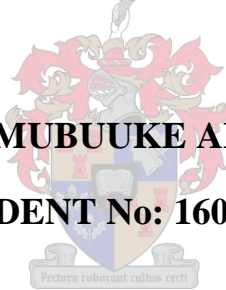


**THE USE OF A STRUCTURED FORMATIVE
FEEDBACK FORM FOR STUDENTS'
ASSIGNMENTS IN AN AFRICAN HEALTH
SCIENCES INSTITUTION: AN ACTION
RESEARCH STUDY**

**DISSERTATION SUBMITTED IN PARTIAL FULFILMENT FOR THE AWARD
OF THE DEGREE OF MASTER OF PHILOSOPHY (MPHIL) IN HEALTH
SCIENCES EDUCATION OF STELLENBOSCH UNIVERSITY**

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2012

DECLARATION

I, the undersigned, hereby declare that the work contained in this assignment is my original work and that I have not previously submitted it, in its entirety or in part, at any university for a degree.

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ACKNOWLEDGEMENTS

I would like to take this opportunity to thank my dear wife, Sarah for the support, patience and encouragement she gave me during the period of pursuing this Masters Degree.

I sincerely thank my great supervisor, Prof. Brenda Leibowitz for all the support she gave me during the course of my studies. You were always present whenever I needed you and working with you has had an everlasting impact in my life. Your willingness to support me enabled me to complete this Masters Degree in the mandatory required time, and I wholeheartedly appreciate your efforts.

My thanks are also extended to the Foundation for Advancement of International Medical Education and Research (FAIMER) in Philadelphia, USA for the scholarship given to me to pursue this Masters Degree.

Lastly, I would like to thank all faculty members at the Centre for Health Professions Education, Stellenbosch University for the support and excellent teaching that I received.

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Abstract

Background: Formative feedback is an important process in facilitating student learning as it helps students identify learning gaps early enough and devise means of covering those gaps. Most health professional educators spend most of the time designing summative assessment tools and pay little emphasis to 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 investigate prior understanding of students and lecturers about formative feedback. The study also aimed at exploring experiences of students and lecturers regarding implementation of feedback in a resource-constrained context.

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

Results: Initially, lecturers had some prior knowledge of feedback, however, students had misconceptions of what feedback could mean. 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.

Key words: formative feedback, structured form, action research

CHAPTER ONE

Introduction

Learning in higher education has become a major area of focus among educationalists. Studies into students' experience of learning, approaches to learning and the relationship between learning and learning approaches, as well as student learning outcomes have been carried out. Various factors that influence the quality of learning and teaching as well as the role of assessment in higher education and its impact on student learning have been extensively studied (Prosser & Trigwell, 2001; Marton & Booth, 1997). Formative feedback has been identified as one of the key motivators in facilitating quality student learning (Kwong, 2001).

The relationship between feedback and learning can be illustrated by the analysis of what makes for effective learning. Race(2005) reported it as learning that is underpinned by seven factors: 1) wanting to learn (students' intrinsic motivation), 2) taking ownership of one's learning, 3) learning in action (learning through experience), 4) learning through feedback (from lecturers, fellow students, external resources), 5) making meaning of what has been learnt (concept mapping), 6) teaching or coaching in order to help students to deepen learning, and 7) making informed judgments through assessment aimed at enabling students to fully deepen their learning. If these factors are achieved, it is likely that student learning would become more effective and meaningful.

In Africa, some effort has been made to study the concept of feedback in facilitating teaching and learning. For example, Paxton (1997) reported that the feedback process is not only beneficial to students, but also important to teachers as it can be used to re-think and re-evaluate their teaching styles. Buchanan & Duncan (2006) have emphasized that formative feedback is one way of guiding students to attain a range of desired learning outcomes. Paxton (1995) further reported that feedback on performance enables students to restructure their understanding and build more powerful ideas and capabilities. Feedback also provides information to teachers about where students are experiencing difficulties and where to focus their teaching efforts. In addition to assisting students to learn, feedback information can also help teachers realign their teaching in response to learners' needs. When feedback serves these purposes it is called `formative feedback`. Formative feedback should therefore be an

integral part of teaching and learning. Buchanan & Duncan (2006) however caution that feedback needs to be focused and structured for it to be feasible in resource-limited contexts.

Most studies exploring the role of feedback in learning have emerged out of South Africa, and there is a critical dearth of documented accounts from other contexts in Africa. In Uganda, for example where this study took place, there is no documented evidence of research exploring the role of formative feedback in facilitating student learning, despite the various benefits reported elsewhere. Many teachers spend effort setting summative exams that come at the end of a semester. Eventually student results are pinned up without any qualitative feedback given to them to improve their learning. Students never get to know the details beyond their test scores. Lecturers also never get the opportunity of using formative feedback to improve their teaching methods. The benefits of formative feedback aforementioned are thus missed.

It has been observed at Makerere University College of Health Sciences (MaKCHS) that formative feedback has not received the attention it deserves. MaKCHS is using a student-centred learning approach which is a great opportunity for students to benefit from continuous feedback given to them regarding their written assignments. In this student-centred learning approach, students use self-directed study to cover learning objectives derived from their tutorial discussions or clinical cases. Students also write assignments in form of reports, but these assignments are assessed quantitatively without any qualitative written comments. The feedback comments received would ably guide the self-directed study approach currently employed. This would also be useful during their small group learning tutorials that are conducted weekly. However, such opportunities have not yet been fully utilised.

Like many other African institutions, MaKCHS has limited resources, yet student numbers keep on increasing every year. With limited number of faculty, it becomes increasingly difficult to provide the continuous feedback to the many students all the time. Consequently, lecturers direct most of their efforts in designing summative assessment instruments. However, the students are denied the immense benefits of qualitative formative feedback during their learning activities. It is therefore necessary that even amidst the scarcity of resources; the institution can still reap the benefits of formative student feedback. 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.

Problem Statement

At MaKCHS, there is no formal way of giving students continuous feedback regarding their assignments during the entire course of the semester. This has been identified as a major problem blocking the learning process. Students merely wait to see their grades at the end of the semester. As a result, an opportunity is missed for students to address their weaknesses and learning needs during the course of the semester. Continuous feedback to students is also beneficial to lecturers as they can use it to revise their teaching methods in order to meet the students' learning needs. It is necessary that there is a mechanism through which students can continuously receive feedback regarding their assignments from lecturers so that they can improve their learning. Lecturers also need this feedback to modify their teaching. Students carry out self-directed learning in the student-centered learning environment driven by clear learning objectives and they write assignments. However, the assignments are given a quantitative mark without any written qualitative comments. Qualitative comments may be a good motivation for students to identify their strengths and weaknesses. Using a simple and feasible structured feedback form may be a good solution to implement routine feedback in a resource-constrained institution.

Motivation

There have been limited studies carried out in Africa to investigate the success of simple, acceptable and feasible ways of giving feedback to students during their day to day learning activities. Most of these studies have come from South Africa, but do not also specifically focus on feedback in a resource-limited educational environment with few lecturers and many student numbers. There is therefore the need to explore possible methods of giving feedback to students in resource-constrained settings which are likely to be accepted by both lecturers and students. The implementation of a simple structured formative feedback form for student written assignments using a participatory approach in a resource-limited learning environment was the motivation for this study.

Research Questions

- How is formative feedback understood and experienced in an African Health Sciences Institution?
- Can a structured form be utilized for the provision of formative feedback in a resource constrained environment?

Objectives

1. To explore opinions of students and lecturers about formative feedback
2. To explore the experiences and opinions of students and lecturers about the use of a participatory approach in the process
3. To explore the experiences and opinions of students and lecturers about using the structured formative feedback form for students written assignments.
4. To find out ways in which students used feedback received from lecturers

CHAPTER TWO

Literature review

Feedback and assessment in learning

Assessment provides a framework for sharing educational objectives with students and for planning the desired progress. It is a generally accepted concept in the assessment literature that assessment drives learning. It is however poorly understood how assessment really drives learning. Sometimes learning is driven towards undesirable outcomes because the assessment is never aligned with teaching methods,

learning outcomes and learning environments. Discussion regarding ways as to why and how assessment drives learning is fast emerging (Cilliers et al. 2010). In an ideal context, assessment is supposed to drive learning in a desirable direction and foster deep-learning approaches. Most rigorous assessments are summative in many African institutions.

