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The use of a structured formative feedback form for students' assignments in an African health sciences institution: an action research study

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Abstract

Background Formative feedback is an important process in driving student learning as it helps students to identify learning gaps early enough and to devise means of covering those gaps. Unfortunately, most health professional educators spend most of the time designing summative assessment tools and pay little emphasis to continuously giving qualitative feedback to students throughout the learning process. This problem has been identified at Makerere University College of Health Sciences (MaKCHS) and forms the basis of this study.

Objectives To find out the knowledge and experiences of students and teachers about formative feedback and to initiate a sustainable formative feedback mechanism in a resource-limited setting.

Methods This was an action research study using a participatory approach.

Results Initially teachers had some prior knowledge on feedback, however, the students had misconceptions of what feedback really meant. After introducing a written feedback form, all participants expressed satisfaction with the feedback process. Key themes that emerged included: enhancing motivation, enhancing learning, promoting reflection and clarifying understanding.

Conclusion Students' motivation to learn can be greatly enhanced through formative qualitative feedback. A simple structured form is one way of providing qualitative formative feedback to students in resource-limited settings.

Keywords
feedback, learning outcomes, focus group, learning gaps

Introduction

Feedback is any response made in relation to students' tasks[1,2]. It is intended to acknowledge students' progress towards achieving the desired learning outcomes[3]. Effective feedback is timely, focused, constructive, and points students to ways in which they can improve their learning[3]. Students should therefore be given an opportunity to act on that feedback and use it to improve their learning. When approaching the point of feedback, an educator should (mentally) ask three things of the student and use these to frame the feedback[4]: What was the student trying to do? How did he/she do it? Why did he/she do it that way? Useful feedback also involves balancing positive and negative comments[4].

Feedback on performance enables students to restructure their understanding and build more powerful ideas and capabilities[5,6]. Feedback also provides information to teachers about where students are experiencing difficulties and where to focus their teaching efforts[6]. In addition to assisting students learn, feedback information can also help teach-ers realign their teaching in response to learners' needs. When feedback serves these purposes it is called 'formative feedback'[5]. Formative feedback therefore is that type of feedback intended to monitor student learning and identify any learning gaps that should be addressed[7]. It is contrasted with summative feedback which is mainly aimed at making judgments about learner performance without necessarily focusing on identifying and addressing learning gaps early enough[7].

Approaches to feedback have remained focused on transmission perspectives[8]. Teachers transmit feedback messages to students about mainly weaknesses in their work assuming that these messages are easily decoded and turned into positive action. However, students should be allowed to actively construct their own understanding of feedback messages from teachers in order to meet the desired learning outcomes[9].

There are three conditions necessary for students to benefit from feedback[10,11]. The student must: possess a concept of the reference level being aimed for; compare the current level of performance with that reference; engage in appropriate action which leads to closure of the gap. In many educational settings, teachers give students feedback information on just how their performance compares to the standard. This feedback often falls short of what is actually necessary to help students achieve the expected learning outcomes.

The primary purposes for providing feedback are: to reinforce appropriate learner behavior; let the students know how they are doing, and extend learning opportunities[12]. Unfortunately, it is easy to become engrossed in lesson content and many other teaching-related responsibilities and subsequently forget about the importance and benefits of providing high-quality feedback. Although many variables contribute to effective instruction, the use of appropriate feedback consistently emerges as a powerful tool to promote student learning[5].

Despite the obvious benefits of qualitative formative feedback in teaching and learning, many African health sciences institutions have not fully embraced it, partly due to limited personnel and time

amidst increasing student numbers. There is therefore a dearth of literature in Africa regarding this issue. The need to explore a mechanism of giving students continuous qualitative feedback regarding their assignments which is feasible and acceptable in a resource-constrained setting forms the basis of this study.

Methods

The research design was a qualitative participatory action research study done at Makerere University College of Health Sciences (MaKCHS). Initially, focus group discussions were conducted with second year medical radiography students and teachers. There were two focus groups: one with teachers and three with students. Each student group had six participants. Interview questions explored participants' experiences of feedback. The interviews were audio recorded and transcribed thereafter. After analysis of the interview data, two meetings were held with the participants to design a written feedback form. One of the meetings was held with the teachers and the other with the students.

