CHAPTER TWO
THEORIES AND MODELS OF LEARNING THAT UNDERPIN THE STUDY

2.1 INTRODUCTION

In Chapter Two, theories and models that are relevant to the investigation are discussed with a view to showing how they informed and guided the study. According to Hergenhahn and Olson (2005:23), a model can be used to understand what is less known. Unlike a theory, a model is typically not used to explain a complicated process; rather it is used to simplify the process and make it more understandable. Hergenhahn and Olson (2005:23) further postulate that the use of models involves showing how something is like something else. A theory, however, attempts to describe the process underlying a complex phenomenon (Hergenhahn & Olson, 2005:23). Reinforcement theory, for example, is an attempt to explain why learning occurs. It is not an attempt to show what learning is like, as would be the case with a model. Another practical example is the concept of motivation, where one might say that an organism acts like a mule with a carrot dangling before it, or might say that the physiological state of hunger is interacting with previously learned habits, causing the organism to run (Hergenhahn & Olson, 2005:23). In the former case, a model is being used to describe behaviour; in the latter case, a theory is being used in an attempt to explain behaviour.

For the purpose of this study, models are investigated to determine how they are similar to the principles underlying READ's training model. The main aim is to use these models in an attempt to understand the phenomenon under study. In a similar line of thought, theories of learning are investigated to explain the phenomenon under study, namely the impact of READ's training programmes on Grade 4 learners' writing competencies. Programme evaluation suggests that the behaviour of the participants be studied so that one can make inferences concerning the process believed to be the cause of the behavioural changes (Hergenhahn & Olson, 2005:5).

For hundreds of years, man has been concerned about what distinguishes him from animals and other living organisms. The possession of a sound mind and the ability to learn has always been recognized as a major characteristic of human beings. During the

last century, many psychologists and researchers in the field of cognitive development sought to understand the concept of learning and the cognitive processes of the human brain.

Resultantly, the current reconstruction of the South African Education System has entailed a variety of government policy statements (White Papers), task team reports, national and provincial laws, and developments in the field of curriculum studies in order to improve the quality of learning in schools.

Psychologists have also been interested in answering when and how learning begins and develops. How does the learning of the infant differ from that of the older child? Are there universal principles of human and animal learning? What processes are involved in the acquisition of new habits and new knowledge? How can these processes be studied? What are the most effective strategies for learning or remembering? These questions prompted many psychologists both here and abroad to isolate and describe the processes and laws of learning (Clarke-Stewart, 1985:344).

Early in the last century, psychologists started filling their laboratories with dogs, rats, birds and cats, pigeons playing ping-pong, and horses that could count, all with a view to achieving the above goal. In addition to that, it has in recent years increasingly come to be realized that, for the implementation of improved strategies in education, the effective unit is the individual school where the process of teaching and learning occurs. Co-operation amongst service providers and the Department of Education is, therefore, very valuable, but on a day-to-day basis it is the uniqueness and the culture of the individual school "that has the most impact on the quality of learning" (Davidoff & Lazarus, 1997:2). Although research findings and recommendations by various psychologists and prominent educational scholars revealed a great deal about how the mind works, there is still very little consensus concerning a clear definition of the "learning" process or its components.

The first section of this chapter thus consists of an analysis of learning from both historical and modern perspectives.

2.2 THE CONCEPT OF LEARNING

Educational literature provides various definitions of the concept of learning. According to Nieman and Monyai (2006:72), learning is regarded as an active, lifelong process of experience and attaching meaning to experiences that eventually change the individual. In other words, learning is not seen as a product or result of the individual's genetic predisposition. Rather it entails change in the learners' insight, comprehension, behaviour, perception or motivation and this change leads to added knowledge or the ability to do something that the learner could not do before (Nieman & Monyai, 2006:72). They further stipulate that learning is always regarded as the acquisition of new knowledge, skills and attitudes. This understanding of learning is important for this study because it helps in unpacking the concept of READ programmes as seen by Grade 4 educators. Learning forms an integral part of the conceptual framework which underpins this investigation. This study seeks to gauge the perceptions of Grade 4 educators on READ's training programmes. It is also aimed at assessing the impact of READ's training programmes on Grade 4 learners' writing competencies. In order to address the above research problems, one would have to determine the extent to which change in performance through conditions of activity, practice and experience has occurred (Nieman & Monyai, 2006:4). According to Hergenhahn and Olson (2005:6), learning refers to a change in behaviour potentiality, and performance refers to the translation of this potentiality into behaviour.