Feedback is response made in relation to students' work such as an assessment task, performance or product (Hyland, 2000; Wood & Schmidt, 2002). It can be given by a lecturer, external assessor or a student peer and it may be oral or written. The role of feedback is to acknowledge the progress of students towards achieving the desired learning outcomes (Shavelson, 2003; Hyland, 2000; Kvale, 1996). Highly effective feedback should be timely, focused, constructive, and should direct students to ways in which they are likely to improve their learning (Shavelson, 2003; James, 2000). Students should have an opportunity to act on that feedback to improve their learning. When approaching the point of feedback, the educator should (mentally) ask three things of the student and use these to frame the feedback (Boud, 2000; Tierney, 2006): What was the student trying to do? How did he/she do it? Why did he/she do it that way? In general, to give useful feedback, it is important to balance the positive with the negative comments (Boud, 2000; Kvale, 1996).

Continuous feedback information can be used by students to facilitate their learning. This feedback information can also help lecturers realign their teaching methods in response to learner needs. When feedback serves these purposes it is called formative feedback (Stronge, 2002). Formative feedback should therefore be an integral part of teaching and learning and it should be systematically embedded in educational activities (McDonald & Boud, 2003). Formative feedback enables students to restructure their understanding and build more powerful ideas and constructs of knowledge (Stronge, 2002).

Approaches to feedback have remained focused on transmission perspectives (Race, 2005). Lecturers transmit feedback messages to students about mainly weaknesses in their work assuming that these messages will be easily turned into positive action. However, students should be allowed to construct actively their own understanding and meaning of feedback messages received from lecturers in order to meet their learning outcomes (Race, 2005). The primary purposes for providing feedback are; to

reinforce appropriate learner behavior, let students know how they are doing, and extend learning opportunities(Toohey, 2000; Miller, 2002).

Mallonee & Breihan (1985) state that feedback should be used to improve learning rather than to justify grades. Topping et al. (2000) as well as Ding (1997) further reported that students tended not to utilize written feedback on assignments for various reasons: 1) where they thought that the feedback did not provide enough helpful information for them to learn, 2) where feedback was perceived as too impersonal, and 3) where feedback was too general, vague and unfocused. It has been reported that qualitative, in-depth feedback should be aimed at facilitating deeper learning and enhanced academic understanding (Topping et al., 2000; Uemlianin, 2000).

Lensmire (2000) stressed that feedback needs to develop students as critical thinkers. This was supported by Cuseo (2009) and Sommers (2006) who defined critical thinking as: comprehension, application, analysis, synthesis, evaluation, deduction, induction, adduction, refutation, balanced thinking, multiple perspective-taking, causal reasoning, ethical reasoning and creative thinking. Teachers therefore face a challenge of giving feedback that should ideally engage students with tasks of various orders of complexity (Sommers, 2006). This may initially be a huge challenge for both lecturers and students especially if both groups are not used to this kind of learning. However, Ferris (2003) emphasised that delivering feedback carefully and thoughtfully is able to transform what may appear to be a challenge initially into a huge success. For example, the feedback delivered should be specific and clear. Additionally, feedback should point out both strengths and weaknesses and should be delivered at the right time for it to have an effect.

African literature on feedback

There has been some emerging literature from Africa exploring the issue of feedback in facilitating student learning. For example, Buchanan & Duncan (2006) state that written feedback is a deliberate intervention during the process of knowledge construction that promotes critical thinking and reflection about practice. Knowledge is never separate from real practice; it emanates from and within practice. Knowledge relating to and arising out of practice can therefore be facilitated through focused comments

from teachers. Additionally, Buchanan & Duncan (2006) observed that feedback facilitates students' learning by:

- helping the student identify areas of practice that need special attention
- promoting the student's ability to evaluate their performance
- facilitating effective engagement with the construction of knowledge
- motivating students to learn by pointing out areas worthy of exploration and meaning making
- enabling the student to map practice into existing knowledge or theoretical schema.

Furthermore, critical analysis of student assignments in the form of providing written feedback information can support and inform the process of training teachers to evaluate their own teaching styles as well (Paxton, 1997). Paxton (2007) further advances a notion of interim literacy, where mastery of academic literacy is seen as the outcome of university education rather than a pre-requisite. This is critical for ensuring that students are given useful feedback and are able to revise and improve their understanding using feedback received. Secondly, evaluation of student assignments provides valuable insights into their learning needs and can be used to improve teaching and learning (Paxton, 2007).

Additionally, in her study about academic writing in Africa, Paxton (2007) argues that it is unrealistic to expect students to have gained full control of the details of academic language upon entry into higher education. On the contrary, when students enter university, they begin a period of interim literacy during which they come to understand and gain control of these practices.

In another separate study conducted by Leibowitz (2012) with Masters Students at Stellenbosch University, South Africa, it was reported that students can greatly benefit from multiple sources of feedback. In this study, students received feedback on their written assignments from three sources namely; the lecturer, peers and from the Writing Lab. Although such multiple sources are useful, Leibowitz (2012) rather observed that students are more likely to pay more attention to the lecturer's comments than any other source. Therefore, teachers need to be equipped with effective skills in delivering useful and highly effective feedback. A similar observation has been reported in the University of Johannesburg and Nelson Mandela Metropolitan University in South Africa where students are more likely to give more attention to comments from lecturers (Lamb & Simpson, 2011).

Effective feedback

The provision of feedback information is not the sole province of the lecturer. Peers often provide feedback – for example in group-work contexts like Problem Based Learning tutorials or during student discussion sessions in groups. Feedback also provides information to lecturers about where students are experiencing difficulties and where to focus their teaching efforts (Dearing, 1997).

Teachers in higher education today are encouraged to ensure that appropriate feedback is provided to students on assignments in a way that promotes learning and facilitates improvement. Dearing (1997) observed that, while feedback and assessment were important in helping students to progress and learn from their mistakes, fewer than half the students responding to a survey were satisfied with the feedback they got from teachers about their work.

Brockbank and McGill (1998) have provided explanations of the aforementioned student dissatisfaction. Firstly the language of the feedback may not be clear, limiting student understanding. Secondly, the balance of positive and negative feedback may overwhelm the student so that they are unable to take in the feedback. These findings were also supported by Orsmond & Stiles (2002). Effective feedback resulted from the use of examples as a focus for discussion between lecturer and student, allowing a common language of understanding to be used and student reassurance as to the purpose of feedback to be given (Topping et al. 2000 & Ding, 1997). For effective feedback it was recognized that students and lecturers needed a common understanding of how this feedback may be implemented. This method of effectively implementing formative feedback partly addresses the concerns raised by Higgins et al. (2001) who stated that the primary issue is how students understand the feedback received and how they make sense of their assessments.

These concerns, over student understanding of feedback, may be generated as a result of how giving feedback is at present encouraged and practiced. Toohey (2000, p 154) gives a simple model of a learning process involving feedback: Initially, the student encounters or is introduced to an idea, the student then becomes aware of the idea, the student tries the idea out, receives feedback and then reflects and adjusts the implementation of the idea. Such models allow for feedback guidance such as encouraging reflection about work, suggesting follow up work and offering help on specific problems

(Rust, 2002). However, as Rust (2002) further explains, the problem with guidance of this nature is lack of student engagement. It has been reported that actively engaging students in the feedback process results in students being able to learn effectively (Orsmond, Merry & Reiling, 2002).

Formative feedback is under-conceptualized in the theoretical literature and this makes it difficult to design effective feedback practices or to evaluate their effectiveness (Sadler, 1998; Yorke, 2003). While there has been a move over the last decade to conceptualize learning from a constructivist perspective, approaches to feedback have remained focused on transmission perspectives where teachers are more concerned with transmitting constant feedback messages, but without questioning as to whether such feedback is being used effectively by their students (Laurillard, 2002). Ideally, students should be allowed to actively construct their own understanding of feedback messages from tutors (Higgins, Hartley and Skelton, 2001; Ivanic, Clark & Rimmershaw, 2000).

Despite the various variables that contribute to student learning, using formative feedback emerges as the most powerful tool to promote continuous learning, yet the most neglected (Stronge, 2002; Miller, 2002). In practice, formative assessment that allows students to receive meaningful feedback should make a difference in student learning (Black & Wiliam, 1998). However, Higgins et al. (2002) raised doubts as to what extent this is true in reality in the case of higher education today. Higgins et al. (2002) argued that students may recognise the purpose of formative feedback for their learning, but how they actually do use this feedback is not clear, and that the notion of *use* in this context is complex and needs to be demystified.