In the meeting with the teachers a structured feedback form for written assignments by students was designed. The form was then discussed with the students in the second meeting to get their input as well. The structured feedback form was then implemented. Students were given one assignment every two weeks for eight weeks. Teachers provided written qualitative feedback regarding the assignments using the form. The written feedback was given back to each of the students three days before the next assignment to enable them act on the feedback received. After incorporating the feedback and, before giving a new assignment, each student met with a teacher to review the previous revised assignment. This was aimed at ensuring that the feedback was utilized by the student to cover the previous learning gaps. The feedback was purely qualitative comments highlighting the respective students' achievements and areas of improvement. No quantitative mark was attached. At the end of the eight weeks, a second round of focus group discussions was conducted to explore the experiences of participants regarding the feedback process.

The study included all second year undergraduate medical radiography students and their teachers at MaKCHS.

There were eighteen (n=18) students and nine (n=9) teachers. This made a total of n=27 participants in the study.

Thematic analysis was used and it commenced during data collection. This involved transcribing and extracting the meanings provided by the participants. As data collection and analysis progressed, codes were developed, refined and revised in an iterative process. Ongoing data collection, comparisons of codes within and between interviews confirmed and clarified the codes. Clustering and partitioning of codes led to the emergence of categories that were also iteratively refined, revised and related to each other. Established categories of data resulted into themes.

The interviews were conducted in a quiet place and questions used were first piloted. All responses were audio-recorded verbatim and each group would listen to the recorded interview before leaving to make clarifications. Data were securely kept and participants were often consulted during analysis to validate the emerging themes. Participants read through the draft paper of this study and agreed that their responses were represented correctly. The participants' comments are in italics. Participants provided written consent. Responses were kept confidential the participants' names were not recorded. Permission to carry out this study was jointly granted by the Review Boards of Stellenbosch University, Faculty of Health Sciences and Makerere University, College of Health Sciences.

Results

There were eighteen (n=18) students and nine (n=9) (61.1%) teachers. There were 7 female students (38.9%) and 11 males. There were 3 female teachers (33.3%) and 6 males (66.7%). The initial interviews aimed at exploring participants' prior experiences of feedback and two themes emerged.

- Prior knowledge of feedback in learning
- Experiences of receiving feedback

Prior knowledge of feedback in learning

All students lacked knowledge of feedback and they viewed it as simply quantitative marks. *'I think when we do exams and our marks are put on the notice board, that is feedback'*, one student said. Another student supported thus; *'During the tutorial discussions, the tutor asks us*

the mark we deserve to get in the session, I think that is feedback'.

One common thread thus identified was that students thought that the grades given to them are what constitute feedback.

All the teachers said they had some knowledge of what feedback was. *'Feedback involves communicating strengths and weaknesses to students in their learning activities with an aim of assisting them to improve and become better'*, one teacher said. Another teacher supported: *'Feedback requires one to identify learning gaps of different students through assignments and making students aware of such gaps such that they can work on them'*.

It was thus evident that, unlike the students, the teachers had some knowledge of feedback.

Experiences of receiving feedback

Some students said they had never received feedback on their assignments while others said otherwise. When probed further, students still cited test scores as the feedback ever received. *'We have just received feedback regarding our last test as our results have been pinned up'*, one student said. However, some of the students admitted they had never received any feedback. *'I do not think I have ever got feedback much as I do not know what it is. Lecturers always teach, set exams and pin up our marks. Am not sure if all this is feedback'*.

The teachers' experiences of feedback also mirrored those of the students as all of them said they had never received formal feedback in their training. *'I do not remember any moment where a teacher gave me feedback about my learning as a student'*, one teacher said. Although the teachers had some knowledge of feedback and its importance, no one had ever attempted to formally give feedback to students. *'I have sometimes given some form of feedback to my former students during the semester, but I admit I never do it as a routine'*, a teacher said.

It is therefore evident that the students had never experienced any meaningful feedback from their teachers. By not being a formal policy and lack of a systematic feedback format, teachers ignored giving feedback to their students. This indicated the need for a structured way of giving formative qualitative feedback to enhance student learning. A structured

feedback form was the outcome of the participatory meetings held with participants (Figure 1).

Interviews conducted with the same participants after the implementation period of the feedback form were aimed at exploring their experiences regarding feedback, the feedback form and the implementation process. Four thematic areas of feedback by the students were identified: enhancing motivation; enhancing learning; promoting reflection; clarifying understanding.

