Developing Satisfying and Effective Feedback for Medical Students

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Key Points

- Developed a new understanding of what impacts student satisfaction and how to tackle dissatisfaction
- Investigated underperforming student and identified important limitations with current approaches to remediation
- Carefully evaluated a new method of delivering feedback, which is now being rolled out to 1250 students across the five year programme
- Instigated an on-going evaluation process where new innovations are routinely tested and evaluated best on work done in the project
- Created a rich source of information with multiple conference presentations delivered, and papers in preparation to which three postgraduate students contributed

Project overview

This project was initially divided into three strands. Strand 1 was a continuation of the large annual survey on feedback satisfaction and its correlates, and analyses of the results. Strand 2 targeted underperforming students to identify how they might be better supported. Strand 3 contrasted two feedback mechanisms in a randomised controlled trial. Due to cost savings, we were able to add a fourth strand, which extended our research beyond the undergraduate curriculum by investigating our recent graduates, and comparing our feedback efforts against those in other medical schools. Each strand is reported on separately.

Strand 1

Our annual survey consists of around 100 questions on personality, demographics, academic performance, satisfaction with feedback and open questions asking students what does and doesn't work about our current system. Now in its fourth year, the survey has been completed around 1200 times by students from first, third, and fifth year students. To our knowledge, it is now the largest such resource in the UK. Last year, we collected longitudinal data for the first time on students who first completed the survey three years earlier. This survey is an on-going activity and has been used to test correlates of feedback satisfaction, what students view as being good feedback, and how feedback changes over time. We have compared our students against those of another medical school (Leeds) and found that, by contrast to Leeds students, our students show *decreased* satisfaction with and understanding of feedback as they pass through our system. This likely reflects increasing challenges in delivering effective

feedback in the clinical years. We have also created our own inventory – the Edinburgh Feedback Inventory – and validated it among our students. We have found feedback to be uni-dimensional – all aspects of feedback are considered equally important by the students.

Notably, feedback satisfaction and academic performance are completely unrelated. Feedback satisfaction is variable, shifting up and down regularly and with only weak stability over time. Even when reporting on feedback satisfaction *with the whole course* this pattern holds true. This has emphasised the need for robust and valid measures of questioning students about their feedback rather than simple satisfaction scores. On the other hand, aspects of personality, socioeconomic status, and whether or not the respondent was an international student all predicted feedback satisfaction. Agreeable students open to new experiences were most satisfied, as were well-off students and those from outside of the UK. Generally, students were happiest with feedback in first year and least happy in final year. As our work on feedback variability suggests feedback satisfaction is influenced by very recent experiences, and that feedback is harder to deliver in later years, it partly explains why the medical school receives such poor overall feedback.

When asked about feedback, students consistently discussed very general academic and pastoral problems. A lack of close personal contacts with tutors, and high variability between different modules, were seen as problematic even when not strictly dealing with feedback.

Quotes

"Lack of feedback e.g. some consultants not putting any comments on portfolio. The disparity between different consultants, some think an 'excellent' mark is 75% and some think it is 95%, which is unfair if both students are 'excellent', and this makes up 40-50% of the end of module mark. Also, the time taken to receive feedback."

"The feedback I received was fairly in depth. However, some of my friends were simply given 'one word' explanations and had no way of knowing how to improve for next time."

Outcomes

- Feedback satisfaction does not predict performance, so better training for students is required to help them identify good feedback and derive value from it
- Students consistently rate all aspects of feedback as equally important (or unimportant), so focusing on the most cost-effective and straightforward solutions is ideal
- Feedback is especially weak in clinical years, and this is an area for development

Strand 2

In our first large survey we identified that virtually no underperforming students had responded to the survey. A postgraduate researcher with experience of dealing with sensitive

topics contacted a small number of students who had failed major assessment hurdles to discuss how feedback could be improved for them. Nine students were interviewed for one hour each, and a thematic analysis was carried out on the results. In common with other students, there was a strong desire for regular formative examinations, and for more frequent tailored (ideally one-to-one) contact.

However, these students also exhibited very poor meta-cognitive skills. They frequently saw feedback in superficial terms – such as wanting to receive their paper back, wanting to know the right answer to a particular question – rather than seeing a pattern of behaviour stemming from their learning skills. In particular, they often failed to see a pattern at all, viewing failed assessment as due to a series of unique events. Finally, they tended to report great difficulty interacting with academic staff as the staff was often abrupt and unsympathetic to failure. Systems in place to guarantee feedback for failing students – such as meetings with course organisers and examiners – were often not followed up by the students.

Quotes

"There was some...exam feedback lectures but, again, I found...they didn't really help me at all. It was just kind of like fair enough, it's past now."

"They ... emailed out a list to the people that failed of all the different study groups. And I know for a fact that some people were very upset about that because they didn't want everyone to know that they failed."

Outcomes

- Failing assessment should never be seen as an isolated incident. Students should receive thorough support, especially with regards to meta-cognitive skills
- While academics may feel they are being empathetic, the shock of failing assessment makes these students in particular very sensitive. Care should be taken to ensure discussions are supportive
- Systems designed to support students in difficulty must be made more robust. While policies exist, if students (often suffering pastoral problems as well as academic ones) do not immediately take these up, they never enter the system at all

Strand 3

Our electronic exam system (OSCA) allowed for detailed item-level feedback in MCQ exams. Our randomised controlled trial contrasted how such detailed feedback compared with more general feedback (tagging) and no feedback (using a quasi-control cohort of students who had sat the same exam without feedback the previous year).

