Chapter 12


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Introduction

Behaviour Modification is the traditional term for the use of empirically demonstrated behaviour change techniques to increase or decrease the frequency of behaviours. This may have to do with altering an individual's behaviours and reactions to stimuli through positive reinforcement of adaptive behaviours as well as the reduction of behaviour through its extinction and/or satiation. Reportedly first used by Edward Thorndike in 1911 the term behaviour modification is now used in clinical psychology to refer to psycho-therapeutic techniques derived from empirical research. It has since then come to refer mainly to techniques for increasing adaptive behaviour through reinforcement and decreasing maladaptive behaviour through extinction or punishment (with emphasis on the former). Behaviour modification is actually a form of Behaviour Therapy that is now known as applied behaviour analysis. In educational psychology, behaviour modification techniques may thus include a series of teacher-implemented activities and actions aimed at improving productive classroom behaviour. According to Akinade (2012) Behaviour Modification is a process of changing weak, deficit or excessive behavior using learning theories like classical and operant conditioning approaches. It is a psychotherapy that is aimed at identifying and dealing with undesirable behaviour by use of relevant treatment like reinforcement or punishment. According to Zirpoli and Mellow (1993) behaviour modification is one of the different methods and philosophies of dealing with “inappropriate,” “abnormal,” or “undesirable” behaviour that focuses mainly on observable, describable, and measurable behaviours. The emphasis in behavior modification is on increasing positive behavior rather than just attempting to decrease maladaptive behaviour, hence the idea on bolstering weak learning outcomes rather than punishing poor performance.
According to Zull (2003) Student Learning Outcomes (SLOs) are the specific observable or measurable results that are expected subsequent to a learning experience. These outcomes may involve knowledge (cognitive), skills (behavioral), or attitudes (affective) that provide evidence that learning has occurred as a result of a specified course, programme activity, or process. An SLO refers to an overarching outcome for a course, programme, degree or certificate, or level of attainment at the end of a learning experience. SLOs may thus describe a student’s ability to synthesize many discreet skills using higher level thinking skills and to produce something that asks them to apply what they’ve learned. It encompasses a gathering together of smaller discrete objectives through analysis, evaluation and synthesis into more sophisticated skills and abilities. There is a wide array of modifying learner behavior that can be grouped under two; those for increasing desirable behavior and those for reducing excessive or maladaptive behavior. Example of behavior techniques include shaping, prompting, chaining, flooding, modeling and stimulus control, overcorrection, extinction, punishment, reprimands, time out and proximity control.

Notwithstanding the wide array of these positively oriented techniques, it is not uncommon to find that most teachers still find it much easier to use only coercive disciplinary measures to modify learner behavior. This is based on the belief that it is necessary to cause suffering to teach or like the teacher has to hurt the learner to get an edge over him in order to teach him (Marshall, 2000). Teachers are always on the lookout for deviants who are immediately given punishment that may range from flogging, kneeling down, grass cutting, washing dirty toilets and suspension to outright expulsion depending on the magnitude and perpetuity of the deviant act. The situation is so bad that some teachers don’t believe students can be better handled using softer, subtle and more positive means of modifying their learning behaviors. Teachers assume or satisfy themselves with the illusion that they have the control of their students using these techniques. But the irony of punitive or aversive techniques is that the more you use it to control student’s behavior the less influence you have over them and if a teacher begins to have less positive influence over the learner then the learning process is marred. One cannot expect better learning outcomes from such situations. It is therefore necessary to examine teachers’ understanding and use of alternative behavior modification techniques that can bolster learning outcomes in the class.

Moreover in recent times students’ poor academic performance has been attributed to the school teachers’ poor student academic behaviour management. The use of punitive or aversive techniques does not seem to yield any significant success in managing classroom behavior let alone bolstering positive learning outcomes. As rightly observed by Nwokeji and Ezeawurukwe (2009) punishment and aversion elicit pain and coercion that may be counter-productive. The resultant effects on
learning outcomes as well as the academic achievement of learners have been a very controversial issue that gives a cause for further research. This is because teachers still rely on punitive measures that rather instill fear or hate in the learner, notwithstanding that they have better alternatives. It is apt to explore what better alternative learner behavior management techniques teachers can use to bolster learning outcomes using psychological approaches like behavior modification techniques in classroom situation.

