

CONNECTING MOTIVATION AND REINFORCEMENT TO LEARNING ACHIEVEMENT: INSIGHTS FROM TANZANIAN PRIMARY AND SECONDARY SCHOOL STUDENT-TEACHERS

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Abstract: Physical activity is an important tool for integration and inclusion that leads to respect for diversity because the need to move is also fundamental in the person with disabilities as it expresses their physical, emotional, mental, and social potential that emerges in the dimension in which the subject is in tune with himself, the family, the community and the world in general. Motor activities represent a privileged meeting point of diversity, which is thus included without distinction using the abilities of each one. The heterogeneity of students with special educational needs requires the implementation of a variety of responses that, by combining good didactic/educational planning with innovative pedagogical devices, are able to carry out individualized and personalized interventions by enhancing the resources of the school community. The present work, focusing on corporeality as a cognitive device, opens a reflection on the way in which to operationalize the educational process by initiating and implementing new personalized teaching protocols.

Keywords: Learning, quality, motivation, reinforcement, curriculum, pedagogical skills

Introduction

Students-Learning in any country is always becoming at the centre of policy discussions. It occupies a central role in determination of individual living standards as well as the welfare of nations. To cope with new and rapidly changing conditions in an increasingly interdependent world economy, those who receive good educational training are likely to access, interpret and utilize massive available information for problem-solving together with improving their living standards. To that effect, it requires a higher quality of good student-learning environment that will provide young people and adults with knowledge including appropriate professional skills in order, to function effectively in the new educational environment.

Bhatia (1995) argues that the most important factors that are necessary for effective student learning are the teacher, the taught student and the curriculum. Of these three, the teacher is the most important constituent because he/she the one who facilitates the process of learning where teaching can be conducted as he (ibid) states that: “of all the different factors which influence the quality of education, and in contribution to material development, the quality competent teacher is the most significant factor for having effective student-learning.”

Basing on his argument above Bhatia, he views teachers to be the most factors to enable student- learning to take place. Again, Clandinin (1995) supports him that teachers are the most factors for making enough high quality of students to acquire effective student-learning. They believe that the process of becoming a professional teacher, however, is a lifelong process, which involves years of acquiring knowledge on the teaching, learning process, trying out new teaching style that engage learners, observing others, effective classroom management, good preparation, effective use of teaching/learning materials, receiving and giving feedback.

Those who believe that students themselves are the most factors for having effective student learning processes rather than teachers they believe on that a person's ability to perform a job is limited by lack of knowledge or skills, and therefore to bridge that gap it requires students themselves to be able to receive the knowledge given by teachers. Joyce and Shaw (1992) point out that student's readiness of the students in classroom facilitates easy teaching-learning processes. Showing the similarity between teaching and learning, they (ibid) argue that learning is the insulation of mental and physical nimbleness and knowledge, most teaching contains an education component since the recipient needs to have background (Joyce and Showers 1988). Creation of effective student-learning may equally depend on the skills of recipients to learn over increasing knowledge and practice and how to consolidate them. Silberman and Auerbach (1998) add that the key to student-learning is how the learning activities are designed so that the participants acquire knowledge and skills rather than merely receiving them.

On the other side of the coin, some scholars believe on that curriculum for one way or another is the most determinant factors for effective student-learning processes. The presence of students 'readiness, teachers well equipped with pedagogical skills are not enough to enable students' learning processes without having a clear curriculum designed. Osaki (1996) still maintains that curriculum as a part of pedagogy must be taught carefully to teachers in order to make them so competent enough in teaching. He (ibid) argues that curriculum process is cyclic and it involves activities like situational analysis, methods, organization of learning opportunities and assessment of strategies all of which are interrelated and interdependent factors for effective student-learning processes in primary and secondary schools. The curriculum is at the centre of the education process for it is through the process of effective development, implementation and evaluation of the curriculum that the education aims, goals and objectives are achieved. Curriculum includes systematic and planned teaching and learning experiences provided under the guidance of existing educational institutions. The process of curriculum development involves four basic elements: the learner, the teacher, and the content and intended learning outcomes to meet society aspirations (Osaki, 1996).