Neither feedback method improved performance. Students liked both systems, and were especially keen on detailed feedback. Students believed the feedback supported their learning and improved their scores, and asked for the system to be continued.

We have rolled out detailed feedback in all five years based partly on the feedback in this trial. Using an upgraded OSCA+ system, we can now deliver formative assessment to students in their home, and provide feedback on each option and question. This continues to be received positively by students.

The student responses – here and in the other strands – have demonstrated that students often struggle to self-assess. They are given little guidance on how to use feedback, and often view discussions of learning styles or meta-cognitive skills negatively. However, the current lack of impact of feedback on performance strongly emphasises the need to provide a positive environment in which feedback seeking is supported, and students are given information on how to use the feedback they are given.

Quotes

"I liked the level of detail. I liked the fact that my own answer was displayed at the same time as the correct answer for the question. I liked the fact that there were explanations for every answer so we could understand."

"The more detail in the feedback the better. Also practice papers would be really helpful. They don't need to be multi-choice, just testing the knowledge we are going to be tested on in the exam."

Outcomes

- Detailed feedback has been implemented in all years, with tagging due to be implemented but awaiting a technical upgrade
- We are emphasising the need for tutors to give feedback in a way that shows *how* to improve at all levels
- This work has demonstrated the need for constant evaluations, as it is quite different from the initial proposal – which students did not like, and would not have engaged with
- Student satisfaction is never taken as a measure of efficacy

Strand 4

We had initially planned to create a purpose-built exam for strand 3. However, thanks to a generous donation from the year 1 cardiovascular team who released the exam paper to us, we saved a significant sum. This was spent on two additional projects.

Firstly, we interviewed a number of recent graduates. This project has been repeatedly attempted but never succeeded, due to significant difficulty in tracking down and recruiting graduates distributed across the UK and beyond. The funds allocated meant we could thoroughly and carefully follow our graduates and interview six of them about the Edinburgh experience.

They were very happy with the course, and believed that the value of the Edinburgh experience became more obvious after they had graduated. They again noted that feedback quality declined with time on the course. They seemed to be poor at identifying feedback unless it was explicitly signposted, were nervous about actively seeking feedback, and felt that inconsistency was a critical factor in bad feedback.

The second project involved a survey of feedback in the UK for Objective Structured Clinical Examinations (OSCEs), which are found in all UK medical schools. Feedback was diverse, ranging from no feedback at all to various audio, textual, and in-person forms of feedback. However, there was no association between the level of feedback given and institutional ratings of feedback in e.g. the NSS. Furthermore, our own students had often reported on feedback given at other institutions which, when followed up, was not delivered in that way by that institution. Feedback quality is not obviously tied to specific innovations, and unhappy students often report on events elsewhere inaccurately, which may in turn feed a cycle of dissatisfaction.

Key Quotes

"So feedback in the first few years was excellent, particularly the first year and then things start tapering off."

"I came out of medical school really cynical about the workshops we did … you think you're wasting your time when you're doing it. It's not until you start work and find yourself in certain difficult situations with patients or with colleagues or whatever. And then you find yourself falling in to some sort of subconscious state that you were taught about at medical school."

Outcomes

- As student satisfaction appears to grow post-graduation, more should be done to emphasise the utility of things which – at the time – may appear unhelpful to undergraduates
- Asking students to seek feedback is insufficient – care must be taken to ensure that staff are proactive in encouraging feedback seeking, and that tools are available for students to rely on when asking for feedback.
- A better awareness of what other institutions are doing can support innovations at Edinburgh, which we have used in a subsequent project to advance our feedback in OSCEs.

Staff Development

This project allowed us to link a series of separate innovations into a single coherent piece of work which is now being run by the centre with no allocation of external funds. It has given us an enormous insight into student views on feedback, as well as allowing us to test the efficacy of innovations. We would highlight the following points in particular:

- An awareness of how little students understand about assessment and feedback processes has led us to develop a routine programme of assessment and feedback lectures to engage in discussion with students
- An understanding of how to best provide detailed feedback has allowed us to provide better training and support on MCQ exam feedback and anticipate student needs
- Three postgraduate researchers have developed extensive qualitative and/or quantitative skills through this project, including interviewing skills, thematic analysis, and factor analysis. In one case, the postgraduate's first academic output was the direct result of this project.

Publications in Progress

Title	Detail	Date
Improving Academic Feedback – turning the ship around with the power of 1000 students	Conference presentation. Delivered at the Society for Research in Higher Education Conference, Edinburgh	April 2013
Developing and Using the Edinburgh Feedback Inventory	Conference presentation. Delivered at the Association for the Study of Medical Education (ASME) conference, Edinburgh	June 2013
Evaluating two feedback mechanisms for MCQ exams	Conference presentation. Delivered at the Association for Medical Education in Europe (AMEE) conference, Prague	August 2013
Developing Satisfying and Effective Feedback for Medical Students	Presentation. Delivered at the PTAS Learning and Teaching Forum	June 2014
An audit of OSCE feedback across UK medical schools	Conference presentation. Delivered at the Association for Medical Education in Europe (AMEE) conference, Milan	September 2014
Developing effective feedback for underperforming medical students: understanding their specific needs through semi-structured interviews	Conference poster. Delivered at the Association for Medical Education in Europe (AMEE) conference, Milan	September 2014

Publications based on these presentations are progressing and in submission or in review.

Future Work

We continue to maintain this project and investigate new feedback innovations as they are developed. The dialogue with our students is now a routine part of the curriculum. Our current work is aimed at exploring the need to develop better feedback *systems* whereby staff and students enter into a mutually supportive relationship where goals and expectations are clear, and delivered.