Black and William's analysis showed that feedback resulted in positive benefits on learning and achievement across all content areas, knowledge and skills (Black & Wiliam, 1998). Sadler (1989) identified three conditions necessary for students to benefit from feedback. The student must:

- Possess a concept of the reference level being aimed for,
- Compare the current level of performance with that reference, and
- Engage in appropriate action which leads to closure of the gap.

Sadler (1989) further argued that in many educational settings, lecturers give students feedback information on just how their performance compares to the standard, but this feedback often falls short

of what is actually necessary to help students close the learning gap. For example, such information might be difficult to understand (such as a comment that ‘this essay is not sufficiently analytical’) and especially if the learning goal has not been fully assimilated in the first place. Black and Wiliam (1998, p21) further elaborate on this communication issue when they discuss the links between the way a feedback message is received and what students do with that message:

“...those factors which influence the reception of a [feedback] message and the personal decision about how to respond...[include]....beliefs about the goals of learning, about one’s capacity to respond, about the risks involved in responding in various ways and about what learning should be like.”

Lecturers’ perceptions about this also help determine their implementation of feedback in their daily practice.

Research in psychology proves that the way people see themselves is different from how they are seen by others, i.e. people see themselves more positively than others see them. This means that delivering feedback, especially critical feedback, may cause strong emotional reactions (including defensiveness, rejection of feedback, perception of feedback as a personal attack, threatening one’s ego) all of which may block the desired direction of learning (Rosenshine & Stevens, 1986). Feedback should thus be received positively in order for it to serve its intended purpose. To be effective therefore, feedback needs to be clear and understandable, purposeful, motivating, compatible with students’ prior knowledge and identify learning gaps that have to be closed (Ivanic, Clark & Rimmershaw, 2000; Shute, 2008).

Relationship between Feedback and Motivation

Formative feedback can be viewed as a motivating factor in promoting students’ learning. Theories of motivation have evolved over the last few decades starting with the initial work of Herzberg (1987). He developed the theory of motivation as a result of his studies in industries. He used the term *motivators* to indicate factors which gave positive satisfaction from conditions of the job such as recognition and promotion, and *hygiene factors* which did not give positive satisfaction but their absence caused dissatisfaction such as working conditions.

The concept of motivation thus heralded a new approach in understanding what factors satisfied and motivated people and those factors that were considered as hygiene factors. Based on his novel work, it can be argued that Herzberg was attempting to bring more humanity and caring in the workplace and that his theory was not solely for the purpose of improving organisational performance. Thus, in essence, the application of Herzberg's theory to education could result in a more humanistic approach in higher education. Motivational theory is also useful in allowing lecturers to think how to create learning environments that are motivating for students.

In higher education, student motivation is characterised by long term quality involvement in learning and the commitment to the process of learning. It has been demonstrated that motivated students enjoy higher levels of success and display better self regulatory control with the outcomes, thus influencing future motivation (Schunk, Pintrich & Meece, 2007). The thought that an action is beneficial to their learning, students are more likely to actively engage in it (Bandura, 1986).

Several factors have been shown to motivate students and these include classroom climate, a sense of belonging, students who feel valued and respected and the involvement of students in tasks that have relevance to their professional practice (Eraut, 2006). Furthermore, the belief that lecturers have about teaching and learning and their expectations of students can exert a powerful influence that can motivate or demotivate students (Raffini, 1993). All situations within a learning environment are not intrinsically motivating- but when lecturers can capitalise on existing intrinsic motivation, there are several potential benefits. Lecturers should consider themselves as active socialising agents capable of stimulating student motivation to learn.

Black & William (1998) have shown that feedback significantly affects students' motivation to learn. However, providing feedback that is motivating is challenging for lecturers because all students are different with unique emotional, cognitive, biological and social forces that direct behaviour. Thus for written feedback to become the motivator for learning, it must be specific to each student. Regarding giving feedback as a motivator to learn, certain factors have been reported. Some of these include: the

quality of the feedback when using a criterion based feedback system, when feedback emphasizes learning and when feedback points out strengths and areas for development.

Motivational theory emphasises that the nature of feedback is crucial in driving learning (Chan & Ahern, 1999). Moreover, if a student believes that effort rather than good luck is responsible for their successes, they will be more willing to work hard and persist in the face of difficulties (Svinicki, 1999). Thus praise, positive feedback, providing feedback on progress help develop appropriate attributions of what results into successful learning.

Therefore, it is essential to ensure that feedback is delivered in such a way that it motivates and actively engages learners towards the desired direction of intended learning outcomes (Offir, Zeichner & Barth, 2007). In order to be compatible with students' prior knowledge and to provide links to the learning gaps, feedback delivered to students should be based on what has already been achieved and subsequently support students to close the gap in their learning process between the achieved and what is desired to be achieved (Werts et al. 1996). Some strategies to achieve this include: supporting students immediately to act on the received feedback (through their engagement in the act of production of a piece of work or through providing opportunities to repeat the same 'task-performance-feedback cycle' by allowing resubmission) (Higgins, Hartley & Skelton, 2001).

External feedback

General characteristics that enhance the quality of teacher feedback have been reported. For example, planned, specific feedback is much more likely to influence student performance than haphazard, general feedback (Silverman, 1992). Additionally, high-quality feedback is timely, accurate, constructive, outcome-focused, encouraging, and positive (Silverman, 1992). Feedback should focus on what the student did correctly, as well as what needs to be done to improve future performance (Lensmire, 2000).

Lecturers who pay attention to the above general characteristics and who view feedback as an important part of the instructional process are likely to see positive outcomes from their students. Various types of feedback are available to help facilitate student learning. It is important to select the appropriate type based on students' needs and the instructional activities. Lecturers use questioning to evaluate and

monitor student learning. Clear, concise questions help students understand the content, remain actively engaged in the lesson, and remember what they have learned. Lecturer questions foster quality teacher-student dialogue and guide students' search for meaning and understanding of the content (Savage, 1998).

Students should always be actively engaged in feedback processes. First, they generate aspects of their own feedback as they monitor their performance and identify and make sense of gaps while carrying out tasks. Second, they interpret and filter feedback information from external sources. The lecturer's feedback response (based on their monitoring and assessment of student performance) must be interpreted and internalized by the student before it can influence subsequent learning (Ivanic, Clark & Rimmershaw, 2000). If students are always involved in monitoring and assessing their own learning, then rather than just thinking of ways of enhancing the teacher's ability to deliver high quality feedback we should be devising ways of building upon this capacity for self-regulation as well with the teacher as a facilitator of the process (Yorke, 2003; Werts, Wolery, Gast & Holcombe, 1996).

Lecturer feedback serves as an authoritative external reference point against which students can evaluate, and self-correct their progress and their own internal goals (McDonald & Boud, 2003). For external feedback to be effective it must be understood and internalized by the student before it can be used productively (Chanock, 2000; Hyland, 2000). External feedback as a transmission process ignores the active role the student must play in constructing meaning from feedback messages. One way of increasing the effectiveness of external feedback and the likelihood that the information provided is understood, is to conceptualize feedback more as a dialogue rather than as information transmission. Feedback as dialogue means that the student not only receives initial feedback information but also has the opportunity to engage the lecturer in discussion about that feedback (Freeman & Lewis, 1998; Nicol & Boyle, 2003).

According to Yorke (2003), two questions might be asked regarding external feedback. First, is the feedback of the best quality and second, does it lead to changes in student behaviour? Focus has mainly been on the first question but the second is equally important. External feedback provides an opportunity to close the gap in the learning process between the current learning achievements of the student and the

goals set by the teacher. If feedback information is not turned into action soon after it is produced then this is a missed learning opportunity. As Boud (2000, p158) notes:

``The only way to tell if learning results from feedback is for students to make some kind of response to complete the feedback loop. This is one of the most often forgotten aspects of formative assessment. Unless students are able to use the feedback to produce improved work, through for example, re-doing the same assignment, neither they nor those giving the feedback will know that it has been effective.``

External feedback from lecturers should however be relevant to the task in hand and to student needs. Despite this, research shows that feedback information is often about strengths and weaknesses in handed-in work or about aspects of performance that are easy to identify (such as spelling mistakes) rather than about aspects that are of greater importance to academic learning but that are more abstract and difficult to define like strength of argument. Students might also receive too much feedback, making it difficult to decide what to act on (Dweck, 2000). Lunsford (1997) has advocated providing only three well thought out feedback comments per essay.

