Making Summative Assessment Effective

Harrison Daka, Mukuka Lydia Mulenga-Hagane, Mwansa Mukalula-Kalumbi and Sibeso Lisulo
Department of Educational Administration and Policy Studies
University of Zambia, Zambia

Abstract. The University of Zambia, School of Medicine is the first public health institution in Zambia after Independence in 1964. Its focus has been on provision of quality education with excellence from one of its core values. During the course of the focus of this study high examination attrition rates and low students Grade Point Average (GPA) among undergraduate programmes were observed. This study investigated the views of academic staff and students on the role of feedback in assessment processes among undergraduate students trained at the University of Zambia, School of Medicine. Both qualitative and quantitative methods approaches were employed to investigate the above mentioned issues. The design used for data collection was an exploratory sequential research design. Two sets of instruments were used to collect data. These were an evaluation survey instrument on the teaching and learning of undergraduate programmes in the School of Medicine and document analysis. The data collected from this set were analysed using descriptive and inferential statistics. The second set were a students' Focus Group Discussion schedule and an in-depth interview schedule for key informants regarding the GPA and examination attritions. The data collected from the second set were analysed using constant comparative method. The study revealed that certain factors contributed to low GPA and high examination attrition rates in the School of Medicine. The results showed that there was lack of timely feedback (52.2%) with standard deviation of 1.13 and, where it was done, only 52% provided guiding comments with standard deviation 1.11. The results showed there was significant statistical difference in timely feedback ($p = 0.000$, $F = 4, 598$, $df = 18.428$), detailed feedback ($p = 0.000$, $F = 4, 595$, $df = 16.037$) and scope of assessment ($p = .000$, $F = 4, 596$, $df = 24. 172$). In conclusion, the study showed that the low students' GPA and high examination attrition rates at the Medical School of the University of Zambia were due to improper assessment processes. In view of these findings, the study recommends that there is need for timely feedback given to students on time and that such feedback should be detailed. In addition, the study further recommends that the School of Medicine using the Medical Education and Development Department should consider organizing specific pedagogical training programmes for existing and newly employed academic staff.

Key words: assessment, feedback, timely feedback, detailed and helpful feedback

Background and Context

In education, feedback comes as a response to teaching. For this reason it can be said to be a tool used for continuous learning in an effort to determine learner awareness of desired goals (Mulenga-Hagane et al., 2019; Daka, 2019; Daka & Changwe, 2020). The term feedback is used to describe the obliging analysis about an action from one individual to another. Sadler (1989) and Daka (2019) describe feedback as that which closes the gap between present performance and the desired objectives. The recipient can use the information to improve the service or work that has been given. Feedback helps to modify future actions and the information gathered can be used to make better decisions (Mulenga-Hagane et al., 2019). Feedback helps both the learner and the teacher in the following way; to the learner, it establishes which ideas or concepts needs to be improved, to the teacher, it's a way of seeing which themes and teaching methods can lead to better results (Hatie, 2011).

There are different forms of feedback in education. Hattie (2011) presents three forms of feedback, namely praise, criticisms and advice. There are also other classification of other feedbacks namely; formal feedback, formative feedback, summative feedback, student peer feedback as well as informal feedback. Each one of these feedbacks serves a purpose in the education process. These are either used individually or in combination. For example, during tutorials, a presenter is exposed to both formal feedback from the tutor as well as feedback from other students. Feedback is a critical component of any instructional material given as it enhances student learning. The focus of this paper is on summative feedback. This is essential as this form of feedback is crucial into construction of participant identities as well as in their use of concepts that they had grasped that they can use in the field also as it relates to examination attrition and Grade Point Average (GPA).

The goal of summative feedback is to evaluate student learning. This is done against some standard or benchmark. This form of feedback should be timely, detailed and clearly must explain how the student got the grade that they got and if any improvement were to be done, this must be seen in the guiding comments so as to serve its purpose and be helpful to the learner. In this study, summative feedback specifically looks at assessments that make up Continuous Assessment and not final examination. The final examination items depend so much on what was assessed in these assessments.

Increases in examination attrition rates and low Grade Point Average (GPA) are growing concerns in most higher learning institutions (Tyre-Smith, 2010).The 2008-2014 students' GPA from the School of Medicine at the University of Zambia indicated that in all programmes the GPA was less than 3.50 (Daka, 2019) and examination attrition rate of 24.94% (Daka and Changwe, 2020). Tyre-Smith (2010) posits that if the examination attrition rates are more than 10%, there is need for investigation in order to come up with strategies of improving quality of education thus the reason this study was conducted. Despite many years of attention on attrition, it has remained one of the most complex and least understood problems facing institutions (Daka, Banda & Namafe, 2017; 2020).

The School of Medicine is not the only learning School at the University of Zambia that might use the findings in this study. There might be a wider implication for other schools in the University of Zambia to use such findings. However, while there may be applications by other schools, this study focused on the School of Medicine. So far, no such research has been conducted at the University of Zambia to ascertain the connections between feedback assessment processes with students' GPA and examination attrition. The purpose of this study was to investigate staff and students' perspectives on the relationship between feedback in assessment processes, on one hand, and the GPA and examination attrition rates among undergraduate health professions students of the University of Zambia, on the other hand.

