

Manuscript title

Students' Perceptions of Tutor Feedback: A Pilot Study

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Background: Feedback offered to dental students by their tutors should aim to elicit ongoing learning and motivation. Previous studies looked at the impact on learning of feedback delivered by tutors from tutors' perspectives. However, what students know about feedback and its purposes and how they experience them during their study effect the impact of feedback on learning. The aim of this pilot study was to assess the proprieties of tutor feedback and its impact on future learning from the students' perspective.

Methods: A short questionnaire based cross sectional survey was designed and delivered electronically to 135 undergraduate and postgraduate students at Brescia Dental School, Italy. The questionnaire consisted of 16 questions which were divided into 3 sections. Quantitative data were collected via Google Forms, the analysis of the data was undertaken using SPSS software, Version 24.

Results: Sixty-one students (45.2%) responded to the questionnaire. Forty-one of respondents (67.2%) were undergraduate students and 20 (32.8%) were postgraduate students. The vast majority of students indicated that they received feedback, thirty (49.2%) indicated that it was delivered by tutors and eight (13.1%) by fellow students. Further, students reported that feedback was timely, delivered within two weeks of assessments and that constructive criticism was the favoured feedback style (n=52, 85.2%). Most students felt that the feedback they received helped with ongoing learning (n=54, 88.5%).

Conclusions: Most of the respondents considered that feedback received at Brescia Dental school did have a positive impact on their learning. This is of course what tutors hope would be the case but nevertheless it is gratifying to receive this endorsement from the respondent students. A more comprehensive study involving multiple dental schools in different learning environments will now be undertaken, including the collection of qualitative data.

Key words: Feedback, Education, Dental, Learning, Assessment

Introduction

In the context of education, feedback can be defined as: “information provided by an agent regarding aspects of one’s performance or understanding” ¹. It is considered as an essential part of education and training programs by which students can gauge their level in terms of the knowledge, understanding and skills ². In this way it helps learners to maximize their potential at different stages of training, raising their awareness of strengths and areas for improvement, and identify actions to be taken to improve performance ³.

In particular the role of feedback in student future learning and motivation is well established ^{1, 4}. Feedback given to students following an assessment, or during practical teaching sessions, should provide valuable information which enables the student to plan their future learning ^{4, 5}. Research has suggested, “the brain responds flexibly to feedback, based on the learner’s goals” ⁶ (Bandura). The link between setting realistic goals and feedback can lead to increased motivation and self-efficacy of students ⁷. Goal setting allows students a greater opportunity to progress and attain a higher degree of success ⁸. The use of goals enhances performance only when combined with a personal objective and feedback that confirms the achievement of the goal. Simply adopting a goal, whether easy or challenging, without knowledge of how one is doing through feedback, has no lasting motivational impact ⁹ (Bandura). Neither the goal nor the feedback of performance alone, effect changes in the level of motivation. However, the study by Hattie & Timperley ¹ explored how different forms of feedback can have a different impact on learning and motivation, not always positive. They highlighted that the presence of feedback is not enough to have a positive effect on learning, feedback should have determinate characteristics to enhance learning.

Another point to consider is that the delivery of feedback is a two-way process, namely tutors to students and students to tutors ¹⁰ (Tovani). Previous studies have looked at the impact on learning of feedback delivered by tutors from tutors’ perspectives ⁵, however the students’ perspectives are also as important ¹¹. The provision of a grade or mark for a piece of work was reported as being more important to students than the feedback itself ¹² (Scott). Surveys looking at the student learning experience often highlighting the lack of feedback students identify they receive ¹³.

The findings of the National Student Survey (NSS) for undergraduate students in the UK universities is one such example ¹³. Students' perceptions of feedback, in the study by Ansari & Usmani ¹⁴, indicated that clinical students were aware of the purpose of feedback but this was related to their seniority. Senior clinical students attributed more value to feedback and were of the view that feedback provides useful suggestions for future improvement and limited feedback is a main reason for student frustration.

Considering all the different aspects needed to make feedback have a positive impact on learning and motivation the aim of this study was to record dental students' perceptions of the feedback they received and whether feedback influenced their future learning.