Students are a source of feedback as well. Peer dialogue is beneficial to student learning in a variety of ways. First, students who have just learned something are often better able than teachers to explain it to their classmates. Second, peer discussion exposes students to alternative perspectives on problems and to alternative tactics and strategies. Alternative perspectives enable students to revise or reject their initial hypothesis and construct new knowledge and meaning through negotiation. Thirdly, by commenting on the work of peers, students develop objectivity of judgment (about work in relation to standards) which can be transferred to the assessment of their own work (Chanock, 2000; Albers & Greer, 1991). Fourthly, peer discussion can be motivational in that it encourages students to persist and gives a yardstick against which to measure their own performance against (Nicol & Boyle, 2003; Orsmond, Merry & Reiling, 2002; Lea & Street, 2000). Finally, it is sometimes easier for students to accept critiques of their work from peers rather than tutors.

Conceptual model of feedback

Any conceptual model of feedback must take into account the way students make sense of, and use, feedback information to enhance their learning. More importantly, however, is Sadler’s (1989) argument that for students to be able to compare actual performance with a standard, and take action to close the gap, they must already possess some of the same evaluative skills as their teacher. For many writers, this observation has led to the conclusion that as well as focusing on the quality of the feedback messages, teachers should equally focus their efforts on strengthening the skills of self and peer assessment in their students (Boud, 2000). Figure 1 presents a conceptual model of formative assessment and feedback developed by Yorke (2003) from earlier works (Black & Wiliam, 1998; Sadler, 1989; Boud, 2000; Torrance & Pryor, 1998).

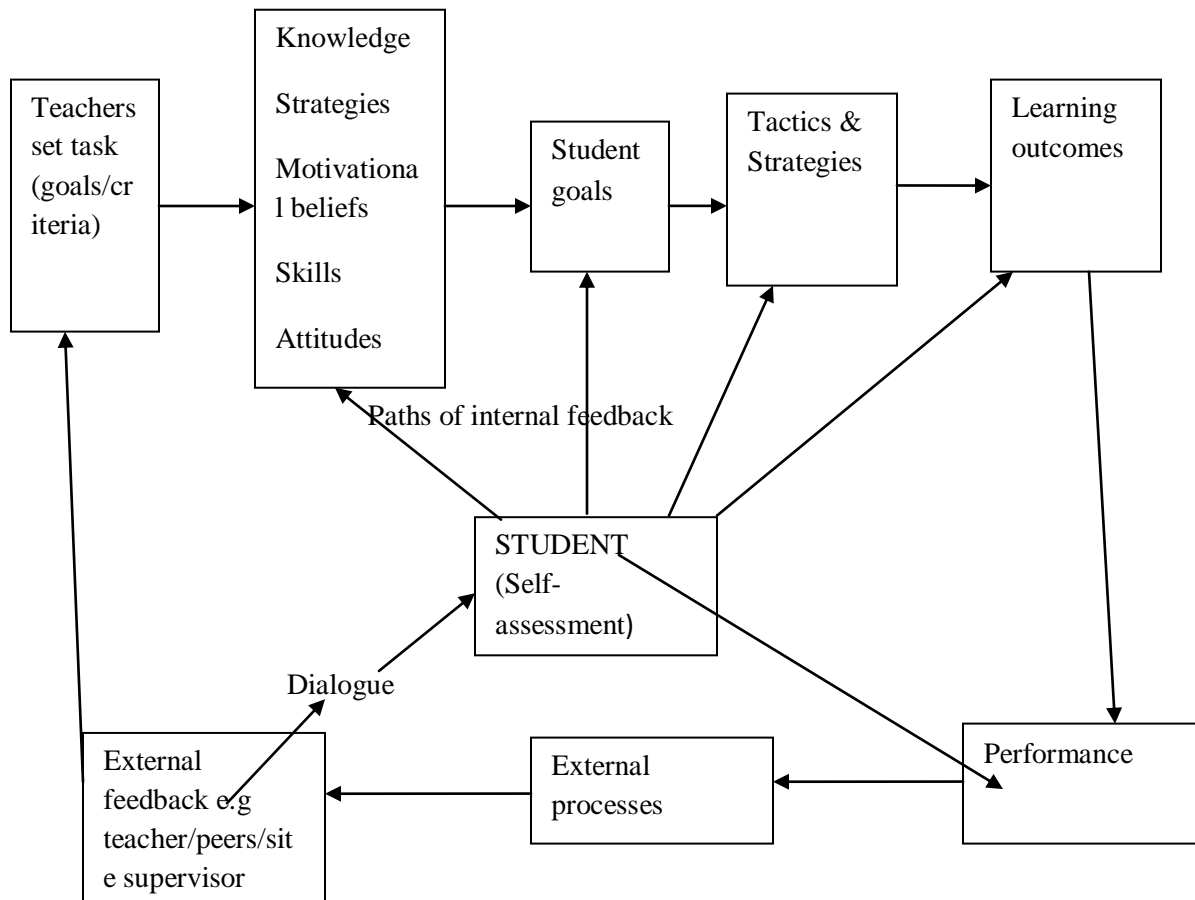


Fig 1. A Conceptual Model of Formative Assessment and Feedback (Yorke, 2003; pp 16-17)

A key feature in the framework that differentiates it from commonplace understandings of feedback is that the student is assumed to occupy a central and active role in all feedback processes. They are always actively involved in monitoring and regulating their own performance both in terms of their goals and in terms of the strategies being used to reach those goals. In the model, an academic task set by the teacher (in class or set as an assignment) is the starting point for the feedback cycle.

Engagement with the task requires that students draw on prior knowledge and motivational beliefs and construct a personal interpretation of the requirements and properties of the task. Based on this internal conception, they formulate their own task goals (which may be different from those of the teacher) and engage in actions to achieve these goals by applying tactics and strategies that generate outcomes. Monitoring these interactions with the task and the outcomes that are being cumulatively produced generates internal feedback (Boud, 2000; Torrance & Pryor, 1998). This self-generated feedback information might lead to a re-interpretation of the task or to the adjustment of internal goals or of tactics and strategies. Students might even revise their domain of knowledge and skills which, in turn, would influence subsequent processes of self-regulation.

If external feedback is provided for example by a teacher, this additional information might augment, concur or conflict with the student's interpretation of the task and the path of learning (Butler & Winne, 1995; Rosenshine & Stevens, 1986). All lecturers should be cognizant of all these mechanisms. The same model further illustrates that external feedback to the student might be provided by lecturers, peers or others like placement supervisors.

From the conceptual model (figure 1), Bound's arguments about closing the learning gaps can be viewed in two ways. First, closing the gap is about supporting students while engaged in the act of production of a piece of work. Second, it is about providing opportunities to repeat the same 'task- feedback cycle' by, for example, allowing resubmission. External feedback, for example provided by the teacher should support both processes: it should help students to recognize the next steps in learning and how to take them both during production and for the next assignment.

Conclusion of the literature

Based on the conceptual framework (Fig 1) and the reported literature on formative feedback, it is possible to identify some broad principles of good feedback practice, namely that it:

- Facilitates the development of self-assessment (reflection) in learning;
- Encourages lecturer and peer dialogue around learning;
- Helps clarify what good performance is (goals, criteria, standards expected);
- Provides opportunities to close the gap between current and desired performance, (Delivers high quality information to students about their learning);
- Encourages positive motivational beliefs and self-esteem, and
- Provides information to lecturers that can be used to help shape the learning process.

There is a wealth of literature reporting about the use of formative feedback in teaching and learning. Critically however, most literature is silent about the effective and sustainable use of continuous feedback in resource-limited contexts especially in Africa with limited resources and many student numbers. Emerging literature on feedback in Africa has been mainly from South Africa illustrating how feedback can facilitate student learning. This literature however, does not clearly bring out feasible and practical ways of delivering written feedback on students` assignments in resource-limited settings. This has left a critical dearth of reported literature emerging out of the experiences of African institutions of higher learning in this area outside South Africa, most of which operate amidst scarcity of resources. The need to address such gaps identified in reported literature formed the basis of this study. It was therefore necessary to have a mechanism through which students can continuously receive feedback regarding their assignments from teachers and to explore ways in which students and lecturers themselves used this feedback for their educational development in a resource-constrained health sciences institution.

CHAPTER THREE

Methodology

Research Design

This was a qualitative, partially participatory, action research study. Participatory action research is a type of research that focuses on the effects of the researcher's direct actions of practice within a community with an aim of improving work practice in a particular area of concern (Greenwood, 2002). It normally actively involves the people directly impacted by the research outcomes in the research process. This research methodology was chosen because its aim is to generate knowledge, actions and interventions that are directly useful and applicable to a group of people. Additionally, action research empowers people at a deeper level through the process of constructing and using their own knowledge during the research process (Greenwood & Levin, 1998).