Problem Statement

After selecting the best students from the School of Natural Science or at enrolment level, recruiting and increasing the number of qualified academic staff, improving the learning environment as well as increasing access to educational resources, examination attrition rates with low GPA remain high.

Assessment Processes in Learning

Assessment is defined as a systematic collection, review, and use of information about educational programmes undertaken for the purpose of improving student learning and development (Coverdale et al., 2013; Msango et al., 2014). Assessment can either be formative evaluation as an on-going process throughout the course (this is referred to as modifying and adjusting) or summative evaluation which occurs at the end of the course and is most often the

model used in academic institutions. If instructors are truly establishing a collaborative, transformative process, then both forms of evaluation need to occur.

From the definition above, some of the questions which may arise are the type of assessment tools used and the weighting of these tools. The current argument has been that "all educators should demonstrate that they are assessing skills and competencies necessary and relevant to the course taken" (Borich, 2000: 7). The assumption has been that if the educator is assessing what he/she taught, there should not be many students failing in that course.If many fail, then the assessment tools need to be investigated. The question is that do we investigate our assessment tools when many learners fail? In the case of summative assessment, what action should we take when many learners fail in the final examination? Do we call back the learners to explain to them to redo the work they have failed? The solution is to assess what was covered so that learners can apply even after leaving learning institutions. Therefore, feedback is very important in formative assessment.

Concept of Feedback

Feedback in the new constructivist paradigm has shifted from corrective to facilitative, with an emphasis on scaffolding learning through the zone of proximal development (ZPD) (Vygotsky, 1978). According to Hattie and Timperley's (2007) research, formative feedback can help students bridge the gap between their present knowledge of their performance and the goals they are attempting to attain. Feedback from teachers in a conventional setting, which is one-way communication, has been criticized owing to pupils being dependent on teachers (Sadler, 1989), therefore feedback should be interactive in the current conception. Effective feedback should help learners self-assess, self-reflect, and self-regulate their learning (Butler & Winne, 1995). Self-regulated learning is described as the process of learners defining their own learning objectives and then monitoring and controlling their motivation, behaviour, and cognition to achieve those objectives (Pintrich, 2000; Daka, Banda & Namafe, 2017; Kakupa, Tembo & Daka, 2015). During this phase, teachers' facilitative feedback is regarded to be necessary to effective achievement.

Feedback is an essential component of assessment in order to encourage learning. Feedback can take several forms, ranging from written comments in the form of grades or marks to oral comments or gestures to pupils. Feedback is often embedded into the teaching/learning process. Teachers can provide students feedback in two ways: planned or unplanned. It is an essential aspect of the assessment for the learning process for both teachers and students (Bell & Cowie, 2001; Black & Wiliam 1998; Sadler, 2009, 2010).

Feedback is intended to help learners self-assess, reflect on, and monitor their learning so that they can flourish as lifelong learners. According to research, feedback influences learning (Black & Wiliam, 1998; Bangert-Drown et al., 1991; Crooks, 1998; Daka et al., 2020); can act as a facilitator in enhancing performance (Bandura, 1991; Bandura & Cervone, 1983); and is important in the classroom structure. The literature on formative feedback emphasizes the significance of teachers' responses to student work in bridging the gap (Sadler, 1989). In this context, feedback is defined as "Information about the gap between the actual level and reference level of a system parameter which is used to alter the gap in some way" (Ramaprasad, 1983: 4).

This notion of feedback was further expanded by Sadler's (1989) formative assessment theory, which postulated that information on learners' successful practice necessitates a "feedback loop" (Sadler, 1989: 121). Formative assessment, as a feedback loop, works to close the gap between the learner's present performance and their desired performance. Sadler (1989) contends that information is not feedback until it is purposefully employed to serve this function. This feedback loop informs teachers about the learner's knowledge or skills attained or yet to be attained, aims to assist learners in identifying and correcting a gap, and also assists

teachers in reflecting on and selecting appropriate tasks or activities, as well as modifying or adapting their teaching to close the gap.

According to Nicol and Macfarlane-Dick (2006), feedback should clarify to students what constitutes effective performance in order to promote self-assessment. The provision of information to learners about their learning, aids in the promotion of teacher/learner interaction as well as the development of motivating beliefs and self-esteem in learners. Feedback should also allow learners to reduce the gap between their present and intended performance levels, allowing them to become self-monitoring while also informing teachers about student learning. This is consistent with Sadler's (1989) notion that feedback should inform learners about learners' knowledge and abilities so that they may discover gaps between what they have learned and what they still need to acquire. According to Nicol and Macfarlane-Dick (2006), when feedback operates formatively and successfully, teachers should be able to reflect on and pick assignments and activities that are appropriate for their learners, as well as alter or adapt their teaching to suit their pupils.

The quality of questioning, the type of feedback, the timing of feedback, and self- and peer-assessment are the differences between formative and summative assessment (Black & Wiliam, 1998). As previously stated, feedback in the conventional, behaviourist form is a one-way activity in which the teacher is the single source of information, positioned externally to the student. Traditional feedback places the teacher in the position of telling students what constitutes successful performance, which has been widely criticized (Sadler, 1989). Furthermore, this feedback style compels teachers to only offer feedback in the form of grades and marks. According to theorists, this results in learners who are dependent on the teacher. Current education theory proposes a kind of successful feedback that recognizes students' roles in their own learning and is usually defined as co-constructed through teacher/pupil partnership (Hattie & Timperley, 2007; Sadler, 1989; Carolyne & Daka, 2021). According to researchers, feedback is successful when learners learn through cooperation with teachers and become producers of feedback information through self and peer assessment in such a manner that it delivers a learning experience (Wiggins, 1993).

