

# Facilitating Self-Regulated Learning Through Effective Feedback

Dr. Kingsley Osamede Omorogiuwa \*

## Abstract

*This paper presents a position on the self-regulated learning phenomenon. The concept of lifelong learning lends credence to the idea of self-regulated learning. The role of feedback both internal and external is pertinent to effective self-regulated learning. Self-regulation involves active monitoring and regulation of a number of different learning processes: such as orientation towards learning goals; strategies to achieve goals; management of resources and effort exerted; and reactions to external feedback. Effective learners are self-regulating -- appraising task requirements; setting achievable goals; and selecting, adapting or inventing strategies to achieve the stated goals. Self-regulated learners set up monitoring strategies to monitor their progress as they participate in the learning task, regulating intrusive emotions and declining drive as well as adjusting strategies targeted to promote success. Literature supports the view that self-regulated learners are meta-cognitively, motivationally, and behaviorally active in their own learning processes and in achieving their set goals. By developing the skills and habits to be effective learners, the self-regulated learner exhibits effective learning strategies, effort, and persistence. This paper presents how self-regulated learning can be facilitated through effective feedback.*

**Keywords:** self-regulated learning, effective learners, feedback, monitoring, intrusive emotions

## Introduction

The notion of lifelong learning is born out of the need to adjust and adapt to the ever changing world lending credence to the idea of self-regulated learning. This is not to say that the idea of self-regulated learning is new, but to emphasize that even though it has been a way of learners attaining their desired goal, there is a need to explore how learners can become more proficient in self-regulated learning practices and establish it as part of the learning system through feedback. Students generate internal feedback as they engage in learning activities and appraise progress towards goals. The more effective a learner is at self-regulation, the better feedback they generate and are more able to use the generated feedback to achieve their desired goals (Butler & Winne, 1995).

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\* Post Doctoral Fellow, Institute for Open and Distance Learning, College of Graduate Studies, University of South Africa. Email: omoroko@unisa.ac.za; kingsomorogiuwa@yahoo.com

Formative assessment is intended to generate feedback on performance to improve and accelerate learning (Sadler, 1998). Self-regulation refers to the degree to which students can manage aspects of their thinking, motivation and behavior in a learning programme (Pintrich & Zusho, 2002). Self-regulation involves active monitoring and regulation of a number of different learning processes: such as orientation towards learning goals; strategies to achieve goals; management of resources and effort exerted; and reactions to external feedback. Intelligent self-regulation demands that students be aware of the goals to be achieved against which learning achievement can be compared and assessed. In the school system this involves setting specific targets, criteria, standards and other reference points, as well as feedback about how the student's present state of learning and performance relates to these goals and standards (Nicol & Macfarlane-Dick 2006). Self-regulated learners actively interpret such external feedbacks from teachers and other students in relation to their internal goals. There is evidence in literature indicating that students can learn to become more self-regulated (Zimmerman & Schunk, 2001).

Over the years emphasis had consistently moved from teachers transmitting knowledge, to conceptualization of learning as a process whereby students actively construct their own knowledge and skills (Barr & Tagg, 1995; De Corte, 1996; Nicol, 1997). Students' exposure to learning materials leads to transforming these, sometimes discussing with others, in order to internalize meaning and make connections with previous knowledge. Popularization of terms like 'student-centered learning' has made learning the greater responsibility of the learner (Lea, Stephenson & Troy, 2003). Formative assessment and feedback are still largely controlled by and seen as the responsibility of teachers; and feedback is still generally conceptualized as a transmission process even though some researchers have recently challenged this viewpoint (Yorke, 2003; Boud, 2000, Sadler, 1998). In the traditional practice teachers 'transmit' feedback messages to students about their strengths and weaknesses, and students use this feedback to make adjustments for improved learning.

One of the problems with this practice however is that it leaves formative assessment exclusively in the hands of teachers, ignoring how learners can be enabled to develop self-regulation skills needed for learning outside the structured school system and throughout life (Boud, 2000). Another problem is the assumption that when teachers transmit feedback to students this information is easily decoded and translated into action. However, there is strong evidence that feedback messages are often not easy to understand and that students require opportunities for discussion and clarification before such feedback information can be used to enhance student learning (Higgins, Hartley & Skelton, 2001; Ivanic, Clark & Rimmershaw, 2000). Viewing feedback as a cognitive process involving only the transmission of information does not take into cognizance the way feedback interacts with motivation, interest and beliefs. There is evidence in literature showing that feedback both regulates and is regulated by motivation and beliefs. External feedback has been shown to influence how students feel about themselves and what and how they learn (Dweck, 1999).