The curriculum covers the formal and hidden or silent curricula. The formal curriculum comprises a range of core obligatory and voluntary choice of subjects; the informal one covers extra curriculum activities such as gardening, sports, school debates, drama etc. All these informal elements are usually planned at the level of school administration as they complement and enrich the formal curriculum. Good teaching curricula for secondary teachers must therefore be relevant, up-to-date and should equally balance and promote cognitive, psychomotor and effective skills of the learners.

Approaches of Teaching-Learning Processes

There are three main approaches of teaching- learning on which the tripartite ways of learning (teacher, student and Curriculum) should follow them in order for him/ her to teach or learn effectively. These are: cognitive approach, behaviourist approach and constructivist approach.

The Cognitive Theory of Teaching and Learning:

Cognitive theories of teaching and learning first expounded by Edward Thorndike who lived from 1874-1849 are particularly significant for teaching and learning to the students. The profounder of this theory believed that learning is defined as an observed response to particular stimuli. It is an important development of teachers and other educationalists to understand the cognitive development of learners in order to sequentially arrange concepts in the curricula according to the need of learners. Thorndike's early experiments on animals led him to theorize that successful acts of animals towards stimuli were strengthened by virtue of their having followed by presumable effects. He later referred to learning as the strengthening and weakening of bonds or connections between situations and how one acts on the situation. This work led to the establishment of behaviourist theories of teaching and learning which were subsequently developed by other psychologists like Ivan Pavlov who lived from 1849-1936 and Skinner from 1904-1968(Thorndike, 1911).

Cognitive theory primarily emphasizes complex intellectual processes such as thinking, language and problem-solving as major aspects of the learning process. Behavioural studies on animals in learning situations provided useful models of the simpler processes of human learning, but their application to the human situation has been widely criticized because of their limited relevance to school problems (Thouless, 1969).

In this connection, Thouless (1969), Fensham and Kass (1985) have warned against the reliance on findings obtained from experiments with animals, arguing that these experiments oversimplify the educational situation. Whereas in animal laboratory the environment for experiments may be simple, less crowded and controlled while in classroom is more complex.

Thouless (1969) still argues that Pavlov's experiments and, hence, his findings still have significance in countries like Tanzania in teaching and learning both primary and secondary schools where *teacher-centred approach* still prevails and a teacher is regarded to be the owner of all knowledge and skills while students are assumed to know nothing. Therefore, this approach cannot be applicable teaching and learning processes to take place in Tanzania simply because:

- It is the teacher who talks and acts while the learner simply stays seated doing nothing;
- The teacher assumes all the authority that he/ she is a master of the subject in question;
- The learner memorizes facts without deep understanding of the content;
- Learning process becomes a source of external motivation in order to take place. For example, a student needs to learn hard in order for it to be rewarded and once there is no reward he/she cannot learn;
- Students primarily work alone;

- The teacher is supposed to transfer knowledge from his/her head to the students rather than from ongoing changes;
- Students' minds are viewed as empty vessels into which information is poured; and
- Assessment of learning is based on test and is separated from teaching.

The Behaviourist Approach of Teaching and Learning Processes

This group of thinkers define learning as an internal process of sense making and interactive process in which the learner is a subject that creates meaning. By contrast, the natural science approach views learning as a change in behaviour facilitated and observed through acquisition of information (Good and Brophy, 1986).

Learning, therefore, is not an observable activity but must be inferred through observing performance (Bower and Hilgard, 1981). The fundamental structure of learning can be reached by examining what individuals extract as meaningful experiences in their interaction with the learning materials, and genuine learning can only result from lived experience. This implies that the mere acquisition of information is not learning unless it is incorporated in one's experience.

Behaviourist approach/ theory to teaching focus on training. The aim is to identify and manage certain stimuli so as to bring about the desired behaviour. The approach might conflict with the notion of "teaching" on the other hand but on the other hand it might fit with some societal traditions, such as respect for adults.

The approach advocates that when a new concept or topic is introduced with students within the classroom, teachers are expected to observe the students closely enough to identify any changes that warrant positive or negative reaction. Bower and Hilgard (1981) describe how teachers can systematically categorize their student's behaviour as either desirable or undesirable; dealing with each behaviour positively or negatively by applying potential stimuli and reinforce in order to bring about modified desirable changes in behaviour.