Hattie and Timperley's (2007) model is one prominent piece that addresses the positive element of feedback: that feedback information is brought up front and has to be prepared and presented in a way that stimulates learners' engagement and learning. According to Hattie and Timperley's (2007) suggested feedback model, three questions must be addressed in order for feedback to be effective: "Where am I going?" "How am I going?" and "Where to next?" The first question is about the aim or task that the learner must do. The second question informs learners on their performance in relation to the stated goals. The third method is one for continued learning and performance enhancement. They contended that the aim of feedback was (or should be) its efficacy in increasing learning. The emphasis might be on the task, the task's processing, self-regulation, or the learner's confidence; the key component was the emphasis on enhancing the student's ability to learn.

When inaccurate interpretations are corrected, feedback on the task is most helpful, since learners gain from extra training on performing their work. When feedback is focused on the processing level, it can assist learners in building strategies for detecting errors, which can lead to understanding the connections between different tasks and transferring that learning to a new activity. As a result, Hattie and Timperley (2007) go on to say that successful feedback is more than just general praise for the learner: it must also provide practical information for the learner to work on. Self-regulation feedback encourages learners to participate in their work.According to their findings from numerous research, learners receive feedback as their teacher's judgment of their competence, which is typically not the goal of their teachers. According to Kluger and DeNisi's (1996) meta-analysis of feedback, some types of feedback were more helpful than others in enhancing learner performance. However, their findings show that more than one-

third of feedback interventions had a detrimental impact on learning, particularly when the feedback was directed more towards the self (ego-related) rather than the task or self-regulatory processes.

Feedback must be delivered to learners in a way that allows them to engage with it in order for it to be formative. Understanding and engagement with feedback by learners is seen as crucial (Sadler, 2010), and is a necessary prerequisite for closing the gap between current and desired achievement (Ramaprasad, 1983; Sadler, 1989). According to Boud (2000), unless learners use the feedback to enhance their work and performance, neither the supplier nor the receiver will know how successful it is.

Levels of Feedback

The subject of feedback has been extensively explored and theorized. This section first presents a synthesis of Hattie and Timperley's framework on feedback that was used on assessment in this the study. Hattie and Timperley (2007) formulated a theoretical framework on feedback which can be applicable in a learning context. The framework helps to understand how feedback contributes to learning. There are four levels in this framework namely personal feedback, feedback regarding the task, feedback about processing of the task and feedback regarding self-regulation. Personal feedback is the type of feedback given to an individual that can be either positive or negative depending on the learner's performance. An example is when the lecturer writes comments praising the student's mastery of content in order to boost that student's confidence (Mubuuke, 2018).

The second level of feedback focuses on the task and how well the student is tackling it, but does not focus on the individual (Mubuuke, 2018). For this to be effective the task must be made in such a way that it involves analysis and formation of concepts thereby encouraging a deep approach to learning as also described by Husain and Khan (2016).

Feedback about processing the task is given when learners apply what they have learnt in a particular task to another situation. This is in line with how the curriculum is developed where topics are sequenced in such a way that concepts are arranged in a manner where they build on each other (Van Dijk & Kluger, 2011). Students use the knowledge acquired at earlier levels to solve more challenging or untried tasks (Mubuuke, 2018).

Lastly, feedback regarding self-regulation **is** that which enables learners to monitor, regulate, and control their cognition, motivation, behaviour and the guidance of the environment. These are important concepts of self-regulation in learning on educational quality and learning that is initiated by students themselves. This is a very important level in feedback as it is at this level that feedback from lecturers trigger the students to also engage in the process of self-assessment and critique (Bowen et al., 2017). It is therefore cardinal that feedback is packaged in such a way that it formulates some sort of dialogue rather than information transmission (Al-Bashir et al., 2016; Nichol & Dick, 2006). This encourages opportunities were students can actually interrogate their shortfalls through wholesome discussions with peers. For this reason, two forms of feedback are cardinal...that is formative and summative feedback. These will be discussed below.

Forms of Feedback

It is important to note that academic feedback can be verbal, written or gestural and it must be seen as an opportunity for growth and nurturing for the students. The different forms of academic feedback are determined by the nature and goals of the task given. Historically, academic feedback was given through tests and examinations in order to assess students' performance based on the targeted learning outcome.Over the years, academic feedback has evolved with the focus being placed on students. The approach is learner centered thereby promoting a paradigm which accommodates both formative and summative feedback. In higher

learning institutions, comprehensive feedback is a platform which facilitates students' development as independent thinkers especially if there is ample monitoring (Ferguson, 2011).

Formative Feedback

The focus with formative feedback is the need to follow up with students' progress and need to avail direct feedback. The major thrust is to closely monitor student's learning processes. The relationship is seen in the diagnostic nature of information given before the work is completed. The idea behind is to provide the needed help for the student to revise and improve the work. Formative feedback can also be referred to as feed forward as it focuses on the need to direct the student in the right direction for completion.