Broadly speaking, one can deduce that learning has taken place when a person has acquired knowledge of something that was previously unknown to him/her, or when he/she can do something he/she previously could not do. On a less superficial level, to learn means more than just the acquisition of knowledge and skills as described above. Almost everything people do is influenced by previous experience (Jordaan & Jordaan, 1995:498). Previous experience, in the form of education, training, practice, and life experience, usually leads to behavioural changes, and such changes are attributed to learning which has occurred in one way or another. Jordaan and Jordaan (1995:498) further stipulate that the study of learning comprises the study of the behavioural changes initiated both by formal learning situations and by life experiences.

As previously mentioned, the complexity of the concept of learning suggests a holistic analysis of both historical and modern views on the matter because it relates to a different

set of circumstances in the life of the individual. For instance, human skills, appreciations and reasoning, in all their great variety, as well as human hopes, aspirations, attitudes, and values, are generally recognized to depend for their development largely on the events called learning (Gagne′, 1985:1). Anderson (1999:6) supports this view when contending that, late in human history, learning has been an important area of research and that the main reason for the early interest in learning was Charles Darwin's theory of evolution which captured the imagination of the intellectual world with its emphasis on how natural selection had changed species so that they were better adapted to their environment. Gagne′ (1985:2), for instance, states that learning is a change in human disposition or capability that persists over a period of time and that it is not simply ascribable to processes of growth. According to Carson *et al.,* (1995:83), learning is the modification of behaviour as a consequence of experience and it is also the central theme of the behavioural approaches which are in turn organized around a central theme, namely the role of learning in human behaviour.

Seemingly, there are many definitions of the concept of learning. For example, Kimble (1967), in Houston, (1991:4) developed a definition that says learning is a relatively permanent change in behaviour that occurs as a result of reinforced practice. Standton and Ettinger 1989, in Houston, (1991:6) define learning as a specific and relatively permanent change in an animal's potential produced by the environment. Hall (1989), also in Houston (1991:6), on the other hand, defines learning as a neurological process that arises from experience and is inferred from changes in the organism's behaviour. Crider *et al.,* (1989), in Houston (1991:6), characterize learning as a relatively permanent change in immediate or potential behaviour which results from experience. Contrary to Crider's view of the concept of learning, Anderson (1999:4) presents learning as a process by which long-lasting changes occur in behavioural potential as a result of experience.

Surprisingly, contemporary writers such as Peel and McGarry (1997:699) present a totally different view of the concept of learning as their premise is based on the metaphor that perceives the student as a worker who helps produce knowledge. They regard learning as the results of what schools produce. According to Peel and McGarry (1997:699), schools cannot by themselves totally control whether students learn or not, just as companies cannot totally control their results (i.e. profits), which depend on customer responses and many other factors. However, schools can control the quality of the work that educators give learners in order to facilitate their learning. The researcher tends to agree with this

view of learning because it sees learning as a social construct. This is the view that underpins READ programmes.

At first glance, readers might easily assume that learning is what schools, or more specifically educators, directly produce. But this factory/manufacturing metaphor begins to break down when one considers that unlike factories, schools cannot control their inputs (i.e.the characteristics of the learners they accept). As a result, the learning processes are not the actual outputs since many factors other than educators' efforts determine the outcomes of the process. For example, scholars such as Hughes (1990:22) define learning as a process that needs to be action based. According to him, learning is most effective through actually doing things, rather than simply reading or hearing about them. He further posits that activity methods of various kinds play an increasingly important part in educational institutions whether the action is simulated or real.

On the other hand, Plug *et al*., (1987), in Kruger (1989:129) perceive the term "learning" as an aspect with a wide meaning and which also refers to relatively permanent changes that are the results of experience due to processes underlying or causing these changes. Jordaan and Jordaan (1995:498) further highlight important characteristics of the learning process or processes that presumably underlie or give rise to perceivable changes in behaviour in situations involving practice, teaching and life experience. They also perceive the concept of learning as a process that is influenced by a multiplicity of principles and factors such as goal-setting, distribution of learning time and knowledge of results (feedback). An awareness and knowledge of those factors will give us a clearer perspective of the learning process. A discussion of early philosophical ideas on learning is presented in the next sub-section.