The study took place at MaKCHS and it involved all second- year undergraduate medical radiography students and their lecturers. There were eighteen students in total and nine lecturers. This made a total of twenty-seven participants in the study.

Initially, focus group discussions were conducted with second year medical radiography students and lecturers using in-depth semi-structured questions. The focus group questions had been initially constructed by the researcher. There were four focus groups, one with lecturers and three with students. Each student group had six participants.

Interview questions were loosely constructed around exploring what participants thought of feedback and their experience of giving and receiving feedback. Open-ended questions were used and responses made were probed to clarify meaning and obtain additional detail (see **appendix A**). All interviews were conducted by the investigator in a quiet place. The interviews were audio recorded and transcribed thereafter. After analysis of the interview data, the investigator held two meetings with the participants to design a written feedback form (see **Appendix B**).

A meeting was held first with the lecturers, then with students a day after. In the meeting with lecturers, a structured feedback form for student written assignments was designed which was then discussed with the participating students in the second meeting to get their input as well and clarify any issues before fully introducing it for use. The feedback form was designed in a participatory workshop meeting where lecturers worked together with the researcher as a facilitator without any prior draft presented to them. The lecturers brain-stormed and presented their ideas on what to include in the form. Two small groups were created and each group tried to formulate a feasible structured form. Each group then presented to the plenary for discussion. Eventually, all ideas were incorporated and one final form was agreed upon. This form was then presented to students in another participatory meeting where they critiqued it in small groups and also presented their critique in a plenary. An eventual feedback form incorporating all ideas was agreed upon in a de-brief meeting where all lecturers and students were present.

After these meetings, the structured feedback form was implemented. Students were given one assignment every two weeks for eight weeks, making a total of four assignments during the study period. The participating lecturers provided written feedback using the designed form regarding student performance in the assignments.

The feedback form was then returned to each of the students three days before the next assignment was given. This was to enable the students to act on the feedback received and return the corrections to the lecturers. At the end of the eight weeks, a second round of focus group discussions was conducted. Semi-structured questions were again used mainly to explore the experiences of participants regarding feedback, the feedback form and the implementation process, advantages of feedback, challenges encountered and solutions for improvement. Probes for these questions were also informed by the findings from the initial phases of the study (see **Appendix C**).

Data Analysis

Thematic content analysis was used. Data analysis commenced even as data collection proceeded. This involved content analysis to extract the meanings of the participants. As data collection and analysis progressed, codes were developed, refined and revised in an iterative process (Charmaz, 2006; Dey, 1993; Miles & Huberman, 1994; DiCicco-Bloom & Crabtree, 2006). 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 content themes (Sandelowski, 1994). Two lecturers and two students, chosen at random worked with the researcher for coding of the data. Their roles involved identifying related concepts in the data together with the researcher and also were responsible for validating the final agreed upon themes as valid representation of the opinions expressed by participants.

Quality Assurance and Control

Open-ended questions used were first piloted before being administered. All responses were audio-recorded verbatim and each group would listen to the recorded interview before leaving to make clarifications. Data was securely kept and only the investigator had access to it. During data analysis, participants were often consulted to validate the emerging categories and themes before final results were compiled. The in-depth focus group discussions ensured saturation of data collected.

Credibility of data was achieved through recording responses verbatim, prolonged period of data collection to allow interim analysis, use of tape recorders to record data and allowing participants to review analysed data for correctness. Being a participatory study, all participants accepted and read through the draft paper written out of this study and agreed that their opinions and experiences were represented. The students were satisfied with what had been written. However, all the nine lecturers who participated wrote to the researcher by e-mail requesting to include a separate thematic area in the results section about *Teachers` Views.* This was included and e-mailed back to the lecturers to validate what was written. Seven of them agreed with what had been written and two made some corrections that were also incorporated in the final document.

Ethical Considerations

Participants provided written consent before the study commenced (**Appendix D**). The responses from participants were kept confidential from the public. Participants were never identified by their opinions

or names at any one time. Much as it was not possible to guarantee total individual anonymity and confidentiality within the interview room amongst members, the researcher ensured some degree of confidentiality by not identifying or calling participants by name during the interview.

Additionally, before the group discussions began, participants were assured that their opinions may not be confidential within the interview room, but such opinions will totally be kept confidential and anonymous outside the interview room. This was also highlighted on the consent form that each participant signed. Participants were also requested not to discuss anything once the interview is finished. The participants were also informed that participation was voluntary and no prejudice was to be held against those not willing to participate in the study. Fortunately no one opted out of the study. Permission to carry out this study was granted by the Research and Ethics Committees of Stellenbosch University, Faculty of Health Sciences and Makerere University, College of Health Sciences.

CHAPTER FOUR

Research Findings

Interview responses before feedback form was implemented

The initial interviews aimed at exploring participants' prior experiences of feedback. There were two dominant themes from these interviews, namely; *Prior knowledge on feedback in learning and Experiences of giving and receiving feedback.*

Prior knowledge on feedback in learning

All the students were evidently lacking knowledge about feedback and its role in learning. When probed further to explain what feedback is all about, the common words identified were: `lecturer`s` instructions` and `exam 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 this; *``During the tutorial discussions, the tutor asks us the mark we deserve to get in the session with an explanation for that mark, I think that is feedback``*.

One common thread identified was that students thought that the teachers` instructions are what constitute feedback as evidenced in the statement below:

``When a lecturer gives out an assignment and instructs us on how to do it, he has given us feedback``..

Probed further to discuss advantages and disadvantages of feedback, the students said it motivates them to study. When asked what `motivates` meant, the students said that by pinning up their marks, they get to know how they performed.

``I love feedback because I get to know what I scored in my assignments and exams``, one student said.

All the lecturers said they had some knowledge of what feedback was.

``Feedback involves communicating strengths and weaknesses of students in their learning activities with an aim of assisting them to improve and become better``, one lecturer said.

Another lecturer elaborated:

``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``.

``Additionally.....students` strengths need also to be identified and communicated to students as this boosts their confidence in learning``, another lecturer clarified.

It was thus evident that the students did not understand the feedback process while lecturers had some understanding of the process of feedback.

Experiences of giving and receiving feedback

From the discussions, some students said they had received feedback on their assignments while others said otherwise. When probed further, the students still cited exam and test results as the feedback received.

“We have even just received feedback regarding our last test as our results have been pinned up”, one student said.

“During my last tutorial session, the lecturer said I participated well and deserve to get 5 marks”, another student said.

However, some of the students admitted they had never received any feedback as reflected in the response below:

“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 that of students as all of them said they had never received feedback in their training.

“I do not remember any moment where a lecturer gave me feedback about my learning as a student”, one teacher said.

Although the teachers had some understanding of feedback and its importance, no one had ever attempted to formally give feedback to students regarding their learning with an aim of improvement.

“I have never given some form of written feedback to my former students during the semester”, a lecturer said.

All teachers cited lack of time to always give out constant feedback on students` assignments.

“We are sometimes few on ground yet we have to teach, do clinical and carry out research. This makes it almost impossible to give feedback on every assignment”, one teacher said.

“It is not formal policy that we must constantly give feedback to students. The few of us willing to give feedback lack a systematic method of doing it, so also tend to ignore it”, another lecturer summarily said.

From the interviews, it was observed that most of the students said that they had never experienced any meaningful feedback from their teachers. It was not surprising therefore, that there not being a formal policy and structure of giving feedback, lecturers ignored this important process. This clearly indicated the need for a structured way of giving formative feedback to enhance student learning.

Interview responses after the use of the structured feedback form

The interviews conducted with the same participants after the implementation period of the feedback form were aimed at exploring the experiences of participants regarding feedback, the feedback form and the implementation process. From the post-implementation interviews, four thematic areas of feedback use by the students were initially identified namely: *enhancing motivation, enhancing learning, promoting reflection and promoting interaction to clarify understanding*. However, after lecturers read the draft paper, they suggested that the researcher includes one thematic area out of this study called ‘*Lecturers’ Views*’. This was subsequently included.

Enhancing motivation

Feedback seemed to motivate students by providing them with a stimulus to pursue their learning. In other words, the feedback provided was driving 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 lecturers was a powerful motivator as most of the students had never experienced this before as reflected in the response below:

“The feedback I received was clear and clearly pointed to what I did well and what I needed to improve; this was very satisfying”.

“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 evoked by the seemingly negative comments. This is reflected in the response below:

“I liked the feedback report as it pointed out the good points and strengths of my assignment, but also brought 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. I encourage our lecturers to continue with this practice”.