Materials and methods

Ethics approval

This study was conducted in accordance with the principles set forth in the Helsinki Declaration. Ethics approval was sought and granted by UCL Eastman Dental Institute Low Risk Ethics Committee (6552/001) on 21st January 2019. The chairpersons of the ethics committee were Professor Lynn Ang, Learning and Leadership (Institute of Education) and Professor Michael Heinrich, School of Pharmacy (Faculty of Life Sciences). All the subjects took part in this study voluntarily after having received comprehensive information about the aims and design of the study and giving informed consent for participating in the study. This pilot study was part of a more extended investigation on feedback and the impact that feedback has on future learning, both considering teachers' and students' perceptions.

Study design

This study was designated as a pilot study and was undertaken at a dental school in Brescia, Italy. The sample consisted of the entire dental student population, i.e., a total of 135 undergraduate and postgraduate students. This was procured through a "purposive sampling" technique ¹⁵ which involved all the students of the dental school, since it was a convenient and manageable number for a pilot study. Brescia was designated to undertake this pilot study as:

- a) English was not the first language of the students involved in this pilot study, which was an important consideration investigating the cogency of doing so. This was considered important because the follow up studies would investigate a pan-

European student's perspective on tutor feedback in English as the common language of the prospective participants, and

b) Brescia was the home Institute of one of the authors.

This was a questionnaire based cross sectional survey study with data being collected via a bespoke structured questionnaire compiled by the authors, made available to the prospective respondents via a link to Google Forms ®. Prior to the distribution of the questionnaire, two students at the UCL Eastman Dental Institute, who did not take part in this pilot study, read the questionnaire in full to help the authors modify the words or phrases used where necessary, to ensure that only plain English was used for the entire questionnaire. All students at the dental School in Brescia were invited to complete the on-line questionnaire and return it within 1 week. A reminder was sent after 2 weeks, and the questionnaire remained open for 1 month. Students were asked to answer a number of multiple-choice questions picking on more than one option as appropriate.

The questionnaire consisted of 16 questions, which were divided into 3 sections. It enquired about: 1) demographic information, such as education level and years of study, 2) feedback practices and styles encountered and 3) the use of feedback in the ongoing learning process. To facilitate all respondents to view the meanings of the pertinent terms used in the questionnaire accurately, definitions of these terms were included in the invitation letter, so that they would adhere to the definitions when completing in the questionnaire.

Data collection and statistical analysis

The answers from students were anonymous, and participants' confidentiality was ensured using unique subject ID codes to identify participants. Data were transferred to an Excel spreadsheet and analysed using SPSS Version 24 (IBM SPSS Statistics for Windows, Version 24.0. Armonk, NY: IBM Corp). Descriptive statistics were presented as counts and percentages. Group comparison (undergraduate-postgraduate) of categorical variables were analysed by chi-squared test. The significance level was set at $\alpha = 0.05$.

Data availability

The data associated with the paper are available from the corresponding author on reasonable request.

Results

Response rate

A total of 61 questionnaires (45.2%) were completed and returned. Forty-one (67.2%) of respondents were undergraduate students and had been studying for a mean of 4.02 years (range 1-6 years). The remaining 20 (32.8%) were postgraduate students who had been studying at a mean of 6.45 years (range 3-10 years). These figures indicate a wide spread of student experience within the pilot study.

Students' perceptions

Quantitative results are presented as either text or graphs.

When do students receive feedback?

Students were asked about when they received feedback. Figure 1 illustrates that the vast majority of respondents received feedback during their programme of study. This feedback was provided following a) formative assessment, b) summative assessment, and c) informally. Only 4 (6.5%) students reported that they did not receive any feedback.

When looking at the informal feedback in more detail, as shown in Figure 2, it is worth comparing the responses between undergraduate and postgraduate students. It was interesting to note that a statistically significant greater number of postgraduate student respondents received informal feedback compared to undergraduate students ($p < 0.05$). Six (14.6%) of undergraduate student respondents did not answer this question. Most respondents (undergraduate and postgraduate students) recognised that they received feedback following chairside clinical teaching sessions. It is interesting to note that a slightly larger proportion of postgraduate students received feedback following seminar-based teaching and that a larger proportion of undergraduate students received feedback during skills-based Phantom Head Teaching ($p < 0.05$). A very small proportion of all student respondents indicated that they received feedback following a tutorial.

Who delivers feedback to students?

When asked who was responsible for delivering feedback to students there was a mixed response. Figure 3 illustrates that 30 (49.2%) indicated that they received their feedback from their tutor, with 28 (45.9%), reporting that administrative staff gave them feedback. Eight (13.1%) respondents indicated that fellow students delivered feedback to them, illustrating that peer feedback was present in a minority of respondents.