2.2.1 Early Philosophical Ideas on Learning

For many decades, a great deal of attention has been given to an understanding of the concept of learning. Worldwide, many scholars and psychologists came up with varying viewpoints and ideas on learning. Since the quality of learning has always been an important concern in education and training, it is necessary to discuss a number of philosophical ideas on learning.

2.2.1.1 Behaviourism

In the past, learning was mostly regarded as the reactions of individuals to their environment. The consequences of their actions shaped their behaviour, and learning was regarded as a conditioned response to stimuli (Nieman & Monyai, 2006:73). This "behaviouristic" view of learning was the greatest influence on education in the previous century and still continues to influence education as is evident from the role that drill and practice, rewards, reinforcement and the breaking of negative behaviours in the classroom plays (Nieman & Monyai, 2006:73). They further state that educators use these techniques in the classroom because behaviourists believe that human behaviour is orderly, predictable and, in particular, controllable.

Behaviourism is an approach to psychology that started in the United States at the beginning of the twentieth century when behaviourists sought to develop theories about the behaviour of an organism with no reference to what might be happening in the mind of the organism (Anderson, 1999:3). Behaviourism as a school of psychology was founded in 1913 by the American psychologist John Watson. Although the days of psychology "schools" are distinctly over, its pervasive influences are still quite evident today. Watson's emphasis on conditioning, within the behaviourist framework, was also instrumental in stimulating enormous interest amongst American psychologists in the scientific study of learning.

According to Watson (1958), in Weiten (1992:7), behaviourism is a theoretical orientation based on the premise that scientific psychology should study only observable behavior. Watson simply implied that psychologists should abandon the study of consciousness altogether and focus exclusively on the behaviours that they could observe directly. Hamacheck (1995:243) supports this view when positing that behaviouristic psychology is a theoretical position that focuses attention on behavioural action and reaction including the use of reinforcement. Similarly, Hjelle and Ziegler (1987:10) maintain that learning became the central focus of interest for those of behaviourist persuasion and, in large part, it remains so today. READ's training programmes are underpinned by the behaviourist's assumptions. For instance, READ trainers made use of various incentives during the implementation of READ's language programmes. For example, learners were provided with silver or gold stars for average and excellent performance. They also received incentives such as mugs, caps, t-shirts and rulers for

participating in the READATHON competitions. Similarly, the educators were provided with awards and certificates as a token of appreciation for their ability to implement READ's training programmes in schools.

Interesting though, is the fact that contemporary behaviourists also view the study of personality as a branch of the general field of learning and their imprint upon personality theory, therapy and research has been great (Hjelle & Ziegler, 1987:1). Behaviourism has profoundly influenced the study of personality because of its emphasis upon the centrality of learning in personality development, the necessity of rigorous scientific research in the personality field, and the relevance of animal investigations for understanding aspects of the human personality.

According to Anderson (1999:3), learning was central to the behaviourists. They thought that most human and animal behaviour could be understood as the result of basic learning mechanisms operating on the experience provided by the environment. Of note is the fact that much of the behaviourist research on learning took place with non-human animals for ethical reasons (Anderson, 1999:3). Compared to psychoanalysis and central state materialism, behaviourism attempts to move away from an intra-psychic theory of man. Behaviourism does not try to localize behaviour in the central nervous system, but it tries to locate it between the individual and the environment (Kruger, 1989:25).

Halgin and Whitbourne (1997:142) purport that behaviourists actually attempt to determine the functional relationships between events in the environment and the behaviour of the individual. Consistent with this emphasis on observable phenomena, behaviourists consider psychological disorders as behavioural responses that the environment controls, rather than conditions whose origin lie within the person. Because most human behaviour is learned, the behaviourists addressed themselves to the question of how learning occurs. Carson *et al.,* (1995:83), note that they focused mainly on the effects of environmental conditions (stimuli), on the acquisition, modification and possible elimination of various types of response patterns, both adaptive and maladaptive.