When the researcher requested the student to provide a copy of this feedback report later on to read the lecturer`s comments, the following comment on the feedback form was indeed motivating:

“I am impressed by your work Peter (pseudo-name used). I particularly liked the way you related your assignment to what is known in literature. Keep it up. For you to maintain, I would like you to pay more attention to the recommended referencing format and also try to correct grammatical errors in your assignment”.

It therefore appears that the way lecturers express negative observations to their students is likely to drive or derail the learning process. However, it was discovered that although motivation can result from both positive and negative comments about students` work, the key to effective motivation should be the balance between both positive and negative comments and the manner in which they are written out as we see in the above example, where the lecturer appears to have made an effort with the tone of the message.

Additionally, the impetus for motivation is not always the same as one student said:

“Feedback encourages me to work harder to prove my teachers wrong or impress them.”

Other students saw feedback as a motivation for them to approach their lecturers.

“Feedback enabled to develop more confidence and approach my lecturers to discuss with them about my work”.

None of the students saw feedback as being detrimental, but the following response demonstrates that some feedback comments may not achieve the desired outcome:

“Feedback is not itself bad, but flat comments like ‘you need to improve’ without telling me what to improve can sometimes upset”.

Enhancing learning

Students used feedback provided to improve their assignments and cover the gaps identified. This shows that students contextualized the feedback received and developed a wider understanding of what they need to work on to make their learning better. Students seemed to see their learning as developmental and progressive. They did not always perceive that learning had occurred, but in the analysis of data and during the interviews after implementation, the researcher felt that students were experiencing learning:

“I put the feedback got in my memory which helped me find meaning in my work. When I got lost in the next assignment, I use the previous feedback in my memory to assist me. Feedback helps me read my work as if I were someone else”, one student commented.

“Feedback in one assignment helped me tackle the next assignment very well as I try to avoid making the same mistakes”, another student commented.

From the above two responses, it can be concluded that students perhaps use feedback comments received in one assignment to improve on subsequent assignments by probably making sure that they do not repeat similar mistakes. For example, if a student is told that he had inadequate literature; such a student is likely to pay more attention to literature in the next assignment thus getting a deeper understanding of what is being studied.

“Feedback improved my learning and grades and it helped me to learn differently. At first, I had difficulties reading literature about given assignments, but discussing my feedback with lecturers has helped”, another student said.

When students were probed further to highlight feedback comments that would encourage 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 used the feedback received to re-visit their assignments so as to gain greater insight into what was lacking in the assignments. The researcher regarded this as reflection since students were re-reviewing and thinking about what they had done in order to understand better. Many of the students revealed that the feedback comments received encouraged them to go back to their assignments and critically look at them in comparison with the feedback they received in order to address the gaps identified. With such an action, students therefore unconsciously critically reflected on the assignment in conjunction with the comments received in order to improve.

“Feedback helped to me to assess what I did in my assignment and reflect on the comments given by the lecturer so as to address what I did not do well”, one student said.

“The written comments I got made me realise what I had done well, what I needed to do better and how I was supposed to have done it well. Before receiving this feedback, I could not even point out the good things in my assignment. Re-reading the assignment now and again together with the lecturer’s

comments makes me actually realize the good aspects of my work and the bad ones`, another student commented.

It therefore appears that as a result of the feedback comments, students were actively reflecting about their work with an aim of improvement, though this reflective activity was not obvious to them and subsequently, the students were becoming more metacognitive than before. It was indeed gratifying to discover that they were even practising group reflection as summarized in this response by one of the students:

``We decided to set some time aside as classmates to look at the comments we received from our assignments. We wanted to share each other`s comments such that as a group, we could discuss what the lecturers commented. This helped us share ideas on how to improve future assignments. Since there were no marks on the assignments, no body feared to reveal their comments``.

The students were therefore using peer assessment in an informal way. Their motivation to do this could be further harnessed by structuring a system of peer assessment.

Promoting interaction to clarify understanding

From the interviews conducted, feedback appeared to be used by students as an avenue to understand better specific areas in their assignments. It also allowed clarification of the lecturers` expectations of the students` performance in assignments.

``Feedback gave me an opportunity to approach my lecturers in order to get more explanations as to why I needed to address a certain issue commented on``, one student said.

Another student said, *``previously, we would just be given marks without any comments on what we did well and what we need to do better. With the feedback comments, I was able to approach the lecturer to discuss more about the assignment and what he meant by certain comments regarding the assignment. This helped me understand the assignment even better``*.

Some students however, also expressed concern that there should also be the overall feedback about the whole course module apart from feedback on specific assignments. They reported that this generalized feedback at the end of the module would provide them with an overall understanding of the whole module.

“The specific feedback on individual assignments is very good. We request that at the end of the whole module, the specific feedback be aggregated into a general feedback for the whole module as it would greatly assist us in understanding our competence in the module”, one student said.

“The lecturers should provide feedback for the overall general progression at the end of the module, so that we understand how well or badly we are doing. The e-mail could be a more effective means of communication for this general feedback”, another student said.

Views from the Lecturers

The lecturers who participated in giving students feedback were equally satisfied with the exercise. All of them recognized that giving students timely and constructive feedback on their assignments can help in motivating them to learn and even make teaching better.

“I think our students have been missing a lot from us. From this exercise, I have discovered the power of timely and useful 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. It is interesting to see how this exercise has driven students to learn on their own and I think we should immediately start this with the post-graduate students as well,” one teacher remarked.

The lecturers also identified some aspects of feedback which students appeared to use, or wished to have used and which would directly influence student motivation, learning, reflection and the clarification of specific issues. Firstly, it was apparent that students would have liked to be given ‘feed forward’ information. That is, information at the start of the assignment that may give focus to the feedback at the end:

“It would help to give structure to the students of what we require from them. For example, if asked to ‘describe a certain procedure,’ it would be helpful to know what we want as teachers and tell this to the students before they begin their assignment”, one teacher advised.

In support of the former, another lecturer said; *“We need to inform the students what is expected of them at the beginning and then feedback given at the end will make it even better”.*

The experience of giving students feedback seemed to motivate lecturers to improve their teaching as well, because the feedback information from assignments can assist them to change teaching strategies. This is reflected in the lecturer’s response below:

“Through looking into students’ assignments and generating comments, I got an opportunity to reflect about my teaching methods and how I need to improve on them so that students can understand and perform better in assignments”.

The lecturers also suggested that having implemented the feedback form successfully, there is a need to transform it into an electronic one so that students can receive their feedback on-line.

“I think we should think of now using electronic means to disseminate the feedback to students. This is faster and will reduce on the paper work needed for the whole exercise”, one lecturer suggested.

There were some comments from the participants about the whole participatory research process that are worth noting.

“This is a whole new experience for me. I have never been engaged in such a research process where I am a study participant at the same time almost working as a researcher. It has been a learning point for me and has introduced me to a new method of giving research a humanistic touch”, one lecturer said.

Another lecturer commented: *“The way we have been actively involved to come up with a feedback form is quite interesting. Sometimes innovations fail simply because the primary users are never involved. If the form had been just imposed on us, I doubt if it would have been accepted. At some point it even felt like it is not a research process. I have learnt a lot from this exercise”.*

To the students, this was a whole new experience to them as well. The statement below from one student summarises the common expressions students gave:

``We thought we were not doing research initially as all activities involved seemed to fit in well in our learning schedules. Infact we thought it was another teaching method being introduced. Personally as a student, I had never seen any of my teachers giving me a research report to give him comments. I am proud to have been part of this``.

The above comments are interesting, but not quite surprising. Many people in health sciences are from the positivist quantitative research paradigm and are not used to the more constructivist participatory action research which explains the whole new experience observed.

CHAPTER FIVE

Discussion

The focus of this study was to explore students` and lecturers` perceptions, opinions and experiences of written formative feedback in learning as well as to explore whether formative feedback could motivate students to continue learning. The analysis of the data suggested both students and lecturers expressed satisfaction of continuously giving or receiving feedback. This is mainly because improvements in learning can only occur when students perceive feedback as enabling their learning and not just as a judgment on their level of achievement with mere grades. It is very likely that the feedback received encouraged students to increase their efforts and encouraged them to learn deeper. This is exemplified by the fact that students reflected and discussed feedback comments amongst themselves and went back to their lecturers to clarify what they had not understood.