Teachers would ideally use formative assessment evidence to alter their teaching, while students would receive feedback to enhance their learning. Feedback within assessment for learning is therefore, information about the learners' current or desired performance. In a formative conception of feedback, learners also have knowledge about the desired quality for their work and are able to perform self-monitoring and self-regulation to improve their learning (Dixon, 2011).

In Shute's (2008) study 'formative feedback' was defined as information provided to the learner that is meant to change his or her thinking or conduct for the aim of increasing learning. Attention is given to the fact that feedback had a beneficial influence on student learning, in contrast to Kluger and DeNisi's (1996) results that feedback had detrimental impacts on students learning. According to Irons (2008), formative feedback is achieved not just through the information provided, but also through the process or action that employs that knowledge to afford or accelerate learning. As a result, effective formative feedback is a process or activity that gives information to learners in order for them to alter their thinking and behavior in a way that improves their learning and performance.

Feedback may affect learning in a variety of ways. Firstly, as previously said, it can assist in the closure of gaps between students' present learning performances and their intended level of performance (Sadler, 1998). Second, formative feedback can successfully assist struggling students who could benefit from further assistance (Shute, 2008). Thirdly, formative feedback can be useful for addressing incorrect task strategies, procedural mistakes, or misunderstandings (Guénette, 2013), and it is especially helpful when the feedback is precise.

Summative Feedback

Summative feedback points to the final analysis of a piece of work explaining how a grade was arrived at. It helps identify areas of improvement in future tasks of the same nature. Additionally, according to Daka (2019), summative feedback, necessitates evaluation of student learning and lecturers teaching over a period of time. It provides a lens through which the whole course is assessed or indeed the validity of the education program at the end of its learning cycle. In higher learning institutions in most cases summative feedback is provided after examinations or achievement tests based on the content taught.

Importance of Feedback in Assessment

Fundamentally, learning is a process which oscillates between learners and teachers where the major task is to facilitate transfer or exchange of knowledge guided by necessary feedback.Feedback is an intricate part of effective learning essentially because it enhances learners' comprehension of the subject under scrutiny. As much feedback is a contentious issue in higher education, studies conducted in the United Kingdom and Australia as rightly stated by Al-Bashir et al. (2016), acknowledge that it is an essential element in improving the learning process of students.It is through comprehensive feedback that lecturers are able to effectively provide guidance which inevitably improves the learning process.Aptly stated by Bellon et al (1991), the importance of academic feedback lies in its ability to strongly and consistently correlate to levels of achievement among learners in comparative to other learning behaviors.

Looking at it from a broader perspective, academic feedback has the potential to boost learner's confidence and self-awareness towards the learning process. Hattie (1999) further adds that feedback is a cardinal part of the assessment process and it is the most powerful single moderator that enhances achievement.

It is paramount to note that significance of feedback to learner's lies in its ability to help learners understand the following:

1. Justification of how the mark or grade was arrived at,
2. Avenue to pinpoint specific qualities in learner's work,
3. Platform to provide necessary guidance to learners on what to improve,
4. Acts as motivation for learners to act accordingly on their assessment, and
5. Enhances capacities in learners to monitor, evaluate and regulate their individual learning process.

The significance of academic feedback is double edged at tertiary level as it gives students valuable information pertaining to their performance and likewise it provides the lecturer an opportunity to monitor progress of the students. To a very large extent, academic feedback acts as a building bridge for effective learning. It is therefore imperative that we state the forms which academic feedback is bound to take.

Tenets of Effective Feedback

In realizing our need for helping our students through feedback at tertiary level it is imperative that effective and proven methods are employed. Therefore at this point, we will discuss important tenets of effective feedback. Eraut (2006) alludes to the assertion that upon entry into higher education, students learning future prospects are shaped by the intentional or unintentional feedback they receive. Therefore it is imperative that lecturers create a playing field that will infuse a sense of professional identity through feedback provided. As much as there is general consensus on the importance of feedback to students, it is important to note that in studies conducted by Nicol (2010) and Orrella (2006) students were not satisfied with the kind of feedback given by lecturers due to a number of factors which hang on issues of poor timing of feedback. Therefore, it is important to highlight some important tenets that should guide feedback at tertiary level namely precise feedback, timely feedback and detailed feedback.

Precise feedback entails that feedback is well presented and precise because if not it has the potential to dampen the students' motivation. It must be a pointer to the desired goal. Feedback must be given in such a way that it provides room for the student to interact with it without disengaging from learning. It must be a pointer to guidance on how to improve than an attempt to control think patterns of students.

Timely feedback is given on time while student work is still fresh in a student's mind. At a time when they can easily relate with the content and make amends where need be. It is imperative that feedback is timely, constructive, meaningful and clear in order to create a healthy learning environment. Inserting a grade or percentage should not be sufficient; lecturers should go further by providing enough information in order to provide the direction and more importantly to motivate students. Jeffries (2007) also indicates that students learn from their errors.He adds that if feedback is not provided on time or not all the student may repeat the similar error in the final examination.Roger (2007) also adds that the timing of feedback to the students from the faculty is very vital.He stresses that prompt feedback is the best so that it is easy for the students to recall what they were asked. The feedback in assignments and tests helps serve as a corrective measure and helps the students to improve upon what they did not understand. Timely feedback refers to a situation where students are given feedback before they write their final examination and before they are assessed on some other items (Kuh, 2006).