**What is self-regulated learning?**

Self-regulated learning is the ability of an individual to understand and control his/her learning environment. Self-regulation capabilities include goal setting, self-monitoring, self-instruction, and self-reinforcement (Harris & Graham, 1999; Schraw, Crippen, & Hartley, 06; Shunk, 1996). Self-regulation is a self directed process and comprises a set of activities which learners apply to turn their mental abilities into useful skills (Zimmerman, Bonnor, & Kovach, 2002) and habits. Following a systematic process (Butler, 1995, 1998, 2002) based on guided practice and feedback is emphasized (Paris & Paris, 2001). Self-regulated learners set up monitoring strategies to monitor their progress as they participate in the learning task, regulating intrusive emotions and declining drive as well as adjusting strategies targeted to promote success. These are the students who are active in the learning process, asking questions, taking notes, and managing their time and their resources in ways that put them in charge of their own learning (Paris & Paris, 2001).

**Components of self-regulated learning**

The term self-regulated learning developed from the increased interest on self-regulation by academics in the 1980's, with researchers investigating on how students can become masters of their own learning processes. Sustained research had led to the development of models of self-regulated learning incorporating aspects of both meta-cognition and self-regulation with emphasis on self-monitoring (Dinsmore, Alexander, & Loughlin, 2008). Zimmerman and Schunk (2001; 2008) and linking motivation to self-regulation. There is a consensus among these researchers that self-regulated learners are meta-cognitively, motivationally, and behaviorally active in their own learning processes and in achieving their set goals. They develop the skills and habits to be effective learners, exhibiting effective learning strategies, effort, and persistence. A number of self-regulated learning strategies are applicable across different content domains.

According to Shuy et al, (2010) self-regulated learning consists of three components: cognition, meta-cognition, and motivation. The cognition component includes the skills and habits that are necessary to encode, commit to memory and recall information as well as critical thinking. Cognitive strategies are learning strategies that can be specific to a domain or content. Problem solving strategies and critical thinking skills are also pertinent. These involve a diversity of skills,, namely, identifying a particular source of information and reflecting on whether or not that information is coherent with one's prior knowledge. Learners can be helped to articulate and practice critical thinking by guiding them through comprehension activities such as asking them to generate questions before or during studies to focus the learner's concentration and encourage participation in discussions.

The meta-cognition component involves skills that enable learners to understand and monitor their cognitive processes. Meta-cognition consist of declarative knowledge that is knowledge about oneself as a learner, the factors that influence achievement; procedural knowledge that is knowledge about strategies and other procedures; and conditional

knowledge that is knowledge of why and when to use a particular strategy. Learners are often challenged in articulating their knowledge or in transferring knowledge from a specific content domain to another. The aim of self-regulated learning is for these strategies to first become clear and eventually applicable for the learner. While making learners do a demonstration can make knowledge visible, debriefing after the demonstration can make visible the difference between declarative, procedural, and conditional knowledge illustrating transfer of knowledge from one setting to another.

The motivation of learners relates to the beliefs and attitudes that affect the use and development of both cognitive and meta-cognitive skills. Motivation includes self-efficacy, that is, the degree to which one is sure of oneself about performing a given task or accomplishing a set goal. It is also influenced by one's epistemological beliefs concerned with the origin and nature of knowledge. Self-regulated strategy development includes goal setting, monitoring and displaying progress. Encouraging these strategies as a regular feature of instruction can assist learners to replace negative self esteem with self-confidence and a sense of oneself as an effective learner.

### **Feedback and self-regulated learning**

Nicol and Macfarlane-Dick (2006) defined good feedback practice as anything that might strengthen the students' capacity to self-regulate their own performance. They identified seven principles of good feedback practice for facilitating self-regulation as follows: it helps clarify what good performance is (goals, criteria, expected standards); facilitates the development of self-assessment (reflection) in learning; delivers high quality information to students about their learning; encourages teacher and peer dialogue around learning; encourages positive motivational beliefs and self-esteem; provides opportunities to close the gap between current and desired performance; and provides information to teachers that can be used to help shape teaching.