The approach has been criticized by some theorists including constructivists who argue that the behaviourists' ideas are irrelevant in the third world countries including Tanzania whose its learning environment is still poor. For example, they argue that the large class sizes like those found in Tanzania and other developing countries may not facilitate such approaches and systematic observation. Teachers devise their own strategies for dealing with desirable and undesirable changes in their particular changes. This sometimes may hinder effective teaching student-learning processes.

Galton (2007) points out that student-learning in both primary and secondary schools can be defined as changes in students' behaviour that take place as a result of being engaged in an educational experience. He (ibid) further identifies five main types of student-learning as:

- a. Verbal information: like facts, names, principles and generalizations.
- b. Intellectual skills: "knowing how and why" rather than "knowing that". These can be arranged in an increasing order of complexity, with more intellectual skills being built upon the simple ones.

c. Attitudes: An attitude may be defined as student' feeling towards some particular object or idea. The fostering of certain attitudes, such as those towards ethnic minorities or towards school subjects, are important to educational outcomes.

d. Cognitive strategies: ways in which the student is able to control and manage the mental processes involved in learning, including strategies for attending, thinking, memorising, and dealing with novel problems.

e. Motor skills: like playing musical instrument or operating a word –processor.

Therefore, the Galton's ideas to some extents are line with Bloom's Taxonomy of educational objectives where Bloom specifies three important domains of learning such as: cognitive, effective and psychomotor. The cognitive domain, for example, is categorized into six types of intellectual skills like: knowledge, comprehension, application, analysis, synthesis and evaluation. This approach enabled the various types of educational outcomes to be specified in the great detail, and has formed the basis of specifying the objectives for teaching adopted by numerous curriculum developers (Galton, 2007).

In additional, Jarvis (2005) tries to enumerate types of learning emphasizes two important distinctions in student-learning. The first is a distinction between reception and discovery learning. The second is a distinction between rote and meaningful learning. He (ibid) further argues that in reception learning the entire content of what is to be learned is presented to the learner in its final form. The learner is required to internalize and incorporate the material presented. But in contrasting, in discovery learning the content of what is to be learned has first to be discovered by the student through some learning activities.

The Constructivist Approach of Teaching and Learning Processes

Kelly (1970) developed an approach about how people make sense of themselves and the world around them. A central notion of his approach is that all women and men are scientists and each of us has personal ideas, philosophies and theories about the world (Kelly, 1970). He meant that each of us understands the world in which we live by erecting a personally organized system of interpretations or constructs of experienced events. According to him, it is useful to see constructs as bipolar, to emphasize the fact that we affirm and negate something at the same time, a way of distinguishing similarity from difference. The theory also holds that our constructs are organized into a system; they are linked and integrated into a hierarchical structure containing many sub-systems. Through our system of personal construct, we are able to predict and control our interpersonal world and form our guidelines for living.

Again Kelly (1970) described a school run along construct theory lines and saw learning as a personal exploration, and the teacher as a facilitator who helped to design and implement each child's own understanding. To become a fully accredited participant in the experimental enterprise he/she must gain some sense of what is being seen through the child's eyes (Bennel, 2004). However, Kelly's constructivism could be an exciting and dangerous concept in Tanzania situation, because most teachers in Tanzania are still maintaining "*teacher-centred approach*", so the concept of personal exploration is still problematic from becoming a reality.

The criticism here lies in the reality of teaching subjects in the classroom. If we accept Kelly's view, we are saying that in teaching subjects the teacher will have to bear with his/ her students as far as they pursue their studies and exploration, until their desire reaches a limit where both the teacher and students agree on negotiable conclusion. In other words, there would be no basis for the teacher to judge the students wrongly as the students can defend their construct of a particular teaching concept.

Motivating Factors towards Student-Learning Processes in Tanzania

After passing through the above approaches on how they can guide tripartite ways of learning (a teacher, a learner and curriculum), the most important question here is "what motivates student learning in primary and secondary schools taking Tanzania as a case study? This question is very important to the educationalists because it provides a good direction to follow in enhancing the quality of education in Africa, particularly, in Tanzania.