Lastly, detailed feedback means that the lecturer comments on the students' mistakes or correct answer. Such feedback helps the students to understand the marks awarded and can enable the student to answer the question correctly in case they failed it at first. Therefore, our study investigated how students performed in courses where the lecturers gave timely and detailed feedback. This variable is discussed under assessment standards in the new model developed in this study. Detailed feedback goes beyond noting correct or incorrect responses, and is more effective to learning. Detailed feedback addresses more than just the correct answer; it addresses the topic, response, errors, and provides examples and guidance. There is a growing consensus that detailed feedback enhances student learning and achievement (Corbet & Anderson, 2001).

Detailed feedback can be either directive or facilitative in nature. When it guides the learner through facilitation in developing his or her own plan, detailed feedback then is effective. Shute (2008) identifies detailed feedback as feedback that focuses on learners, and provides manageable elaboration; specific, clear, and simple, to reduce uncertainty about the discrepancy between performance and goals, and to promote unbiased objective, feedback that is learning goal orientated. Studies on detailed feedback have reported that this form of feedback increases students' learning progress (Moreno, 2004). As such, scholars suggest that detailed feedback should be simple, with enough information so that learners are able to take on board the feedback for improvement. Similarly, effective learning takes place when detailed feedback to learners is simple and clear enough that it doesn't impede learning by introducing confusion (Wiliam, 2006), and is linked to students' goals (Duijnhouwer, Prins & Stokking, 2012).

As researchers argue, detailed feedback to enhance learning should focus on the task and not the learners (Hattie & Timperley, 2007; Butler, 1987; Kluger & DeNisi, 1996). It should focus on specific features of the learner's work and performance, with suggestions for improvement. Ideally, detailed feedback should provide elaboration on the what, how and why of the task on hand, an approach that has been repeatedly found to be more effective than feedback on errors and verification (Bangert-Drowns et al., 1991). However, the detailed feedback to learners should be manageable so as not to overwhelm the learner, and should encourage learners to engage with the feedback, not discard the feedback. Too much information through detailed feedback may result in students doing superficial learning, or copying, and again becoming dependent on the teacher. Learners should be given control over the task and over improving their performance.

Another aspect of detailed feedback is the complexity and length of the feedback. If the feedback is too long or complicated, there is likely to be less student engagement with the feedback, thus making the feedback ineffective. As stressed above, in order for detailed feedback to be effective, it should be given in the simplest possible form, to verify the student's answer and provide information relevant to the student's response (directive or facilitative). There is fear that too many comments and too much feedback will encourage correction by students in a way that does not involve their own thinking (Hattie & Timperley, 2007). Feedback can be overwhelming to students when it requires them to read between the lines for understanding or is too general.

Research Methodology and Design

An explanatory sequential design and mixed methods were used to gather and analyse the data. In such a design the researcher begins with a quantitative phase followed by a qualitative phase that examines the initial results in depth (Subedi, 2016). In this study, the sample comprised of 16 key informants and 780 students from the University of Zambia's School of Medicine. A total of 601 questionnaires were administered.

A census method was used with the students to reduce sampling errors and to provide a true measure of the population while purposive sampling was used to select key informants in order to collect detailed and appropriate information. Analysis of relevant documents and the questionnaires ensured methodological triangulation (Chipindi, Chipindi-Serenje & Daka, 2021). The closed-ended questions in the questionnaire focused on measuring how feedback in assessments in the School of Medicine were done. In-depth interviews as well as focus group discussions were conducted with purposively selected key informants. The interviews focused on forms of assessments while the focus group discussions related the tenets of feedback in assessments. Participation was based on informed consent and was voluntary, with the right of withdrawal at any time (Njobvu, 2015). The pilot study was done to ensure internal and external reliability of the research instruments, while the trustworthiness of the qualitative data was ensured through credible, dependable and confirmable means of data transfer. The validity and reliability of the quantitative data was ensured through pre-testing and review of the instruments by medical education experts and computation of the Chronbach's alpha of 0.94 (α) value. The data was analysed using descriptive analysis, one-way ANOVA, Chi-square, measurement of association and comparative methods. Direct quotes were used to promote authenticity.

Findings

Summary Views from FGDs and Interviews on Assessments

Focus Group Discussions	Lecturers give students assignments at gun points Laboratory work in some courses needs more time and there is need to reduce the number of students per session Too many assignments are given in some courses despite being a half courses Some instructions are not clear for laboratory work Lecturers assess the content in the examination which was not covered in classes No feedback is given on time and so rarely detailed to provide guidance. In some courses no feedback from assignments and laboratory work. In some courses we go for examination without knowing their Continuous Assessment grades.
Interviews	The knowledge levels of students is worrying so all those who come into the school must first be test through aptitude test Some students do not hand in assignment work on time Due to large number of students, it is not easy to give detailed and on time feedback to students The school must only enrol students from the School of Natural Sciences of the University of Zambia and these from other learning institutions

From Questionnaires

On timely feedback, just above half (52.2%) of the respondents stated that the feedback was timely while the rest (47.8%) stated otherwise. There were a lot of variations in the responses to this as the Standard Deviation was SD = 1.13. This meant that some agreed in other programmes while others disagreed. This was evident even from the differences in the percentages from 42% for MB ChB to 60% for BSc Biomed and B. Pharm.