Enhancing motivation. Feedback seemed to motivate students by providing them with a stimulus to pursue and drive their learning in a more independent manner. Students showed more zeal and desire to learn which helped them achieve a higher level of understanding. The provision of positive comments by the teachers was a powerful motivator as most of the students had never experienced this before as reflected in this *'All along, I have had teachers criticize my poorly written assignments without specifically telling me what was wrong with it. With this exercise, my feedback report came back pointing out what I did well and then what I needed to improve. The areas to improve were specific that I found it easy to act upon them. This is what we have been missing'.*

It was also discovered that students' motivation to learn was also influenced by negative feedback comments as implied in this response: *'I liked the feedback report because it pointed out my weaknesses in a positive way. I had never experienced such a practice and I cannot forget the motivation it gave me to learn'.*

Effective motivation to learn appeared to be the balance between both positive and negative comments and the manner in which they were communicated.

Enhancing learning. Students used feedback to address learning gaps. This showed that students contextualized the feedback received and developed a wider understanding of what they needed to address in order to make their learning effective. Students viewed their learning as developmental and progressive. They did not always directly perceive that

Name of student:		
Reg no.:	Course module:	
Semester:	Academic year:	

A: STRENGTHS OF THE ASSIGNMENT

What was done well regarding the assignment as regards to content? (Be very specific)	

B: AREAS THAT NEED IMPROVEMENT

What are the learning gaps identified that would make the assignment even better? (Be specific)	

C: QUESTION APPROACH

To what extent does the student approach the question as expected e.g. by identifying issues and weighing strengths of different ideas and arguments?	

D: USE OF EVIDENCE

To what extent does the student use evidence to support ideas, arguments and opinions written down e.g. by referring to relevant sources even outside the given reading materials?	

E: COHERENCE

How well do the different sections and paragraphs of the assignment link up together or organized to portray a systematic flow?	

F: GENERAL PRESENTATION

Below are aspects of your assignment that need your attention that will improve your performance in future assignments. (Tick all those aspects that the student should attend to in future)

☐ Grammar

☐ Language clarity

☐ Spelling

Length of assignment:　　☐ Too long　　☐ Too short

☐ Punctuations

☐ Need to improve labeling and drawing of illustrations

☐ References

Any other comments:	
Name of tutor:	
Signature:	Date:

Figure 1: Assignment feedback form

learning had occurred. However, in the analysis of data and during the interviews after implementation, the researchers felt that students were experiencing learning. Examples of this are as follows: *'I understood the feedback got which helped me find meaning in my work. When I got issues in the next assignment, I used the previous feedback…'*, one student commented. *'Feedback in one assignment helped me tackle the next assignment very well as I tried to avoid making the same mistakes'*, another student commented.

When students were probed further to highlight feedback comments that encouraged and motivated them to learn, the following key comments were identified: strengths; specificity of feedback; positive remarks; specific gaps to improve; timeliness; and being brief.

Promoting reflection. Students reported that the feedback comments received encouraged them to critically review their assignments in relation to the feedback comments as a way of effectively addressing the gaps identified. This was regarded as reflection. With such an action, students therefore unconsciously critically reflected on the assignment due to the feedback received. *'The comments made me realise what I had done well, what I needed to do better and how I was supposed to have done it. Before…, I could not point out good aspects of my assignment. Re-reading the assignment…with the lecturer's comments makes me realize the good and bad aspects…'*, one student said.

It was therefore evident that as a result of the feedback comments, students actively practiced reflection with an aim of improvement, though this reflective activity was not obvious to them. It was indeed gratifying to discover that students even practiced group reflection as evidenced in the following response. *'We decided to set some time aside as classmates to look at the comments we received. We wanted to share each other's comments… This helped us share ideas on how to improve future assignments'*.

Clarifying understanding. Students also used feedback as an avenue to understand better the subject con-

tent. It also allowed clarification of the teachers' expectations of the students' performance in assignments. Typical responses being: *'Feedback gave me an opportunity to approach my lecturer in order to get more explanations as to why I needed to address a certain issue commented on'*, one student said. Another student said: *'…, we would just be given marks without any comments… With the feedback comments, I was able to approach the lecturer to discuss more about the assignment and what he meant by certain comments… This helped me understand the assignment even better'*.