We must bear in our mind a clear distinction between learning that must take place by an individual as a natural part of interacting with the environment, and the specific learning that is intended by the teacher himself (Bower and Hilgard, 1981). If truly we refer to Piaget' approach of teaching and learning, learning is the inevitable consequence of the individual's interaction with the daily environment. It is a long process from the individual's biological drive towards adaptation of the daily environment. In this case, any educational experience that requires students to interact in some way with the learning-tasks in hand will always result in some learning.

In this regard, if someone poses a question about, what are the motivating factors towards students-learning processes? In answering that question, the one will be required to explain the ways through which students will make a positive mental effort towards the learning tasks. If again, students will be asked when they felt most motivated towards school learning; their answers will lie on one of two categories: "*when I was really interested in the work*" or *when I had to*". These two categories one of the most important distinctions made in considering students-learning processes, *between intrinsic motivation and extrinsic motivation as far as* both primary and secondary schools' students-learning in Tanzania. Under *intrinsic motivation*, stems from directly a biologically based on drive of curiosity of various issues surrounding the students. Such motivation involves an interest in the learning task itself and also satisfaction being gained from the task. This is well known that human beings are born with a strong desire to explore their environment and to seek out stimulation (Thouless, 1969) and Child (2007) and Jarvis (2005). The most analysis of intrinsic motivation to the students-learning has focused more on the intellectual curiosity aspect. The intrinsic motivation includes satisfaction from undertaking the task because one may find engaging in the task is satisfying in some way. For instance, building up skills and competencies can often be pleasurable in themselves. Students can spend hours practicing motorcycle or toys skills using hands because the development of hand-eye coordination skills is intrinsically satisfying. One important to note her under intrinsic motivation is that the students find the tasks pleasurable and satisfying themselves.

In Tanzanian context, the intrinsic motivation to a large extent has brought several positive effects to students-learning in both primary and secondary schools as; it can be long-lasting and self-sustaining, because the efforts to build this kind of motivation are typically efforts at promoting student-learning. Such efforts often focus on the

subject rather than rewards or punishment. When students have a sense of control over their learning, their intrinsic motivation improves, and they are likely to persist at tedious academic tasks, and they learn to process information at deeper level. Intrinsic motivation produces students with the real interest in the subject matter who learn for learning's sake. Under intrinsic type of motivation students are enjoying exploring the material and mastering it, they do not look at learning as a way to get things; instead, they get emotional and intellectual satisfaction from learning. It is though this motivation, we see now in Tanzania a large number of students are enrolled in both primary and secondary schools.

In contrast, extrinsic motivation refers to the learning situations where the impetus for the motivation stems from the fact that successful completion of the task is a means towards some other hand. Extrinsic motivation is reward-driven behaviour. It is a type of operant condition. Operant condition is a form of behaviour modification that uses reward or punishments to in cease or decrease the students' specific behaviors will recur. The forms of extrinsic motivation are like: praise, fame, money to be used for specific activities. Under this type of motivation, the person's satisfaction is derived from the fact that completing tasks lead to an end that they value and is not derived from the task them. If the same end could be reached by engaging in some other tasks more easily, the person would happily switch tasks since it is the end that matters not the task itself. A simple example of extrinsic motivation would be doing a task for using money. Under this scenario, motivation stems from the desire for money, not because one found the task interesting. Clearly, the success in school learning can satisfy a whole range of needs that can form the basis for extrinsic motivation. The main objective for school learning is the desire to earn status, esteem, approval and acceptance in the eyes of others like friends, peers, teachers and parents).

It is well noted that although intrinsic and extrinsic motivation are contrasted with each other, it is vividly to note that most tasks involve a mix of the two. Moreover, students may be high in their levels of both intrinsic and extrinsic motivation like; they find the subject matter i s interesting in its own right and success in the subject is important to the students in terms of achieving other ends. The notion of intrinsic and extrinsic motivation is playing a great role to the effective student-learning in both primary and secondary schools in Tanzania. The extrinsic motivation Tanzania has resulted several effects to both primary and secondary schools as follows: it can be used to motivate a whole classroom and therefore some weak student (slow-learner) can increase their efforts and achieve good performance; some students who had bad behaviour can change their behaviour and adapt good behaviour, this lies on the fact that students are seeing with their eyes and therefore they are motivated positively to very hard.