This study also focused on finding out prior knowledge and experiences of participants regarding feedback. The initial analysis of data revealed that the students had little prior knowledge as well as minimal experiences of feedback, many of them equating it to exam marks received. This finding is not quite surprising because throughout their education system, students are not exposed to a formal method

of receiving qualitative comments on their assignments right from high school into the university. This most likely explains the perception students had regarding feedback. Although the lecturers had some knowledge on feedback, they admitted that they never received feedback during their training and they were not giving formal feedback to their students as well.

The issue of lecturers not giving feedback to students probably explains the earlier observation that students have never experienced qualitative feedback even in university. The lecturers passed through the same education system as the current students where little attention was paid to qualitative feedback. As a result, they also never received such feedback. It should probably be emphasized that giving qualitative comments on students' assignments should be part of the whole institutional assessment system if both students and lecturers are to give it the importance it deserves. It is even important that delivering effective feedback should be made part of the on-going faculty development and training programs such that all lecturers are able to give feedback to their students.

The lack of time to give feedback was observed from the lecturers. Although there is limited time to fulfill all competing interests in many institutions, this should not be used as an excuse to deny students the opportunity of receiving feedback. One possible way to mitigate this is by incorporating the feedback process in the already existing learning activities such that it is not viewed as extra work. The feedback can also be structured such that it is limited to a few points, but which are highly effective in facilitating students' learning.

The study also aimed at exploring the students' use of feedback received. Findings showed that students used feedback received to enhance and facilitate future learning. It appears that students purposely used the comments received not only to review previous assignments to get a deeper understanding, but also used these comments as an impetus to improve in subsequent assignments without repeating similar mistakes. Therefore, the feedback comments received were instrumental in shaping the students towards improvement. This further emphasizes the need for formative assessment and continuous feedback.

Both positive and negative feedback appeared to facilitate learning (Pitts, 2005). One student said negative comments motivated him to learn. The main reason as to why this could have happened so is

the manner in which the negative comment was delivered by the teacher. The lecturer reconstructed the negative comment in a positive way clearly directing the student where to improve. To the student, this was probably motivating to continue learning.

In exploring the experiences of the whole feedback process, it was discovered that even lecturers used the process to reflect upon their own teaching. This is a gratifying observation indeed in that, feedback may also be used to modify teaching methods. During the process of generating comments to students' assignments, the lecturers were also examining their methods of teaching that resulted in either students performing well or performing poorly. Many a times, lecturers are too busy and never get time to reflect upon their own teaching. Through this feedback process, lecturers can get an opportunity to reflect on their work as well. Through this process, teachers can attribute students' progress to their teaching strategies (Harvey, Martinko & Borkowski, 2007).

Formative feedback can be a useful strategy for lecturers to improve the effectiveness of their own teaching. For example, such continuous feedback allows lecturers to track the performance of their students before major summative exams. By analyzing students' assignments and generating comments, lecturers are able to notice patterns of difficulties and misunderstandings that students might have regarding the subject or module. Such analysis can provide clues about how lecturers can modify their teaching approach for example by giving more illustrations, additional resources etc. However, more inquiry is needed to examine ways in which formative feedback improves lecturers' teaching strategies.

The observation that the feedback process promoted student-teacher interaction should not be overlooked. Many students approached their teachers without any body forcing them to do so. Probably this was surprising to the lecturers as well, but why did the students have to do so? The probable answer was for them to get a deeper understanding of the feedback given and what they had done regarding their assignments. It is most likely that some students wanted a clarification of the comments received and a clarification of the learning gaps to be addressed. It is thus evident that the feedback process was indirectly promoting self-directed learning within the students.

It can also be argued that the interaction observed was promoting some form of mentorship relationships between the students and their lecturers which many educationalists have always advocated for (Carless, 2006). Through the feedback process, students appeared to have approached the lecturers more frequently than before to clarify understanding of the assignment and feedback received. This subsequently reduced the apparent gap between students and the lecturers and students were consulting more. The advantage of this is that lecturers are able to monitor students' progress and offer advice more frequently with an aim of improvement. This subsequently creates a lecturer-student mentorship relationship that is beneficial to the students' progress.

From the initial design of this study, lecturers were meant to give qualitative comments on students' assignments, but not to indicate a quantitative mark on the feedback form. It was quite surprising that none of the students complained about not being given marks on their assignments. This is a very unusual practice in the context of the study setting since students are used to quantitative marks for tasks accomplished. This could possibly be attributed to the nature of feedback the students were receiving. It was probably their first time to receive qualitative comments about their work clearly noting what they did well and how they should improve, which could have overshadowed the demand for quantitative marks. The students seemed to be more concerned with addressing the weaknesses identified than demanding marks. This demonstrates further the role of continuous qualitative feedback in facilitating students' learning. The students are more likely to search for deeper understanding than dwelling on quantitative grades which is the benchmark of any student assessment.

The observation that feedback encouraged students to reflect on their work is worth noting. Trends in health sciences education demand that we train reflective professionals (Chanock, 2000). The reason as to why students were unconsciously stimulated to reflect is arguably to get a deeper understanding of the assignments. It is a challenge for lecturers to teach reflection, but through the routine feedback students received, this skill was evidently being learned. It was probably through this reflection that students were encouraged to continue learning even after the assignment was done. It therefore appears that if we are to encourage deep and reflective learning, provision of constant feedback to students could be one of the ways to adopt.

It was rewarding to find out that students did process and tried to internalize feedback received, employing a diversity of ways including reflective and collaborative learning. For example in this study, students made an effort to consult each other to compare feedback notes and try to use each others' feedback probably as strength for their subsequent assignments. This active student participation confirms what Yorke (2003) advanced in the conceptual model aforementioned earlier that in the feedback process, students should always take a central and active role, while the lecturer remains a facilitator of the process. During this group discussion, students also got an opportunity to practise peer assessment. This observation provides an opportunity for lecturers to motivate students by structuring a system that will promote peer assessment and feedback. The advantage of this is that students will internalize concepts and continue to learn from each other even in the absence of formal teaching in the lecture rooms. This directly improves the quality of their learning (Biggs, 1999).

It is also unusual practice for lecturers and students not to complain about extra workloads. To an observer, providing qualitative feedback to students in a setting where it has not been routine practice would seem like increasing workload (Ding, 1997). This was not the case in this study. Although both groups of participants could have been quietly cautious about increased workload initially, they all expressed satisfaction with the feedback process and the form used in the end. Why could this be so? The reason for this probably lies in the initial design of this study using a participatory approach. The feedback form was collaboratively designed and agreed upon by the very implementers and users. It was not imposed on them. This further explains the importance of involving all stakeholders in many educational interventions that we make as this is what could determine the fate of any intervention in an educational setting (Hyland, 2000).

Additionally, the form was kept simple, feasible and clear. In many resource-constrained health science institutions, innovations fail simply because people start big and get overwhelmed leading to stress, burn-out, resistance to change and subsequently reverting to old routine methods (Hinnett, 1998). Keeping the feedback form very simple is arguably the main reason as to why it was accepted by both students and lecturers

It is possible that students are not conscious of all the possible uses for feedback. They may be unaware of how they should use feedback received. Trigwell et al. (1999) argued for the adoption of student-focused approaches to teaching in order to improve the quality of students' learning. It is possible that as facilitators in this process, the lecturers should engage students in discussions about the role of feedback in learning. Such discussions would be difficult in large classes, but it would certainly be possible in moderate or small groups, for example problem based learning tutorial groups. Indeed such small group learning is now very common in many African Health Sciences Institutions (Kiguli-Malwadde et al. 2009).

The idea of 'feed-forward' information is also useful in the continuous feedback cycle. In this case, assignment requirements could be outlined to students early enough enabling greater focus of the eventual feedback by relating it to the 'feedforward'. The importance of this feed forward information was also emphasized by (Orsmond, Merry & Callaghan, 2002) and (Orsmond & Stiles, 2002; Ramaprasad, 1983). However, work from Fritz et al. (2000) gives us an insight of how feedback should be used in the student learning context.

Overall from this study, it was evident that none of the students found the lecturer feedback a waste of time. However, one can not conclusively assert that the students were not frustrated or upset by some of the feedback received. Most probably the advantages and benefits accrued from the whole feedback process far outweighed any perceived disadvantages. Over a period of time students seemed to be inwardly critically digesting the feedback they received and possibly incorporating that into a type of learning cycle where the feedback confirms new knowledge as valid. They processed the new knowledge into an existing framework of learning.