However, radical behaviourists go even further by maintaining that the individual is under the control of the environment of which an important component is the verbal community. It is not surprising that READ Educational Trust also applies a holistic approach to language development where four basic language skills, namely reading,

writing, speaking and listening are over-emphasised in the implementation of its training programmes. READ's model is also based on the premise that language learning occurs through the mimicking of language concepts that are articulated by adults. For READ Educational Trust, the learner's environment is of vital importance to the whole concept of language development. It is therefore imperative for language educators to ensure that they impart accurate language concepts to children. Moreover, since radical behaviourists such as Skinner support this viewpoint when postulating that the real world is, indeed, scrambled in transmission, but later reconstructed in the brain, one must therefore start all over again and explain how the organism sees reconstruction (Skinner, 1964:87, in Kruger,1989:25).

From the behaviourist's perspective, learning involves a very wide range of human behaviour and should be related to corresponding laws and principles that apply to those situations. Thus learning may include such activities as acquiring vocabulary, memorizing a poem, grasping a scientific principle or solving a mathematical problem, as much as it may involve such skills as operating a typewriter, driving a car, swimming, and so on. Similarly, READ's training programmes are structured in such a way that they afford learners the opportunity to be involved in role play and independent learning. READ's materials are designed in such a way that they encourage primary school learners to do independent writing which is in accordance with behaviourism as a theory of learning. Primary school learners are also afforded the opportunity to do individual projects in the classroom. Basically, READ's language programmes are activity-based in the sense that more time is allocated to learner activities. This aspect is reflected in the Balanced Literacy Programme as indicated in the fourth chapter.

For learning to be effective, it must be ego-involved, consciously or otherwise, the individual primarily concerned with making the best possible adjustment to his/her environment, and thus securing for himself the maximum amount of pleasure and satisfaction. The most significant thing about human learning is that successful learning is its own reward because of the feeling of satisfaction and well-being that it produces.

If this view of learning is accepted, then it would seem that teaching is not as important as it was once thought to be. In this context, the educator's role is quite obvious. His/her main task is to pose a problem, to set the stage, so to speak, to stimulate the child by making him/her see his/her possible involvement, and then to leave it to the learner. The

educator's assistance and support, external rewards and other incentives are mere aids to learning. The driving force for the process of learning must actually come from within.

Finally, it is imperative to point out that emotions are also inherent in the learning process. According to Anderson (1999:16), the three most important prerequisites for effective learning are now considered to be:

- Ego-involvement, that is, what the learner is required to learn must matter to him/her. He/she must really want to learn the material, preferably because he/she is interested in it;
- The learning must satisfy some need; and
- He/she must, sooner or later, feel happy and relaxed as a result of that particular learning experience.

According to Kruger (1989:26), behaviourism does not try to develop a method that is adequate to its subject matter, which means that behaviourism simply says that there is already in existence a pre-existent body of methodology namely that of the natural sciences, which should be applied to the human object as well. Thus, although behaviourism takes man out of the skull, the psychic aspect views him as being in relation to the world. It attempts to describe the phenomen of being human in terms of a purely objective observation of the behaviourist expression of such phenomena. For example, the behavioural expression of being angry is not studied directly, but instead an attempt is made to define anger operationally in terms of anger-expressing behaviour such as balling the fist, getting involved in fighting, shouting etc. A behavioural description will therefore specify the observable contingencies of what is usually described by being angry, but it will at the same time, not give us a good description of what the term anger means experientially and in action.

In a nutshell, Watson, the proponent and father of behaviourism, puts external observable behaviour as the central point of his view of learning. He, therefore, advocates abandoning such concepts as consciousness and introspection which are regarded as vague and meaningless (Louw & Edwards, 1995:225). He dramatically shifted the focus of psychology from inner psychic processes to outer behaviour that is outwardly observable. Watson postulated that the proper starting point for understanding people is through the study of their behaviour, i.e. what they do, not what they think or feel

(Hammacheck, 1995:17). A summary of the behaviourist tradition is presented in Table 2.1 below.