The idea of seeing motivation as deriving from an attempt to satisfy one's needs is very helpful in preparing student-learning. This idea lies with the work of Maslow (1987), who points out that an individual's basic needs can be arranged in a hierarchy, with lose lower in the hierarchy being 'pre-potent'-that needing to be satisfied as a matter of greater priority in relation to needs higher in the hierarchy. According to Maslow's hierarchy starts from the lowest level to the highest level as follows:

- Physiological needs: such as need for food and oxygen

- Safety needs: needs for security, freedom from anxiety, Safe working conditions, job security based in compensation and benefits.
- Belongingness and love needs: the need to feel one belongs, and the need to give and receive love.
- Esteem needs: need for achievements, competence, mastery and need for status and prestige.
- Need for self-actualization: the need to realize one’s potentiality.

Therefore, Maslow’s hierarchy contributes to a meaningful role to the student-learning motivation. His idea also draws attention to the importance of making sure that those needs lower in the hierarchy like needs for comfort, safety, security and acceptance are being met when educational processes of learning is taking place and therefore to draw upon the higher needs of esteem and self-actualization are set up. Furthermore, Maslow point out the issue of “peak experiences”, he refers it as moments of intense delight and ecstasy involved in being at one ‘with experience at the level of self-actualization. He argued that a worthy and important goal for education is to generate such peak experiences as a result of ego-enhancing involvement in school learning.

Taking Tanzania as an example, the student-learning processes in primary and secondary schools has been affected positively by both intrinsic and extrinsic motivation. The need for students’ achievement appears to involve both intrinsic motivations, particularly, the need to develop competence of the students-learning processes. Due to this, the number of enrolments for students in both primary and secondary schools in Tanzania has been increasing every year. Table 1 below shows increasing of enrolment number of the student-learning in Tanzania between the year 2015-2020 from nursery, primary, secondary and University level

Table 1: Increasing of Enrolment in Tanzania for Five Years (2015-2020) (Tanzania Mainland) Education System:

AGE	GRADE/CLASS	SCHOOL/COLLEGE LEVEL	Total Number of Enrolment 2015-2020 Percentage wise
23	3-5 Years	University level	85%
22	2 Years	Diploma level	
21			
20			
19	Form VI	A-Level Secondary School	75%
18	Form V		
17	Form IV	O-Level Secondary School	
16	Form III		
15	Form II		
14	Form I		
13	Standard VII	Primary School	65%
12	Standard VI		
11	Standard V		
10	Standard IV		
9	Standard III		
8	Standard II		
7	Standard I		



6	2 Years	Nursery School	55%
5			

Source: MOEVT (2020).

Table 1 shows that motivation played an important role in student-learning processes in Tanzania. The table shows that majority of students in Tanzania were positively motivated to join in schools because of intrinsic and extrinsic motivation which they received either during or after being recruited in education system in Tanzania. Therefore, the findings supported vividly that in order student-learning process to take place, motivation is the cornerstone for attracting students to join in schools.

The notion of reinforcement to a large extent has also contributed positively to the student learning in Tanzania. Slavin (2006) points out that, reinforcement is one of behavioural theories which stick on the process of shaping behaviour by controlling the consequences of the behaviour. In reinforcement theory a combination of rewards and/ or punishments is used to reinforce desired behaviour or extinguish unwanted behaviour. Any behaviour that elicits a consequence is called *operant behaviour*, because the individual operates on his or environment. Reinforcement theory concentrates on the relationship between the operant behaviour and the associated consequences, and is sometimes referred to as operant condition. Under reinforcement theory suggests that individuals can choose from several responses to a given stimulus, and that individuals will generally select the response that has been associated with positive outcomes in the past.

That idea was developed later by Skinner who was a key contributor to the development of modern ideas about reinforcement theory. Skinner argued that the internal needs and drives of individuals can be ignored because people learn to exhibit certain behaviours based on what happens to them as result of their behaviour.