The purpose of this chapter is therefore to examine different behavior modification techniques, their application and efficacy in bolstering learning outcomes among secondary school students in order to suggest interventions for re-engineering the teaching professional for higher productivity. It is to be understood that the teachers work more than anything else involves changing and molding the behavior of learners as inherent in the concept of learning; a relatively permanent change in behavior. It therefore behooves on the professional teacher to be well versed in the application of learning theories imbued with adequate behavior modification techniques to bolster learning outcomes. This by extension will help learners find more meaning in learning and by extension ultimately form bedrock in career development.

An Overview of Learner Behaviour Modification

There are many different methods and philosophies of dealing with inappropriate, abnormal, or undesirable behavior but the traditional student disciplining approaches of subduing and hurting in the course of teaching/learning are fast losing their potency even among Africans. According to Nwokeji and Ezeahurukwe (2009) these are no longer successful for many of the young people. In the same vein, Marshall (2009) maintains that people learn better if they feel better and are motivated. Simply put, behavior modification is the process of changing weak, deficit or excessive behavior using learning the basic idea of conditioning. According to Akinade (2012), it is a form of psychotherapy that is aimed at changing behavior using the tenets of operant and classical conditioning theories. Behaviour modification thus involves investigating behaviour to identify which one is appropriate and to be encouraged, which is inappropriate and to be dealt with or treated using relevant techniques. Anastasi (1982) also defines behavior modification as the direct use of major learning principles in the management of a behavioural change. This of course requires a good knowledge of the principles of behavior modification. According to Zirpoli and Mellow, (1993) behavior modification is based on behaviorists’ principles which operate on the tenets that behavior is controlled by antecedent events which occur before a behavior is exhibited, and by consequences which occur after a behavior is exhibited. These
antecedents and consequences can be changed in order to increase or decrease the chance that a given behavior will continue to be exhibited.

Principles of Behaviour Modification

According to Akinade & Adedipe (2004) behaviour modification is based on operational principles or fundamental ideas given below:

i. Behavior, appropriate as well as inappropriate, is learned so it can be unlearned if need be using scientific modification approaches.

ii. Behaviour is a function of the interaction of heredity and environmental variables.

iii. Learning is inferred from the individual's behaviour; a relatively permanent change in behaviour.

iv. Behaviour modifiers are concerned with current, specific and precise problems.

v. A number of techniques can be applied in behaviour modification such as reinforcement, modeling, role-playing, stimulation, systematic desensitization, counter-conditioning and a host of others.

Based on these principles, the teacher as a professional stake holder in the learning process has a great repertoire of guiding principles and techniques which he can harness and draw from for the purpose of molding and modifying learner behaviours to bolster learning outcomes. Of essence is the fact that such learning outcomes are bound to propel the learner towards sound career development and choice.

Theoretical Basis for Behaviour Modification

Some theories have attempted to explain the mechanism of behaviour as involved in the learning process and the proponents have in their postulations tried to build these theories to even explain the problems of learning. These are termed as learning theories that have found very useful applications in school settings as much at home and clinical settings. These are the:


b. Operant (Instrumental) Conditioning Theory Model.

c. Social Learning Theory Model

Suffice to briefly explain how these Models give basis for explaining the phenomenon of behaviour modification particularly in the learning process.

Propounded by Ivan Pavlov (1849-1936), Classical conditioning is premised on the establishment of stimulus response relationships. Its basic assumption arise from the result of a classical experiment involving the pairing of an unconditional stimulus with a neutral stimulus until the neutral stimulus elicited the unconditional response. It is also termed as signal learning or stimulus substitution to mean eliciting behaviour by giving out relevant signals or in substitution. Classical
conditioning is useful for curbing aspect of emotional behaviour like anxiety and fears which may be at base of poor performance in some subjects due to such fears. It can be used to bring attitudinal change of learners to school generally, hate subjects, teachers etc.

Operant conditioning was developed by B. F. Skinner who also use some sub-human animals like rats, cats and pigeons. Operant conditioning is the process by which an operant response is strengthened or weakened by the consequences that follow it. It is any learning that is based on response contingent reinforcement and does not involve choice among experimentally defined alternatives. Learning as an operant behaviour finds easy applications in the consequences that follow learning outcomes which can thus be bolstered. It can be applied to curb school and subject/topic phobias and other learning disorders.