Table 2.1 Behaviourist tradition: Summary

Theoretical Field	Theorist	Theory of expertise	Theory of acquisition	Theory of instruction	Theory of assessment
Educational Psychology	James		Principle of contiguity		
	Pavlov		Classical conditioning		
	Thorndike		Law of effect	Teach bonds that "go together"	
	Watson		Conditioned Reflexes		
Educational Psychology	Skinner		Operant conditioning	Teaching machines	Continuous assessment (implied)
Curriculum Development	Carroll			Model of school learning	Prior assessment of "aptitude" (implied)
	Bloom	Mastery level. Taxonomy of instructional objectives. • cognitive • affective		Mastery learning	Formative assessment for • certification • flexible learning at course level
	Keller			Personalized system of instruction	Formative assessment • certification • flexible learning at unit level

(Adapted from Hodgkinson, 1998:52)

The bottom line here is that, according to behaviourism, behaviour can be dramatically altered, shaped, controlled and manipulated through the use of reinforcements. Of note though is the fact that behaviourist literature is silent in as far as a consistent explanation of what a stimulus and a response is, and how these two are to be clearly distinguished under all circumstances. Kruger (1989:26) states that only a circular definition seems mostly to be used, in terms of which a stimulus is something that elicits a response, whereas a response is something elicited by a stimulus. There is, therefore, some work to do for the researchers to be able to come up with convincing definitions of these two concepts.

The next sub-section deals with classical conditioning as another form of learning.

2.2.1.2 Classical conditioning

Classical conditioning was discovered by the Russian psychologist, Ivan, Pavlov, who conducted a study on dogs. Conditioning as a form of learning also occurs in human beings. According to Van Aarde and Watson (1993:72), conditioning simply implies that change in response or behaviour has taken place which means that some form of learning has taken place.

From a psychological perspective, conditioning is a specific, simple form of learning. But there are two different types of conditioning, namely classical conditioning and operant conditioning. This section deals with classical conditioning. Weiten (1992:192) postulates that classical conditioning is a type of learning in which a stimulus acquires the capacity to evoke a response that was evoked by a similar previous stimulus. The term 'conditioning' comes from Pavlov's determination to discover the conditions that produce this kind of learning. In general, classical conditioning occurs when a stimulus elicits a particular response which is consistently paired with a neutral stimulus that does not elicit the response (Holmes, 1994:24). Van Aarde and Watson (1993:76) stipulate that classical conditioning is a passive form of learning whereby a person is exposed to two stimuli at the same time, and then learn to respond to the neutral stimulus in the same way as the natural stimulus. From a Pavlovian perspective, the stimulus that originally elicited the response in his experiment is called the 'unconditioned stimulus', and the neutral stimulus that takes on the ability to elicit the response, is called the 'conditioned stimulus' (Holmes, 1994:24).

Over the years, this form of learning became known as respondent conditioning. Higher-order conditioning appears to be another important aspect of classical conditioning, which entails the conditioning of stimulus functions as though it was unconditioned. Classical conditioning is very relevant to our understanding of the learning process because it provides the basis for many inappropriate, emotional, physiological, and cognitive responses. It also occurs in different ways, namely acquisition or forming new responses, generalization of responses and extinction of responses. Processes of classical conditioning are discussed in the following sections.

(a) Acquisition: Forming new responses

Acquisition is the formation of a new conditioned response tendency (Weiten, 1992:196). According to Pavlov, the acquisition of a conditioned response depends on stimulus contiguity, which literally means two events at the same time. Therefore, Pavlov thought that the key to classical conditioning is the pairing of stimuli in time. According to Weiten (1992:196), stimulus contiguity is very important to the process of learning in classical conditioning. However, some learning theorists argue that contiguity alone does not automatically produce conditioning through the formation of new responses. Very often, people are bombarded with many stimuli that are perceived as being paired, yet only some of those pairings actually produce classical conditioning. Weiten (1992:196) further notes that evidence suggests that stimuli that are novel, unusual, or especially intense have more potential to become conditioning stimuli than routine stimuli, probably because they are more likely to stand out amongst other stimuli.

The literature further suggests that many factors are involved in the acquisition of classically conditioned responses. For example, the timing of the stimulus presented is also of crucial importance. Other approaches that maximize stimulus contiguity, such as simultaneous conditioning, have a minimal effect in establishing a new conditioned response. The generalization of responses is discussed in the next section.