In addition to feedback, the results showed that the feedback given was on average not detailed to provide guidance to the students with an average percentage of 52% demonstrating that the respondents were not satisfied with the feedback given. The average standard deviation

under this characteristic was 1.11 which indicated that there were some respondents in some programmes where those who agreed were more (BSc Biomed had 59%) who agreed that the feedback was detailed.

Concerning the characteristic of assessment matching with the scope material covered, apart from the respondents in MB ChB programme where the percentage was 60%, all other programmes had the percentage above 65% indicating that most of the respondents agreed that the assessments marched with the scope. In reference to standard deviation, there was a lot of agreement among the respondents in these all programmes (with SD < 1.0 except for MB ChB which has the Standard Deviation value of 1.17.

Using One way ANOVA, the results showed there was significant statistical difference in timely feedback (p = 0.000, F = 4, 598, df = 18.428), detailed feedback (p = 0.000, F = 4, 595, df = 16.037) and scope of assessment (p = .000, F = 4, 596, df = 24. 172).

Discussion

In all aspects of assessments, it is important to note that there is need to come up with some practices which can make the process of assessments bring about effective learning.This was one of the components which were investigated in this study. It was also highlighted in the conceptual framework as one of the variables that could contribute to quality education. One of the best practices which had worked as stated by Black *et al* (2004) was providing feedback early and detailed.It has been stated that feedback is the breakfast of champions.It is important to note that feedback must be of quality (informative and guiding).Feedback must also be timely, precise, detailed, understandable to the receiver, and formed to allow for self-adjustment on the student's part. The feedback on strengths and weaknesses will help the learner to improve more.The grade or percentage indicated on the paper does not advance any learning or inform the learner on the corrections which need to be made. It was also revealed that some lecturers gave tests or assignments at will without prior notification.

In the study, it was revealed that some of the items in the tests, assignments and examinations were never covered in class. In such courses the GPAs were very low. This was contrary to what Black and William (2009) emphasise, that assessments are supposed to be valid and must assess the appropriate material.Assessments should reveal how well students have learned what lecturers desired them to learn. In this case, assessments, learning objectives and instructional strategies need to be closely aligned so that they reinforce one another as shown in Figure 1 below.

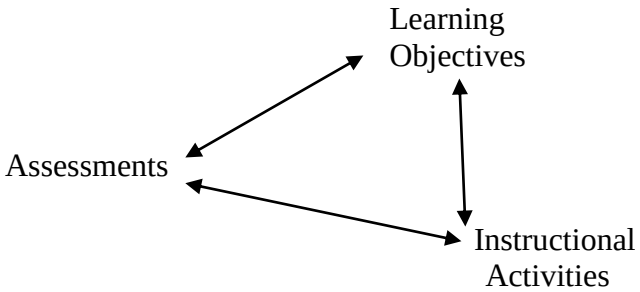

Figure 1. Relationship between learning objectives and assessment
Source: Adapted from Metzler (2017)

Therefore, assessments should include tasks which can reveal that students have achieved the learning objectives identified by the lecturer.If assessments are misaligned with learning objectives then students learning and motivation is undermined.In order to align effectively, the following need to be taken into consideration by the lecturer so as purposed by Metzler (2017).

(i) Tasks should cover all key subject content standards.
(ii) No items on the test should cover what the syllabus does not address.
(iii) Number of test items should mirror the distribution of teaching time.
(iv) The tasks should match the full range of cognitive thinking required during the course where it should even challenge the highest performing students as well as elevating the low-achieving students to also demonstrate their knowledge.

The research revealed that some lecturers in some courses gave enough assessments of different cognitive levels. In some courses, the study revealed that all topics in the courses were examined making it easy for the students to have a choice in answering questions. In such courses, there were low examination attrition rates.In addition, the study revealed that in some courses the weighing of marks was well distributed according to the depth of the required answer.

It should be noted that the lecturers also had their own views on assessments. The study revealed that lecturers were concerned with the low levels of knowledge observed from students' work. The other concern was the late submission of work by students. In response to lack of guiding comments, lecturers admitted that they had challenges with marking students' work due to the large number of students in their courses. This also affected the length of time they took to give students feedback.

The major challenges revealed on assessment in the study included not providing timely feedback. Only 52.2% of the respondents stated that the feedback was timely while only 52.0% acknowledged that the feedback was helpful and detailed. This implied that students took long to get feedback and the feedback provided was not helpful and detailed. In some cases, the respondents stated that they never got the feedback in some courses.In this case, students even wondered whether or not the lecturer marked the assignments. The study also revealed that some lecturers gave feedback on time with comprehensive detail. The guiding comments provided in the feedback helped the students to improve on the weak areas.

The two major types of assessments were formative and summative. The formative assessment is also known as assessment for learning.Research has shown that students who receive formative assessment perform better and have high GPA (Chappis & Stiggins, 2002). The two authors further define formative assessments as assessments designed to monitor student progress during the learning process. Thus questions in these forms of assessments should be aligned with the course objectives so that they bring about learning thereby increasing the academic performance of the learners.

Conclusion and Recommendations

The study concluded that some lecturers did not provide timely feedback and if they did, the feedback was not helpful and detailed with only either percentages and or grades. This affected the students' performance in the final examinations as they were not sure of where they went wrong and this contributed to higher failure rates. Furthermore, the major contributing factor was that some assessment tasks were misaligned with learning objectives affecting the validity and reliability of the assessment items in the tests and examination.