The Social Learning theory is the product of the work of several theorists like Albert Bandura, Walters, Dollard, Miller, Sears and others. Albeit combining the tenets of both operant and classical conditioning theories, the social learning theory holds that, both cognition and social mediations influence human behaviour including learning. It upholds attributes of modeling, observational learning, imitation, copying, vicarious learning and acquisition of social behaviours from observations. It can be applied in the learning process when high profile learners are made to mentor others.

**Behaviour Modification Techniques for Bolstering Learning Outcomes**

Behavior modification techniques are aimed at manipulating the antecedents and consequences of behavior so that the likelihood of appropriate behavior is increased and inappropriate behavior is decreased. Proactive behavior modification interventions which avoid the utilization of aversive consequences, involve teaching new and more appropriate skills (positive programming). Thus to reduce an inappropriate behavior, an appropriate behavior must be taught as an alternative. The Institute of Community Integration (1995) observes that in using behavior modification there is need to look at the frequency and the intensity at which the behavior is exhibited, and the rate at which the student is able to learn new behaviors. Some behavior modification techniques are used for increasing desirable behavior while others are used for reducing maladaptive behavior. Either way, we have both positive and negative approaches. It's therefore apt to look at the techniques that can be used for decreasing the rate of inappropriate or excessive behavior and those that can be used for increasing or strengthening appropriate behaviour that is weak.
Behaviour Modification Techniques for decreasing inappropriate Learner Behaviour

In the teaching/learning process, the concern may be with teaching new behaviours but there are some learner behaviours that are counterproductive and as such more than anything else need to be decreased to facilitate learning. Methods which can be used to decrease inappropriate learner behaviour are: extinction, reinforcing incompatible behavior, punishment/reprimands, counter-conditioning, differential reinforcement procedures, modeling, stimulus satiation, systematic desensitization, self-monitoring/management, time out, cognitive restructuring, shaping etc. Suffice to expatiate briefly on a few of these techniques.

**Extinction** is the technique which is used to reduce the rate of undesirable learner behaviour by discontinuing the reinforcement that follows the behaviour. This causes the behaviour to be reduced to a relatively low level. Extinction refers both to procedure and behavioral effects. Whereas the procedure involves the removal of the reinforcing stimulus maintaining a particular behaviour, the behavioral effects refers to the decline in frequency of the behaviour. (Akinade & Adedipe, 2004). Its main application in the learning process is attempting to ignore attention seeking behaviour or a mistake prone child as he struggles to read a passage in class. Other excessive behaviours that can be reduced by extinction include noise making, reading frustration etc. The down side to the application of the extinction method is the extinction burst which show by way of temper tantrums increase in intensity of the sanctioned behaviour such that some teachers may fall the prey of yielding to whims of the learner thereby reinforcing even the worse form. The teacher in using extinction to manage behaviour must be well aware of this and withstand it while also attempting to eliminate peer attention from class members.

**Reinforcing Incompatible Behavior** - this involves looking out for those who display appropriate behaviour to reinforce them amidst those displaying inappropriate behaviours. Examples include reinforcing or rewarding punctual students amidst late comers, reinforcing those who attend all Maths lesions or submit all Maths assignment each week among runaways and making school homey for truants. What happens is that the learner with undesirable behaviour would watch the trend and get seduced to behave well even without being coerced.

**Punishment** - punishment is simply the act of inflicting pains on an erring individual to suppress further occurrence of such behaviour. More technically, punishment is the presentation of an aversive stimulus or event after the occurrence of a particular behaviour by someone who is interested in suppressing that behaviour (Akinade and Adedipe, 2004). It is similar to negative reinforcement but they differ in the sense that whereas punishment brings about decrease of inappropriate behaviour, negative reinforcement brings about increase in the targeted behaviour. When the teacher cannot control the reinforcing factors he can punish offenders to
bring about a temporary decrease in the troublesome behaviour. For punishment to be effective it must follow certain principles of immediacy and consistency. Even at that, punishment is criticized because it can only produce a temporary change in the modified behaviour especially if there is inconsistency. The learner may also be preoccupied by the punishing agent (teacher) and try to rather avoid him and the punishment rather than positively modifying their behaviours. Such undesirable behaviour never ceases after all but still perpetuated behind the scenes. Punishment is also said to elicit operant aggression as the punished attempts to build a wall of defense. Due to its negative approach to modifying learner behaviour it has limited therapeutic applications. The variants of punishments like time out and response cost are more humane and effective alternatives to outright punishment. These can be used to control behaviours like lack of concentration and inattention as well as hyperactivity among learners.