To achieve learning goals students need to understand those goals, see them as attainable and should be able to monitor progress toward reaching them (Sadler, 1989; Black & William, 1998). Since it is the students who set goals that serve as essential criteria for self-regulation there should be harmony between the students' goals and those of the teacher. Hounsell (1997) shows that tutors and students often have quite different conceptions about the goals and criteria. His study showed poor essay performance was correlated with the degree of mismatch between student and teacher expectations for essays in undergraduate courses in history and psychology.

Norton (1990) shows that students' ranking of specific assessment criteria for an essay task were completely different from rankings of their teachers; the former, attaching more importance to content above critical thinking and argument. Weak and incorrect conceptions of goals influence what students value in external feedback information. In order for students to be able to give proper interpretation to feedback they should share at least in part their teacher's conceptions of assessment goals, criteria and standards (Hounsell, 1997).

Providing students with written documents containing statements that describe assessment criteria and/or the standards that define different levels of achievement can help clarify task requirements. However evidence in literature shows how difficult it is to make assessment criteria and standards explicit through written documentation or through verbal descriptions in class (Rust, Price & O'Donovan, 2003). "Statements of expected standards, curriculum objectives or learning outcomes are generally insufficient to convey the richness of meaning that is wrapped up in them" (Yorke, 2003, p480). Orsmond, Merry and Reiling, (2002) write that providing students with "exemplars" of performance proved particularly useful in clarifying goals and standards. Exemplars are effective because they make explicit what is required. They define a valid standard against which students can compare their work.

To develop self-regulation students should be provided opportunities to practice regulating aspects of their own learning and to reflect on that practice. Naturally, learners are busy to some extent in monitoring gaps between internally set task goals and the outcomes that they are generating both internally and externally. However, in order to develop systematically the learner's capacity for self-regulation, teachers need to create more structured opportunities for self-monitoring and the appraisal of the attainment of set goals. Self-assessment tasks are an effective way of achieving this, as it encourages reflection on learning progress. McDonald and Boud (2003) show that training in self-assessment can improve students' achievement in final examinations. Taras (2001; 2002; 2003) has carried out a number of studies on student self-assessment in higher education which shows positive influence on students' achievement. Developing self assessment skills provide students with opportunities to assess and provide feedback on each other's work. Such peer processes help develop the skills needed to make objective judgments with reference to standards. These skills are transferred to regulating their own work (Boud, Cohen & Sampson, 1999; Gibbs, 1999).

Teachers have a principal role in developing students' capacity for self-regulation. They are also an important source of external feedback. Feedback from teachers is a source against which students can evaluate progress and check out their own internal constructions of goals, criteria and standards. Moreover, teachers are much more effective in identifying errors or misconceptions in students' work than peers or the students themselves. In effect, feedback from teachers can help substantiate student self-regulation (Nicol & Macfarlane-Dick, 2006).

Timely feedback from teachers is crucial and should not only focus on strengths and weaknesses but also offer corrective advice. Such advice can direct students to higher order learning goals and involves some commendation alongside constructive criticism. These feedbacks should help students develop effective self-regulation, they should help students trouble-shoot their own performance and self-correct; that is, the feedback helps students take action to reduce the discrepancy between their intentions and the resulting effects.

External feedback is effective when it is understood and internalized by the learner before it can be used to make productive improvements in self-regulation skills. Chanock (2000) and Hyland (2000) report there is evidence in literature that students do not understand the feedback given by tutors (e.g. 'this essay is not sufficiently analytical') and are not able to take action to reduce the discrepancy between their intentions (goals) and the effects they would like to produce. In other words, the student may not know what to do to make the essay 'more analytical'.

External feedback from teachers to students can essentially be a monologue, thereby leaving out the active role the student must play in constructing meaning from feedback messages. For feedback to be effective it has to be a dialogue, meaning students after receiving the feedback should be given the opportunity to engage with the teacher in a discussion about the feedback (Laurillard, 2002). Freeman and Lewis (1998) argue that the teacher 'should try to stimulate a response and a continuing dialogue – whether this is on the topics that formed the basis of the assignment or aspects of students' performance or the feedback itself' (p.51). The discussions with the teacher help students to develop their understanding of expectations and standards, to check out and correct misunderstandings and to get an immediate response to questions. This can however be a challenge in large classes. This challenge can be addressed by forming peer discussion groups where concerns can be handled.