In view of these findings, the study recommends that feedback should be given to students on time and should be detailed the Department of Medical Education and Development (DMED) should consider organizing specific pedagogical training programmes for existing and newly employed academic staff.

References

Al-Bashir, M., Kabir, R. & Rahman, I. (2016). The Value and Effectiveness of Feedback in Improving Students' Learning and Professionalizing Teaching in Higher Education. *Journal of Education and Practice*, *7*(16), 38-41.

Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes, 50*(2), 248-287.

Bandura, A., & Cervone, D. (1983). Self-evaluative and self-efficacy mechanisms governing the motivational effects of goal systems. *Journal of Personality and Social Psychology, 45*(5), 1017-1028.

Bangert-Drowns, R. L., Kulik, C. L., Kulik, J. A., & Morgan, M. T. (1991). The instructional effect of feedback in test-like events. *Review of Educational Research, 6*(1), 213–237.

Bell, B., & Cowie, B. (2001). The characteristics of formative assessment in science education. *Science Education, 85*(5), 536-553.

Bellon, J.J., Bellon, E.C. & Blank, M.A. (1991) *Teaching from a Research Knowledge Base: a Development and Renewal Process* (Facsimile edition). New Jersey: Prentice Hall.

Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education: Principles, Policy & Practice, 5*(1), 7-74.

Black, P., & Wiliam, D. (2009). Developing the theory of formative assessment. *Educational Assessment, Evaluation and Accountability* (formerly: *Journal of Personnel Evaluation in Education*), *21*(1), 5.

Black, P., Harrison, C., Lee, C., Marshall, B., & Wiliam, D. (2004). Working inside the black box: Assessment for learning in the classroom. *Phi Delta Kappan, 86*(1), 8–21.

Borich K. (2000). *Educational Testing and Measurement*. New York: Harper Collins Publishers.

Boud, D. (2000). Sustainable assessment: Rethinking assessment for the learning society. *Studies in Continuing Education*, *22*(2), 151-167.

Bowen, L., Marshall, M., & Murdoch-Eaton, D. (2017). Medical Student Perceptions of Feedback and Feedback Behaviors Within the Context of the "Educational Alliance". *Academic Medicine*, *92*(9), 1303-1312.

Butler, D., & Winne, P. (1995). Feedback and self-regulated learning: A theoretical synthesis. *Review of Educational Research*, *65*(3), 245–274.

Carolyne, C. &Daka, H. (2021). An Assessment of the Quality Service Provided to Children with Special Education Needs in Zambian Primary Schools. *International Journal of Research and Scientific Innovation*, *8*(6), 89–96.

Chappuis, S. &Stiggins, R. (2002). Classroom Assessment for Learning. *Educational Leadership*, *60*(1), 34.

Chipindi, F. M., Serenje-Chipindi, J. & Daka, H. (2021). An Analysis of Epistemological Considerations in Educational Research. *Journal of Lexicography and Terminology, 4*(2), 105-118.

Corbett, A. T., & Anderson, J. R. (2001). Feedback timing and student control in the LISP intelligent tutoring system. In D. Bierman (Ed.), *Proceedings of the fourth international conference on artificial intelligence and education* (pp. 64–72). Amsterdam, Netherlands: IOS Press.

Coverdale, J. H., Roberts, L. W., Balon, R., & Beresin, E. V. (2013). Writing for academia: getting your research into print: *AMEE Guide No. 74. Medical teacher, 35*(2), 926-934.

Crooks, T. J. (1988). The impact of classroom evaluation practices on students. *Review of Educational Research, 58*(4), 438-481.

Daka, H. (2019). *Perspectives on Course Management, Teaching and Assessment of Undergraduate Programmes at the Medical School of the University of Zambia*. PhD Thesis, University of Zambia, Lusaka.

Daka, H. (2019). Understanding the Correlation between Institutional Characteristics and Academic Performance: A case of Undergraduate Medical Students at University of Zambia. *Journal of Lexicography and Terminology, 3*(2), 96-116.

Daka, H. & Changwe, R. (2020). An Exploration of Education Quality in the Light of the Grade Point Average and Examination Attrition Rate. *International Journal of Humanities Social Sciences and Education, 7*(6), 196-207.

Daka, H., Banda, S. S., & Namafe, C. M. (2020). The Relationship between Course Management and Examination Attrition Rates among Undergraduate Medical Students at the University Of Zambia. *International Journal of African Higher Education, 7*(1), 97–112.

Daka, H., Sekelani, S. S. & Namafe, C. M. (2017). Course management, Teaching and Assessing Undergraduates at the Medical School of the University of Zambia. *International Journal of Humanities Social Sciences and Education, 4*(10), 10–18.

Dixon, H. R. (2011). Infusing peer assessment into classroom programmes: Descriptions of practice. *SET: Research Information for Teachers, 2*(1), 3-10.

Duijnhouwer, H., Prins, F. J., & Stokking, K. M. (2012). Feedback providing improvement strategies and reflection on feedback use: Effects on students' writing motivation, process, and performance. *Learning and Instruction, 22*(3), 171-184.

Eraut, M. (2006). Feedback. *Learning in Health and Social Care, 5*(3), 111-118.

Ferguson, P. (2011). Student Perceptions of quality feedback in teacher education. *Assessment & Evaluation in Higher Education*, *36*(1), 51–62.