The timing of feedback delivery

Figure 4 shows that student respondents reported that feedback following a summative assessment was delivered promptly and within two weeks. It was interesting to note that 4 (6.5%) of the students reported not receiving any feedback following summative assessments.

When looking at the delivery of feedback following formative assessments (Figure 5) once again the students reported that feedback was delivered either immediately or within two weeks of the formative assessment. There were 7 (11.5%) of respondents who reported not getting feedback following formative assessment. It is clear from Figures 4 and 5 that some students ticked more than one box when answering this question, with a total of 72 and 77 respective responses received from 61 students.

Format of delivery

Students received a large proportion of their feedback verbally (n=26, 42.6%). Written feedback seemed to be the least used method of delivery (n=6, 9.8%), whereas use of electronic feedback seemed to be quite popular (n=18, 29.5%) (Figure 6).

Styles of feedback

The students were asked what style of feedback they prefer to receive and the style that they actually receive from tutors (Figure 7).

The overwhelming response was that 52 (85.2%) said they preferred to receive constructive criticism. Despite the fact that the vast majority of students would prefer to receive constructive criticism only 31 (50.8%) actually consider they did receive their preferred style. However, 3 (5.0%) indicated that they preferred praise and a similar number reported not knowing what style of feedback they would prefer.

None of the student indicated a wish to receive negative criticism but 5 (8.2%) considered that the feedback they received was of a negative nature. Only one student (1.6%) wished to self-reflect as a feedback style whereas 10 (16.4%) reported that they were expected to self-reflect.

Feedback and learning

When asked if this cohort felt that feedback delivered by tutors had an influence on their future learning on a Likert scale of 1-5 (where 1 =No influence and 5=Total influence), the mean score was 3.7 (range 1-5) (Figure 8).

Discussion

This pilot study aimed to investigate dental students' views on the feedback they received at university either following summative or formative assessments as well as informal feedback. This was a quantitative study that took place at Brescia dental school in Italy. The very reasonable response rate to the questionnaire indicated the importance of feedback to undergraduate and postgraduate students.

It is interesting to note that feedback was received by most of the respondents following formative and summative assessments. This high percentage of students who received feedback, indicated a degree of satisfaction with feedback in the Dental Institute in Brescia. The fact that few students reported not receiving any feedback reiterates that finding. Seven respondents reported not getting feedback following formative assessment. However formative assessment can take many forms; it was quite possible that these students did not receive feedback, but it is quite common for feedback to be delivered by tutors but not recognised as such by students, particularly during formative assessment.

Regarding informal feedback, there was a significantly greater number ($p < 0.05$) of postgraduates who affirmed that they received informal feedback compared with undergraduate students. This reflects that students' awareness of feedback might be related to their seniority as previously demonstrated by Ansari & Usmani ¹⁴. A similar proportion of undergraduate and postgraduate students reported receiving feedback during clinical chairside teaching. This was an important and assured finding in terms of the delivery of feedback to the students. These findings also infer agreement with the previous study by Gordon (2013) ¹⁵, explaining that factors influencing student experiences include 1) authentic learning opportunities such as performing a variety of procedures, 2) consistent

and appropriate feedback on their performance, 3) feedback in the presence of a patient^{16(Gordon)}. On the other hand, more postgraduate students affirmed to receive feedback following seminar-based teaching and more undergraduate students to receive feedback during skills-based Phantom Head Teaching ($p < 0.05$) and this could reflect the particular teaching pedagogy and difference between the two categories of students.

It would appear from the findings of this pilot study that in the vast majority of cases, students receive feedback from tutors and/or administrative staff. It is unclear exactly what role the administrative staff play in delivering feedback to students, but the likelihood is that they deliver feedback on behalf of the tutors. This would indicate that perhaps students do not have the opportunity to question the tutors and obtain clarification on any questions raised by the feedback. This would seem to be a drawback as reflection on feedback is an integral aspect of learning from feedback and moving forward¹. Only eight (13.11%) of respondents experienced peer feedback. There is a trend towards peer feedback¹⁷⁻¹⁹ and in particular peer feedback can have a positive influence on the learning progress and personal development of students²⁰⁻²². However, Andrews et al (2019)²³, who supported the notion of peer feedback on nontechnical clinical competency assessments, indicated that this should be in conjunction with faculty feedback. In the present pilot it was not clear if peer feedback was supported by feedback from tutors as advised by Andrews et al (2019)²³.