Counter-conditioning- this is the joint presentation of both negative and positive stimulus in a way that makes the former neutral or slightly positive and vice versa. For example the learning of a difficult and non-interesting subject is presented alongside with a thrilling learner experience like using interesting video games to teach such difficult subjects and concepts.

Systematic Desensitization- this is the approach whereby a fear response can be inhibited by substituting a learning activity which is antagonistic to the fear response like a play way or pleasurable learning approach. The anxiety or fear response here is inhibited by the treatment process of inducing calmness or relaxation. For students with particular fears for science and mathematical subjects they could be helped to inhibit their anxious thoughts about such subjects by being desensitized or counter-conditioned. Systematic desensitization is a gradual process that can employ a learner's fantasy or occur in real life experiences following some marked steps from training in progressive relaxation, construction of anxiety hierarchies, and the combination of these in the desensitization process. It works by gradually exposing the learner in small steps to the feared learning situation while actually learning activity that is antagonistic. Teachers can use this approach to handle anxiety induced learning deficiencies and timidity.

Self-Monitoring and Self-management- self-monitoring is the technique that involves observation and recording of one's own behaviour with the aim of managing it positively. It draws its strength from its reactive effect on desirable and undesirable behaviours and their management.

Self-management on the other hand involves self-participation in designing and carrying out the behaviour modification programme. The teacher helps the learner to arrange cues and their consequences around him to facilitate the development of the desirable behaviour. In application, the learner can be taught to manage his concentration while in class by putting away all distracting materials like
their handsets, pictures and unrelated lesson materials. To encourage his study behaviour at home the learner can be taught to arrange his/her room to create study friendly environment with reading tables and chairs rather than just a bed.

Modeling- Modeling is an instructional procedure that attempts to prompt imitation of appropriate behavior through demonstration of that behavior. It is an approach that helps the learner to overcome fears and inhibitions by observing models as they confront their typical learning difficulties. It works by showcasing brilliant learners who can mentor and help deficient students aspire to do more as they watch them perform un-arrogantly. Modeling is useful for teaching new technical and life skills and for reducing academic failure. It is also useful for overcoming excessive and inhibitory timidity. For skill acquisition in particular, modeling proves very useful in the career development process. Like in the industrial training scheme, learners benefit a great deal as they observe others perform their occupational roles.

Behaviour Modification Techniques for Bolstering Weak appropriate Learner Behaviour

There are some appropriate learner behaviours which should be encouraged, especially when they are not strong enough. So rather than just focusing on decreasing undesirable learner behaviour, teachers can pay attention to bolstering the appropriate behaviour that seems so weak. Examples of behavior modification which can be used to increase weak desirable behavior are: shaping, praise and approval, positive programming, token economy, self-monitoring. Suffice to briefly look at some of these techniques.

**Shaping**—shaping is a procedure whereby the individual is trained to acquire a desired behaviour by reinforcing every appropriate response made to bring him closer to the target behaviour while eliminating the undesirable competing behaviour through non-reinforcement. Also termed as successive approximations, shaping is an operant technique in which the behaviour change agent (BCA) first determines how close the learner is to a desired behaviour then proceeds to reinforce from that point. For Akinboye (1992) shaping is the continuous contingent, consistent and generous reinforcement of crude approximations of the differentiated unit. Shaping has to do with reinforcing closer and closer approximations of desired behavior so that in bits of efforts the learner willingly tries to achieve more. According to Akinade and Adedipe (2004) three main principles underlie the technique of shaping and these are generalization, habit competition and chaining. Shaping finds useful application for teaching complex skills and concepts as well as for remedying learning and social skills deficits.

**Positive Programming**—Positive programming is a gradual educational process for behavior change involving systematic instruction in more effective ways
of behaving. Positive programming teaches new behavior over time and is based on full functional analysis (Lavigna and Donnellan, 1986). The Institute on Community Integration (1995) advocates for positive programming as part of any type of behavioral intervention to increase the options in a student’s repertoire in order to provide more choices for the student. In essence—it’s proactive behavior modification intervention which involves teaching new and more appropriate skills (positively programming the learner); to reduce an inappropriate behavior, an appropriate behavior must be taught as an alternative. This stresses the need to work towards bolstering weak appropriate learner behavior.