Views from the teachers

This came out as an independent thematic area. The teachers who participated in giving students feedback were equally satisfied with the exercise. All of them recognized that through feedback, students were not only motivated to learn, but also encouraged students to seek for understanding and clarification. One teacher remarked *'…students have been missing a lot from us…, I have discovered the power of feedback in driving learning, because I have seen students whom I gave feedback come back to me to clarify some issues regarding their assignment and demanding me to have a look at how they addressed their weaknesses…this exercise has driven students to learn on their own…'*

The experience of giving students feedback also influenced teachers to re-adjust their teaching methods and strategies in order to effectively address the students' learning gaps. This is reflected in the teacher's response: *'By generating comments, I got an opportunity to reflect upon my teaching methods and how I need to improve on them…'*

Discussion

This study sought to explore the respective experiences of formative feedback by students and teachers and the possible use of a simple structured form to generate qualitative feedback comments. It should be noted that this study did not focus on formative assessment in its entirety. It rather focused specifically on routine formative feedback on students' learning tasks through written qualitative feedback comments. Students were satisfied with the feedback experience probably because they perceived it as

enabling their learning and not just as a judgment on their level of achievement. This calls for teachers to reflect upon their own practices and incorporate formative feedback strategies during teaching and learning. It can be concluded from the attribution theory that teachers need to give feedback that is aimed at helping students attribute their learning to constructs derived from that feedback[13]. This is likely to make students engage in the learning process more effectively. There is a need to balance both positive and negative feedback and communicate negative comments in a way that will not discourage students.

The feedback form designed from this study was aimed at assisting teachers to generate qualitative formative feedback comments aimed at helping students acknowledge their achievements and identify learning gaps. A key feature of formative feedback. It was not aimed at grading or making judgments about the students' abilities, but rather to assist them to learn. None of the students complained about not being given quantitative marks on their assignments. This is very unusual since students are always demanding for marks. This could possibly be attributed to the nature of feedback the students received. It was probably their first time of receiving qualitative comments about what they did well and how they should improve, which could have overshadowed the demand for quantitative marks. They were more concerned about addressing their identified weaknesses instead of demanding marks. Another plausible explanation for this is that students were informed that the assignments and subsequent feedback were not meant to generate any formative assessment marks but to assist them to learn better through effective qualitative comments. Despite knowing that no mark was to be given the students still demonstrated enthusiasm to use the feedback comments to address what they lacked. This affirms that even in the absence of graded scores, students' learning could still be driven by relevant, specific and effective qualitative feedback comments.

In order to deliver effective feedback comments however, teachers need training[2]. Communicating feedback to students is a challenge. If teachers are trained well to give feedback then this would mean students are more likely to benefit. Additionally, changing routine practice calls for more commitment

since students and teachers are likely to complain of increased workload amidst a shortage of resources. However, the idea that a feedback form should be kept simple is crucial. There is no need to write an essay of feedback as this is likely to discourage students. The number of learning tasks can also be reduced so that the few tasks that are given to students result into effective learning by them. The idea of using emails to post feedback to students is also a very good idea. Although this study utilized assignments as student tasks, teachers can design many more learning tasks that require feedback. For example, practical reports, reflective case studies, a patient procedure write up, etc. The learning tasks need not be formal but can be part of daily learning activities that require some qualitative feedback. This separates such feedback from the more known summative assessments.

The observation that feedback encouraged students to reflect on their work cannot be overlooked. Recent trends in health sciences education demand that we train reflective professionals[14]. The reason as to why students were unconsciously stimulated to reflect is arguably to get a deeper understanding of the assignments. It is difficult to teach reflection. Through the routine feedback the students received this skill appeared to have been grasped. It is through this reflection that students were encouraged to continue learning even after the assignment was done.

There were also no complaints of additional workload raised. The reason for this probably stems from the initial design of this study using a participatory approach. The feedback form was collaboratively designed and agreed upon by the users. This further explains the importance of involving all stakeholders in many educational interventions as this is what could determine the success of any intervention. In many resource-constrained settings, innovations fail because people start big and get overwhelmed with work leading to resistance and subsequently reverting to old routine methods. Keeping the feedback form simple is arguably the main reason as to why it was accepted in this study.

From the authors' perspective students who enter higher education may not have been exposed to using qualitative feedback as a learning method since most of their studies may have culminated in graded examinations. It is therefore vital that students get involved from the beginning so that they are informed on how the formative feedback process is an integral part of their learning.

Time constraints were a major limitation of this study. However, the findings of this study underscore useful information about the feasibility of using a simple structured feedback form to facilitate learning in a resource-limited setting. We therefore encourage more research using this approach in other settings.

Conclusion

This study has demonstrated that students value effective qualitative feedback. A simple structured form comes in handy in resource-limited settings. Students do not necessarily need quantitative marks from assignments. A well thought out continuous feedback plan can be a key to enhance their learning. Training is needed so that teachers develop effective skills of giving constructive feedback to students. Ultimately it is a teacher's actions that determine whether students are motivated to learn or not.

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