Peer dialogue enhances in students a sense of self-control over learning individually. Students who have just learned something are often better able than teachers to explain it to their classmates in a language and in a way that is accessible to other students. Peer discussion exposes students to alternative perspectives on problems and to alternative tactics and strategies. By commenting on the work of peers, students develop detachment of judgment (about work in relation to standards) which is transferred to the assessment of their own work (e.g. 'I didn't do that either'). Peer discussion can be motivational in that it encourages students to persist; and it is sometimes easier for students to accept critiques of their work from peers rather than tutors.

Motivation and self-esteem are essential facilitators of learning and assessment. Dweck (1999) shows that depending on learners' beliefs about learning they form motivational frameworks. Their responses to external feedback and their commitment to self-regulation of learning are determined by these frameworks. Black and Wiliam (1998), however, note that feedback that draws attention away from the task and towards self-esteem can have a negative effect on attitudes and performance. They make the point that students need to understand feedback as an assessment of performance, not of the person. This is so whether the feedback derives from an external source or is generated through self assessment.

Studies on motivation and self-esteem help explain why students often fail to self-regulate. Motivation and self esteem are more likely to be enhanced when a course has many low-stakes assessment tasks, with feedback geared to providing information about progress and

achievement, rather than high stakes summative assessment tasks where information is only about success or failure or about how students compare with their peers.

Feedback influences behaviour and the academic work that is produced. According to Yorke (2003), two questions might be asked regarding external feedback: is the feedback of the best quality and does it lead to changes in student behaviour? Unless students are able to use the feedback to produce improved work, through, for example, the same assignment again, neither they nor those giving the feedback will know that it has been effective. (Boud, 2000:158). Closing the gap is about supporting students while busy in the act of working on a task (e.g., essays, presentations). It is also about providing opportunities to repeat the same 'task-performance-external feedback cycle' by, for example, allowing resubmission. While not all work can be re-submitted, many writers argue that re-submissions should play a more prominent role in learning (Boud, 2000). Also, greater emphasis may need to be given to providing feedback on work-in-progress (e.g., on structures for essays, plans for reports, sketches) and to encouraging students to plan the strategies they might use to improve subsequent work (Hounsell, 2004).

Good feedback provides information that helps teachers shape their teaching. The act of assessing has an effect on the assessor as well as the student. Assessors learn about the extent to which they (students) have developed expertise and can tailor their teaching accordingly (York, 2003:482) In order to produce feedback that is relevant and informative and meets students' needs, teachers themselves need good data about how students are progressing. They also need to be involved in reviewing and reflecting on this data and in taking action to help support the development of self-regulation in their students.

### **Conclusions and Recommendations**

Self-regulated learning is a skill that should become part of the school system. The challenges of living in a world of ever increasing knowledge create the resulting dynamics of coping with the rapid changes in career requirements and social demands. The formal school system is evidently not enough to build the capabilities to function effectively in a modern society. Embracing the skills of self-regulated learning will no doubt make the goal of lifelong learning more attainable. Developing such skills as goal setting, planning, self motivation, managing attention and concentration,, flexible learning strategies, self monitoring, seeking appropriate help and self evaluation are necessary ingredients for effective self regulated learning.

In the school system these skills can be developed quite early by helping the learner clarify what good performance is by guiding them to set realistic and attainable goals. Learners should develop the practice of self assessment as a way of working effectively toward the attainment of set goals. The development of self-regulated learning capacity is highly dependent on the quality of feedback learners get from teachers. Feedback should be timely and based on objective criteria. Feedback should not only be limited to identifying strengths

and weaknesses but include advice on how the weaknesses can be overcome and the strengths sustained. Peer dialogue should be encouraged as a self-regulated learning practice. This is so because the ability to critique a peer's work enables one to apply this learning in one's own situation. There is an air of openness when peers critique each other's work, which furthers the possibility of learning from anyone even though such a person is not certified as a master in a field.

A well motivated learner develops the proper self-esteem and the resilience required for a successful academic pursuit. Feedback provided by teachers should help students to be self-motivating and build self-esteem by ensuring that feedback addresses the work and not the personality of the student. Students should be given the opportunity to re-take a test or re-do assignments after feedback. Thus the effect of feedback can be better determined and students can be better motivated to learn. Feedback should also not be seen as beneficial to the learner only but also to the teacher as it should be used to reshape the teachers' instructional delivery strategy to better address the needs of learners.

To develop and sustain a system of self-regulated learning it is recommended that training workshops be organized on self-regulated learning for teachers to enable them engage in it effectively. Empirical studies should be done to work out strategies for effective self-regulated learning in specific contexts.

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