Guénette, D. (2013). The pedagogy of error correction: Surviving the written corrective feedback challenge. *TESL Canada Journal, 30*(1), 117.

Hattie, J. (1999). *Influences on Student Learning*. Auckland: University of Auckland.

Hattie, J. (2011). Feedback in schools. In: R. Suton, M. J. Hornsey & K. M. Douglas (Eds.), *The Communication of Praise, Criticism and Advice*. Newyor: Pter lang publishing.

Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research, 77*(1), 81-112.

Husain, M. & Khan, S. (2016). Students' feedback: An effective tool in teachers' evaluation system. *International Journal of Applied and Basic Medical Research, 6*(3), 178–181.

Irons, A. (2008). *Enhancing learning through formative assessment and feedback*. New York: Routledge.

Jeffries, P.R. (Ed.). (2007). *Simulation in nursing education: From conceptualization to evaluation.* New York: National League for Nursing.

Kakupa, P., Tembo P., & Daka, H. (2015). Linking Teacher Effectiveness to School Performance: Evidence from Rural Day-Secondary Schools in Western Province of Zambia. *Zambia Journal of Teacher Professional Growth. 2*(2), 17-30.

Kluger, A. N., & DeNisi, A. (1996). The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin, 119*(2), 254.

Kuh, G. D. (2006). *What Matters to Student Success*. A Review of the Literature Indiana University Bloomington.

Metzler, M. (2017). *Instructional models in physical education*. New York: Routledge.

Moreno, R. (2004). Decreasing cognitive load for novice students: effects of explanatory versus corrective feedback in discovery-based multimedia. *Instructional Science*, *32*, 99–113.

Msango, H.J., Luchembe, M., Changala, M., Lisulo, S., & Anolt, L.H. (2014). *Innovations in educational assessment in Africa: A proposed framework for the Zambian secondary school sector*. Retrieved June 20, 2020, from https://www.researchgate.net/publication/340001127

Mubuuke, A. G. (2018) *Exploring health sciences students' experiences of feedback in a Problem Based Learning tutorial: A Case Study in an African Medical School.* PhD Thesis, Stellenbosch University.

Mulenga-Hagane, M., Daka, H., Msango, H. J., Mwelwa, K., & Kakupa, P. (2019). Formative Assessment as a means of Improving Learner Achievement: Lessons from selected Primary Schools of Lusaka Zambia. *Journal of Lexicography and Terminology*, *3*(1), 33-54.

Nicol, D. J., & Macfarlane-Dick, D. (2006). Formative assessment and self-regulated learning: A model and seven principles of good feedback practice. *Studies in Higher Education, 31*(2), 199-218.

Nicol, D. (2010). From monologue to dialogue: improving written feedback processes in mass higher education. *Assessment and Evaluation in Higher Education*, *35*(5), 501–517.

Njobvu, T. (2015). *Bridging the gender gap in Zambian University Administration.*LAP Lambert Academic Publishing.

Orrell, J. (2006). Feedback on learning achievement: rhetoric and reality. *Teaching in Higher Education, 11*(4), 441–456.

Pintrich, P. R. (2000). The role of goal orientation in self-regulated learning. In M. Boekaerts, P. R. Pintrich & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 451-502). San Diego, CA: Elsevier Academic Press.

Ramaprasad, A. (1983). On the definition of feedback. *Behavioral Science*, *28*(1), 4-13.

Roger, B. (2007). A new field of dreams: *The Collegiate Learning Assessment Project*, *6*(1), 26–29.

Sadler, R. D. (1989). Formative assessment and the design of instructional systems.*Instructional Science, 18*(2), 119-144.

Sadler, R. D. (1998). Formative Assessment: revisiting the territory. *Assessment in Education: Principles, Policy & Practice, 5*(1), 77-84.

Sadler, R. D. (2009). Transforming holistic assessment and grading into a vehicle for complex learning. In G. Joughin (Ed.), *Assessment, learning and judgement in higher education* (pp. 45-64). New Jersey: Springer.

Sadler, R. D. (2010). Beyond feedback: developing student capability in complex appraisal. *Assessment & Evaluation in Higher Education*, *35*(5), 535-550.

Shute, V. J. (2008). Focus on Formative Feedback. *Review of Educational Research, 78*(1), 153-189.

Subedi, D. (2016). Explanatory Sequential Mixed Method Design as the Third Research Community of Knowledge Claim. *American Journal of Educational Research*, *4*(7), 570-577.

Timperley, H., Wilson, A., Barrar, H., & Fung, I. (2007). *Teacher professional learning and development: Best evidence synthesis iteration*. Wellington: Ministry of Education.

Tyler-Smith, K. (2010). *Early Attrition among First Time e Learners: A Review of Factors that Contribute to Drop-out, Withdrawal and Non-completion Rates of Adult Learners undertaking eLearning Programmes*.Christchurch, Christchurch Polytechnic Institute of Technology.

Van Dijk, D., & Kluger, A.N. (2011). Task type as a moderator of positive/negative feedback effects on motivation and performance: a regulatory focus perspective. *J Organ Behav, 32*(8), 1084–105.

Vygotsky, L. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.

Wiggins, G. (1993). *Assessing student performance*. California: Jossey-Bass.

Wiliam, D. (2006). Formative Assessment: Getting the Focus Right. *Educational Assessment, 11*(3-4), 283-289.