**Praise**—Praise is a positive verbal attention for appropriate behavior and it has the potency of modifying learning as it nourishes the psychological health of the learner. It is also termed as verbal reinforcement which is reinforcing comments delivered contingent upon appropriate behavior. For example telling a child who has done well in an area something like, good job or that’s a wonderful performance.

**Premark Principle**—Premark Principle states that any highly preferred activity can serve as a positive reinforcement for a less preferred activity. It is useful for selecting reinforcers that can be used on a wide range of students and as well help in using non tangible reinforcers.

**Token Economy**—Token economy involves reinforcing appropriate behaviour with tangible reinforcements or tokens that can later be exchanged for privileges or desired objects. The ultimate in token economy is that as the learner acquires the desired behaviour it will become itself as rewarding and worth maintaining even without further tokens.

**Choice of Learner Modification Techniques**

Looking at these behaviour modification techniques discussed in preceding sections, it can be seen that some are positively oriented while others are negatively oriented. A study was conducted to investigate the differential influence of behavior modification techniques on bolstering learning outcomes among secondary school students and it was found that use of positive behavior modification techniques has far more significant positive influence on bolstering learning outcomes among secondary school students. Dungurawa and Bello (2014) had actually found in particular that positive reinforcement had the effect of reducing the inattentiveness symptoms of treatment group. When inattentiveness is reduced it will have a multiplier effect on the learning outcomes of such individuals. Ahmed’s (2013) had also found that positive reinforcement is effective in reducing absenteeism among secondary students. Nwokeji and Ezeharukwe (2009) also found that students who are rewarded positively for a particular behavior are better motivated to learn while on the other hand aversive techniques, especially punishment inhibits learning and rather makes the learner and the learning process frustrated.
For choice of technique, Zirpoli and Mellow, (1993) assert that the least intrusive and restrictive intervention deemed likely to be effective should be chosen when deciding on which technique to use. For example, if a student is likely to respond to verbal praise in increasing assignment completion behavior, it would be unnecessary, and perhaps even detrimental, to implement a token economy in changing this behavior. This of course requires ingenuity on part of the teacher and that the teacher puts on his thinking cap always to discern between what can offer optimum learning outcomes for the learner in different learning encounters. This is what Denga and Akuto (2004) term as psychological and educational forces operating together in the classroom which require that the teachers be adequately trained in psychological principles to provide them with a compendium of learner behavioural insights and their applications in the classroom. The re-engineering of Teaching involves making use of scientific approaches carefully designed to bring about optimum learning outcomes with ingenuity and inventive cleverness.

**Implications for Re-engineering of Teaching for Career Development**

The present day learner has a different orientation to discipline, so disciplinary approaches like punishment and coercion no longer yield much success. A good number of them are not exposed to hardy patterns of discipline from home and it does not go down well with them even in the classroom situation. Teachers and the teaching/learning process should be re-engineered through training and retraining of practicing teachers in behavior modification techniques to keep abreast with best practices and new productive trends in managing classroom behaviors as well as bolstering learning outcomes among learners.

Developing proficiency in managing learner behavior for higher productivity is actually very crucial for ultimate career development among teachers. Bolstering learning outcomes meaningfully also translates into meaningful career decisions even for the learners. A purposeful instructional activity will most likely serve as a benchmark for related career plans among secondary school students where foundation for career development is laid.

**Recommendations**

In view of the categories of the learner behaviour modification techniques discussed in preceding sections it could be seen that these techniques range from those that help in decreasing undesirable learner behaviour to those that help in bolstering weak behaviours. Of these categories, some are positive techniques while some are negative. Teachers should be trained in the use of positive behavior modification techniques like modeling, shaping, reinforcement, Premark principle and others to give them better tools for bolstering learning outcomes among their students. Care should also be taken to ensure that while decreasing undesirable
learner behaviour positive programming should be made a part of the classroom management to help the learners develop good skills.

Adequate requisite exposure should be given to learners using appropriate modification techniques in the classroom and in industrial training (IT) sites to lay a sound foundation for career thought and development.

Teacher training Institutions should be particularly encouraged to review their syllabus and training programmes to incorporate acquisition of skills for modifying learner behavior to prepare teacher trainees ahead of time.

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