REINFORCEMENT, PUNISHMENT AND EXTINCTION IN STUDENT LEARNING PROCESS IN TANZANIA

It is well known that there are two types of reinforcement: positive and negative reinforcement. Positive reinforcement results when the occurrence of valued behavioural consequences has the effect of strengthening the probability of the behaviour being repeated. The specific behavioural consequence is called reinforce. Negative reinforcement results when an undesirable behavioural consequence is withheld, with the effect of strengthening the probability of the behaviour being repeated. Negative reinforcement sometimes some people are confusing wit punishment, but they are not the same. Punishment tries to increase the probability of specific behaviours; but negative reinforcement attempts to increase desired behaviour. Thus, both positive and negative reinforcement have the effect of increasing the probability that a particular behaviour will be learned and repeated. Punishment always attempts to decrease the probability of specific behaviours being exhibited. Punishment is the administration of an undesirable behavioural consequence in order to reduce the occurrence of the unwanted behaviour. Punishment is one of the more commonly used reinforcement –theory strategies, but many learning experts suggest it should be used only if positive and negative reinforcement cannot be used or have previously

failed, because of the potentially negative side effects of punishment. Extinction is similar to punishment in that its purpose is to reduce unwanted behaviour.

How does Reinforcement Contribute to Student-Learning Processes in Tanzania?

To answer that question, one can stick directly to the roles contributed to student-learning, taking an example primary and secondary schools in Tanzania. First, it has drawn attention to the relationship between pupils'/students' behaviour, like paying attention, disrupting other pupils and how the consequences of the behaviour for the pupil/ student influence its future occurrence.

This has made majority of students to prefer to go to schools rather than doing other tasks which are not related to education and the results the enrolment of students has been increasing year by year starting nursery level, primary, secondary and higher learning institutions (table 1). Second, through reinforcement, now Tanzania Institute of Education (TIE) is well equipped to design the best education programs or curriculum which can fit to teach students well according to our environment to either long-term or short-term education programmes. This to a large extent has speeded up the enrolment number of students in student-learning processes.

Conclusion

The main conclusion that can be drawn is that, reinforcement can be useful linked to student motivation, since both success in learning tasks and the behaviors used by teachers to encourage student effort like praise, achievement awards, and avoidance punishment can constitute reinforcement. Moreover, the linkage between reinforcement and student motivation also draws attention of assuming that such teacher behaviors are in fact reinforcing when the opposite may be the case. For instance, overt praise for a student in the context of an anti-school ethos in the class may not be reinforcing at all, if that student's need for acceptance by peers as a member of an anti-school clique is undermined by such praise. This is similarly to reprimand for a student, as a form of punishment, delivered in a context where the student is attention-seeking may be experienced as a reward and act to reinforce the student' misbehavior. To avoid this dangerous way, the teacher needs to be sensitive to the student's social context and values in determining what actions will constitute reinforcement

Recommendations

Based on the study findings of student-learning processes in Tanzanian context, and ensuing conclusions, the following recommendations are made by this paper: first and foremost, the government through the Ministry of Education Science and Technology (MoEST) should provide and support general and specific in-service training programs, especially for the crash trained teachers, so that they become more knowledgeable and skilled in the teaching and learning processes. This will enable both reinforcement and motivation to take place in student learning g process. Second, both moral and material incentives should be given to both types of teachers (primary and secondary) in order to motivate them including improvement of working environment, salaries, teaching allowances and other fringe benefits. This to a large extent will motivate teachers and students. Third, the MoEST should provide enough funds for teaching and learning materials. The availability of teaching and learning materials will simplify motivation and reinforcement among students. Fourth, the MoEST and other education

stake-holders should construct enough classes, make desks and buy textbooks to schools so as to enable both teachers and students to have a conducive classroom environment. Fifth, the zonal and district primary and secondary school's inspectorate officers should conduct frequent schools' inspections in order to monitor both students and teachers in their day-to-day activities. When these measures will be taken and implemented seriously by government and other education stake-holders, student learning process in Tanzania will be at the high stage.

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