and developing a continuous quality improvement approach (Davies, 2019). However, the uptake of regular per-class teaching feedback is relatively small. This may be due to fear of criticism (and consequent negative impacts on professional development), and to the time and resource-intensive nature of responding to feedback (Wisniewski and Zierer, 2019). There

are many approaches that have been used to collect per-class feedback. One that has been successfully demonstrated as a learning tool (Stead, 2005) is the one-minute paper (OMP), where students are typically given one minute to answer one or two questions. The lecturer responds to them in the next class or privately on an individual basis. In this paper, my colleagues and I report on our experiences in collecting per-class student feedback using variants of the OMP technique.

2 Lecturers' Stories

2.1 John's account of using an online class response system

This approach is used with a first-year introductory programming class with 220 students entering the first semester of a Computing Science degree. This is a large class and does not easily enable bidirectional communication between myself and the students, or foster a shared class experience. The feedback is used partly to correct delivery issues (microphone too quiet, room too cold), partly to identify course-related questions that need clarification ("I didn't get how global variable work"), partly to explore ideas that are outside the strict remit of the course and partly simply to engage a large group of students and construct some form of shared experience.

For the last four years, I have used the YACRS class response system (developed at the University of Glasgow). In the last five to ten minutes of the lecture, students are asked to send any comments, feedback, questions or thoughts via YACRS using their mobile devices. I dedicate around 2-3 minutes in the lecture to allow students to respond, but I leave the feedback channel open so that students can still provide responses for the next 24 hours. Students are given 140 characters ("one tweet"). I suggest that students send any questions, feedback, comments or thoughts, and I offer to answer any questions asked, and that all responses will be treated anonymously.

2.1.1 How do I deal with the feedback on my teaching?

I typically receive 25-30 (15% of respondents) feedback responses in each lecture. This is consistent throughout the semester. This translates to about 8-10 statements which I respond to after collating similar questions and filtering irrelevant responses. The lectures in this course are twice weekly; the first lecture is purely informational, and the second is a discussion-oriented review. I dedicate around 20-30 minutes of the discussion lecture to run through the responses, and this response forms the core of this lecture. I prepare detailed written responses in advance of the lecture, grouping together thoughts on a similar topic. These form the lecture notes for the discussion lecture which I talk through in the lecture. I attempt to answer any reasonable question asked and discuss any comments made, including ones that go beyond the scope of the course. Written responses are prepared by first answering all of the directly course-relevant responses and then peppering the notes with responses that may be amusing, general feedback, or material that will engage members of the class who find the class otherwise insufficiently intellectually stimulating.

2.1.2 Reflection

Students react very positively to the feedback sessions, both in person and in formal course ratings. There is consistently good attendance and engagement in the discussion lectures. Nevertheless, it seems that there are still questions that remain unasked, possibly due to shyness but most likely due to simple inertia and passivity. I see opportunity to give more space in lectures dedicated to feedback and creating incentives to respond beyond getting your question up on the big screen. I am aware that students coordinate "behind the scenes" on private online chat channels; there may be an opportunity to engage more directly via such channels.

2.2 Maria's account of using a panda box to collect feedback

I was teaching a new course, the Cyber Security Fundamentals (M) with 173 students. We had one lecture per week. I decided to get regular weekly feedback on my teaching using a panda box that was passed through the class. There were three questions; what you like, what you don't like, what you want to see more. I advised my students to write anything they wanted anonymously and throw the post-it note in the box. I told them that every week, I would take into account their feedback, act on it and this, subsequently, would improve their experience through the course. I made sure they understood I gave them a voice. I made sure the panda box went round during the exercises to limit the level of disruption this may cause.

2.2.1 How do I deal with the feedback on my teaching?

The return rate was not extremely high, but I was getting something back every time that I could use and they were aware they had a choice to be heard. I was getting 20-30 comments every week. This was reduced to around 16 comments in the last two weeks because of exams preparation. I took every comment and categorised them as good, bad and suggestion feedback. I implemented a routine weekly discussion based on what was new and anything problematic. Sometimes, I would get feedback that was not constructive, but I considered it as an expression of feelings. As a practice, it worked really well, and getting feedback enabled me to continuously re-define the approach I would take for the following week.

2.2.2 Reflection

I will definitely use it again. For me, sometimes providing a link to an online application, though very helpful, may make the feedback collection activity look mandatory. In that case, I feel that I may not get a realistic view. But making them touch an artefact to pass through might be disruptive but makes students more aware and encourage them to throw in a note with their opinion.

2.3 Mireilla's account of using paper to collect feedback

Getting regular feedback on my teaching was critical. I was a new lecturer teaching Algorithms and Data Structures (ADS) for the first time, a course that is notoriously difficult to teach. Moreover, an initial survey of my student cohort ($n = 107$) showed that many (64%) did not have prior knowledge of Data Structure and Algorithms. We had one 2-hour lecture and 1 hour tutorial per week for ten weeks. I was desperate to find out how I was doing, how students got on and how I could help them. From week 1, I instructed students to write their feedback on paper and leave it on my desk before exiting the class. The students had to write two things they had learned and their least favourite activity or what they had struggled with. I advised them not to include their names and student ID to preserve their anonymity and to build trust in an attempt to increase my chance of receiving feedback on my teaching.

2.3.1 How do I deal with the feedback on my teaching?

In week one there were 38 comments (40.6%), in week two, there were eight comments (8.6%), and in week three, just one student provided feedback requesting more time for labs and more time to ask questions. My response to the weekly feedback was to develop further material that would provide a more detailed explanation of the concepts they were struggling with and address their concerns. I revisited some of these concepts during the following lectures. After the first feedback, I changed my practice from a strictly teacher-centred approach to an active learning approach. I incorporated more problem-solving tasks which also broke the two-hours lecture in reasonable time slots of passive-active states. Students were encouraged to think hard and challenge their peers' answers in order to develop their skills. Despite the weekly reminder, the students did not provide any further feedback. They seemed

content to work on solving problems individually and with their peers. That new routine was established until the end of the course.

2.3.2 Reflection

My change in practice was influenced by student feedback on teaching. However, I could not find out why students stopped given feedback despite a reminder during the class. Nonetheless, I was very satisfied with the increasing level of student engagement. Maybe as they were now engaged in active learning activities and could rely on their peers while solving these problems, they could now cope with the material. I maintained that teaching approach. I will collect after class feedback in my future courses. However, I may decide to try a different feedback collection.

3 Concluding remarks

Each of us applied a different variant of OMP. While using technology and an artefact such as a panda box seemed to yield consistent response rates, having students leave written notes on a table did not sustain feedback activity. None of us described the main issue identified in the literature, including the fear of students' general criticism, and time and resource required (Wisniewski and Zierer, 2019). We believe that feedback on teaching is a welcome affirmation of our skills and helps develop confidence in our approach (Bell, 2001). It is an opportunity for constructive criticism in an informal and supportive environment (Lomas and Nicholls, 2005) and encourages 'self-regulation' among teachers (Coe et al., 2014). Our suggestions to those who want to implement a regular routine after class feedback on teaching include:

- Implement a regular and consistent routine from the first week.
- Make it clear you are giving your students a voice and honour your commitment to respond.
- Use technology or a tangible artefact that enables quick, anonymous participation
- Build trust by using a feedback collection approach that fosters complete anonymity.
- Close the feedback loop tightly, and incorporate elements of feedback as part of the very next lesson.
- Be ready to change your own practice.
- Remember that you are modelling openness, vulnerability and willingness to learn

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