Findings from this study have confirmed what is already in literature that through feedback, students are able to show a genuine commitment to applying feedback received to gain deeper understanding and facilitate their learning. However, what this study critically adds is the idea of structuring the feedback in resource-limited learning environments by use of a simple form designed by lecturers and students in a participatory manner. Such a structured form clearly delineates specific feedback aspects to focus on and this could be one way of achieving the maximum benefits of feedback in resource-limited settings

especially in Africa. This study also crucially, brings out the possibility of promoting mentorship through continuous active feedback. This has been demonstrated by the fact that the feedback process actively encouraged lecturer-student interactions to clarify understanding and this can be exploited as an avenue to initiate a mentorship relationship.

The findings cannot allow one to conclusively state that the observed changes in students' learning practices were solely due to the feedback intervention of this study. However, the findings from this study provide a platform for further research in this area. Key questions still arise from the study, which need to be addressed through empirical research: Can we have comparative empirical evidence that qualitative formative feedback facilitates learning better than the traditional quantitative assessments? If formative feedback enhances learning and motivates students to learn, how does it do it? Is there enough empirical proof that students actually prefer formative feedback to summative feedback? How can feedback information be used to improve teaching as well? How can we objectively and efficiently combine both formative and summative assessments in resource-constrained settings? How can lecturers be trained to provide effective formative feedback? How can formative feedback be used to promote lecturer-student mentorship?

It is worth noting that the whole participatory research experience was gratifying to all the participants involved. Participatory action research demands that everybody gets involved into the research process with an aim of improving current work practice in a particular setting (Greenwood, 2002). This requires a constructionist approach which is relatively new to many lecturers in the health sciences field. This is why some even felt they were not doing research. Many are new to educational research and this exercise probably was a new experience to them. This study has changed the attitude of lecturers towards educational research, because of the way it was implemented. It focused on the real teaching context and eventually came up with an intervention that would improve learning. Lecturers can now use this as a learning experience which could probably be used as a leverage to conduct more educational research in their work contexts to improve teaching and learning. Participatory research could be one way lecturers can use to sustain their innovations in health professions training.

CHAPTER SIX

Study Limitations

The major limitation of this study is; that it focused only on second year students and a handful of lecturers. Including many more other students from other years and more lecturers would have added richness to the data gathered. It would also be a fallacy to solely attribute the evident students` enthusiasm to learn to only the feedback process and form introduced. There could have been other co-founding learning strategies that students applied during the study period that could have contributed to the expressed positive response other than solely our feedback form.

Secondly, the participants were possibly more positive about feedback and more conscious of it than would normally be the case, because they participated in the study. This could have had confounding implications on the data collected. Overall however, the author is convinced that the feedback strategy introduced greatly contributed to positive learning.

Study Implications

This study raises some suggestions that institutions need to critically look at and subsequently address if we are to train quality health professionals:

Firstly, it is also worth noting that most students entering universities may not have been exposed to using feedback as a strategy for learning as most of their studies may have culminated in quantitatively graded summative examinations. It is therefore vital that health sciences students get involved in formative feedback processes from the beginning so that they are informed on how the process is an integral part of teaching, learning and assessment.

Secondly, from this study, it has been demonstrated that lecturers play a central role in making feedback actually work to promote learning. Teachers need to guide students on how to effectively use feedback received to improve their learning. Therefore, lecturers also need to know principles of giving effective feedback to their students. While an awareness of the possible diversity of feedback uses may make giving feedback more difficult, it may also provide a method for more effective feedback delivery. This calls for continuous faculty development programmes in feedback processes.

Additionally, there has been a tendency for lecturers to spend much effort in preparing graded examinations. Students are rarely given an opportunity to identify learning needs early enough in order to address them. It is only through continued formative feedback that this can be achieved. Formative feedback should therefore be an integral part of the institutional assessment blue prints if we are to achieve the main major purpose of the lecturer which is to facilitate learning.

However, lecturers need to be cautious when giving feedback to students. There is need to balance both positive and negative feedback and to communicate negative comments in a way that will not put a stop to learning. Teachers should therefore reflect upon their own practice and consider how much of their feedback is positive and constructive. Negative feedback should be given in a positive way so as not to make students lose their confidence.

Feedback should also involve active continuous discussions between the lecturer and the students which subsequently incorporates feedback into a formative learning session (Hirsch & Gabriel, 1995). These feedback activities seem time-consuming especially when lecturers have other competing responsibilities. The onus still lies on the lecturers to devise means of achieving maximum benefits of feedback in teaching and learning.

Lastly, major innovations are taking place in health sciences training. These innovations require a cultural change from the old methods of carrying out activities. The key to successful change is through active engagement and collaboration of the primary stakeholders such that it is a shared innovation.

Conclusions

This study has demonstrated that students value good quality feedback, which is timely, constructive and instructive, acknowledging, and rewarding learning achievement and positively pointing out areas for improvement. The study has also shown that feedback enhances students taking responsibility and taking an active role in their own learning as a way of facilitating deeper learning talked about in literature. The study has further demonstrated that structuring feedback to few specific crucial aspects is more likely to be successful especially in resource-limited learning environments. Staff development is needed so that teachers develop effective skills of giving constructive feedback to students alongside their role of teaching as ultimately, it is lecturers' actions that significantly determine whether students are motivated to learn or not. Lastly, participatory research is a valuable approach for implementing sustainable and acceptable changes in higher education.

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APPENDIX A:

QUESTIONS FOR THE 1ST ROUND OF FOCUS GROUP DISCUSSION

1. In your opinion, what does feedback mean in relation to student learning?
2. In what ways have you ever experienced the process of feedback?
3. In what ways do you think feedback may be important in teaching and learning?
4. How can feedback be used to improve student learning?
5. Any other comments please?

APPENDIX B:

ASSIGNMENT FEEDBACK FORM

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?

E: 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:

APPENDIX C

QUESTIONS FOR THE 2ND ROUND OF FOCUS GROUP DISCUSSION

1. Could you please share with us your experiences and opinions about the feedback process (e.g how it helped you, advantages)
2. What could be advantages of using this form to give feedback to students?
3. How can we improve on the form to make it better?
4. What are your experiences and opinions about using the participatory team work approach to design and critique the feedback form?
5. Any other comments please?

APPENDIX D: CONSENT FORM

THE USE OF A STRUCTURED FORMATIVE FEEDBACK FORM FOR STUDENTS`

ASSIGNMENTS IN AN AFRICAN HEALTH SCIENCES INSTITUTION: AN ACTION

RESEARCH STUDY

CONSENT FORM

Investigator: Mubuuke Aloysius Gonzaga

A. PURPOSE AND BACKGROUND:

I am conducting a research study to investigate the use of formative feedback to promote student learning. In this study, we shall as a team work together to explore the possibility of using a structured feedback form on students` written assignments to promote their learning. At the end, we would like to have a practical and feasible form that can be used continuously without costing much time on the side of teachers and students and which fits into their routine learning activities. The ultimate aim is to improve teaching and learning in our setting.

B. PROCEDURES:

If you agree to be part of the study, the following will occur:

You will participate in a 25-minute interactive interview. The interview will be done in a private environment and at a time that is convenient to both you and me. You shall be asked about formative feedback in promoting student learning. Please remember that the interactive interview will be a group interview of six people during which we shall share ideas as a group. It will not be an individual interview. Therefore, total confidentiality within the interview room may not be possible. However, your opinions will remain confidential to the rest of the public and every member of the focus group will be requested not to discuss anything outside the interview room. You will never be identified by name or your opinion and the researcher will not call you by name during the interview. It should be noted that you still have the option to opt out of this study.

C. RISKS, DISCOMFORTS AND CONFIDENTIALITY:

There is a potential risk of loss of confidentiality, but the investigator will safeguard your identity. You will not be quoted by name in any reports or publications that may result from this study. There are absolutely no risks that will be encountered when you participate in this study.

D. BENEFITS:

The information that you provide may help in effectively guiding the way students learn.

E. COSTS/RE-IMBURSEMENT:

There will be no costs incurred to you as a result of participating in this study. You will receive no payment.

F. QUESTIONS:

If you have any questions about this study or any other concerns or complaints, you can approach:

Mubuke Gonzaga, Investigator

Department of Radiology, School of Medicine
College of Health Sciences, Makerere University
P.O. Box 7072, Kampala-Uganda
2nd Floor, New Mulago Hospital Complex
Tel: +256772616788
E-mail: gmubuke@gmail.com

G. CONSENT:

Participation in this study is voluntary. No consequences will result if you opt not to participate in this study. If you therefore agree to participate in this study, please sign below:

.....

Date

.....

Signature of study participant

.....

Date

.....

Signature of person obtaining consent