It is gratifying to note that the criticism of feedback not being delivered on time¹³, was clearly not the case with this pilot study. Delivering feedback in a timely fashion is important as students who are motivated and keen to continue their learning, need feedback sooner rather than later as this will have a more significant effect on learning²⁴. However, the feedback delivered by tutors, administrative staff, other students etc. needs to be of suitable quality, well considered, relevant in addition to be on-time. There is no point in delivering poor quality feedback which is not well considered, not directed at the individual and not in a form that the student can reflect upon and move forward²⁵.

This study considered several different styles that can be employed to deliver feedback; constructive criticism, negative criticism, praise, and self-reflection as well as allowing respondents to the questionnaire to say that they did not know what style they preferred. When looking at students and their preferred style of feedback, both cohorts considered constructive criticism to be their preferred option. However, a significantly smaller proportion of students indicated they received constructive criticism style feedback. The

nature of this study means that all the respondents were from one dental school and therefore there is little possibility for potential variants due to difference in cultures ²⁶. What is concerning is that although no students indicated that they wished to receive feedback in a negative way, a small proportion (8.2%) considered that their feedback was delivered as negative criticism. This might be due to: 1) the style of feedback which tutors tended to deliver was critical, 2) tutors thought that students require negative criticism, 3) tutor considered the individual students wishes on the style of feedback to be delivered but might have misunderstood them, 4) tutors attempting to undermine their students, or 5) students were naturally very pessimistic. What the above findings did highlight was that perhaps tutors needed to be aware of whether different students required a variety of feedback styles and that different assessments might require different approaches to giving student feedback. Only one student wished to self-reflect as a feedback style and few reported that they were expected to self-reflect, indicating that self-reflection is a difficult concept to come to terms with and requires some training on the part of tutors and students to make them understand its importance in feedback.

It is important that feedback, whatever style, has a positive influence on future student learning. This study aimed to look at the impact that feedback had on the learning experience of students, therefore it was interesting that most respondents considered that feedback did have a positive impact on their learning. This is, of course, what tutors hope will be the case but nevertheless it is gratifying to ascertain this from the respondents of this study.

The main limitations for this pilot were that relatively little information had been collected on the actual quality of the feedback received by students. Furthermore, the quantitative data generated could have been triangulated by qualitative data for a better insight into what dental students think about the feedback they receive from their teachers. However, as a pilot study, the research aims and objectives have been achieved. Future bespoke studies would be generated to further investigate the pertinent points identified.

Conclusions

- 1) Feedback delivered at the dental school in Brescia was considered important to both undergraduate and postgraduate students for their future learning. This was probably be due to the fact that:
 - a) the majority of undergraduate and postgraduate students receive feedback after summative and formative assessments,
 - b) informal feedback is delivered mainly during clinical chairside teaching,
 - c) feedback is primarily delivered to the students by their tutors,
 - d) feedback is delivered in a timely manner, more likely to be either verbal or electronic,
 - e) both postgraduate and undergraduate student respondents strongly prefer to receive constructive feedback, despite the fact that not all of them perceive to have received this same style of feedback.
- 2) This pilot study is to be evolved and extended to ascertain perceptions of students in dental schools in Europe and beyond. The research instrument for the next study is to be refined to minimise the identified shortcomings in this pilot study, such as to develop appropriate methodologies to generate meaningful qualitative data to facilitate a deeper investigation of this important subject area.

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Conflicts of interest

The authors certify that there is no conflict of interest with any financial organization regarding the material discussed in the manuscript.

Authors' contributions

All authors contributed equally to the manuscript (see below) and read and approved the final version of the manuscript.

Ingrid Tonni: design of the work, acquisition, analysis and interpretation of data for the work

Peter Fine: conception of the work, analysis and interpretation of data for the work

Albert Leung: conception of the work, analysis and interpretation of data for the work

Chris Louca: conception and design of the work

Corrado Paganelli: interpretation of data for the work.

TITLES OF FIGURES

Figure 1. Illustrates when respondents received feedback.

Figure 2. Illustrates differences when feedback is delivered for undergraduate and postgraduate students (informal feedback delivery).

Figure 3. Illustrates who delivered feedback to students.

Figure 4. Illustrates how timely feedback was delivered to students following a summative assessment.

Figure 5. Illustrates how timely feedback was delivered to students following a formative assessment.

Figure 6: Illustrates the format used to deliver feedback.

Figure 7. Illustrates Preferred versus Received Feedback styles.

Figure 8. Illustrates the Likert Scale responses for the perceived influence that feedback has on students' learning experience.