(b) Generalization of responses

According to Holmes (1994:24), generalization can be defined as a process whereby the classically conditioned response is elicited by both the conditioned stimuli and new stimuli that are quite similar to the conditioned stimuli. Weiten (1992:198) supports this view when maintaining that generalization occurs when an organism that has learned a response to a specific stimulus responds in the same way to new stimuli that are similar to the original stimulus. Seemingly, the extent to which generalization occurs is a function of the similarity between the conditioned stimulus and the new stimulus. The greater the similarity between a conditioned stimulus and a new stimulus, the more likely it is that the new stimulus will elicit the conditioned response (Holmes, 1994:24).

Generalization greatly increases the number of stimuli that can elicit a particular conditioned response. At the same time, it can also make it very difficult to understand someone's responses. However, stimulus generalization is commonplace. A good example of generalization is a case where children have fear of women in fur coats that stemmed from their original problem with rats, cats, etc. Basically, their response to women in fur coats would be quite perplexing especially if their history of conditioning and the process of generalization is not known. Generalization is seldom used in the learning process. Following is a discussion of extinction and endurance as an important aspect of classical conditioning.

(c) Extinction and endurance of responses

Holmes (1994:245) defines extinction as a process whereby classically conditioned responses are eliminated especially when the conditioned stimulus is presented repeatedly without being paired with the unconditioned stimulus. It is the gradual weakening of a conditioned response tendency. Gagne (1985:28) further maintains that extinction is a kind of learning that results in the disappearance of the previously learned association. For example, the dogs automatically stopped salivating in response to the bell after they repeatedly heard the bell without getting any meat.

Extinction may occur over a long period of time and sometimes the conditioned response may reappear even after it was supposedly extinguished (Rackman, 1989, in Holmes, 1994:25). Weiten (1992:192) posits that spontaneous recovery has to do with the reappearance of an extinguished response after a period of non-exposure to the conditional stimulus. This is known as spontaneous recovery of the extinguished response. However, the recovered response is usually weaker than the original response, so it can possibly be extinguished again. It normally becomes a cycle where the process of extinction, spontaneous recovery and extinction may recur. Once a conditioned response is established, it may last indefinitely unless effective extinction procedures are introduced (Holmes, 1994:25).

One final and important point to mention is the fact that classically conditioned responses do not occur voluntarily once the conditioning process has been

completed. The response occurs whenever the stimulus is presented, and the subject will not fail to perform the response. For example, Pavlov's dogs were compelled to salivate whenever the bell rang. A discussion of operant conditioning is presented in the following section.

2.2.1.3 Operant conditioning

At approximately the same time that the Russian, Pavlov, was experimenting with dogs, an American educational psychologist, Edward Lee Thorndike, was undertaking experiments to determine whether cats could think, and how they learned (Louw & Edwards, 1997:236). Thorndike's conclusion was that behaviour which often leads to a satisfactory result is learned and vice versa. He therefore ascribed the learning process to the law of effect. Thorndike viewed learning as a mechanical process by means of which successful responses are learned gradually as a result of a favourable outcome being obtained. Thorndike's law of effect formed the basis of Skinner's investigation into operant conditioning. Louw and Edwards (1997:233) purport that higher-order conditioning proves that classical conditioning is not entirely dependent on the presence of an original stimuli as established conditioned stimuli can fulfil the same function. A good example is a person's conditioned response of fright when seeing an empty police vehicle which is the result of higher-order conditioning. The mere sight of the police van will not cause any fear unless it has previously been paired with another anxiety-provoking stimulus, possibly an unpleasant experience with a police man. In the light of this, the whole phenomenon of higher-order conditioning makes the processes of classical conditioning much more complex. This prompted many psychologists to conduct research into this type of learning (Louw & Edwards, 1997:233).

Weiten (1992:200) posits that operant conditioning is a form of learning in which voluntary responses come to be controlled by their consequences. Operant conditioning occurs when a response is followed by a reward or any form of reinforcement. For instance, the stimuli that govern the exams and grades do not actually precede it. Instead the process of studying is mainly influenced by stimulus events that follow the response especially its consequences. Skinner is the proponent of operant learning and the term was derived from his belief that in this process, an organism operates on the environmental rather than simply reacting to stimuli (Weiten, 1992: 200). Logically,

learning occurs because responses happen to be influenced by the consequences that follow them.

According to Weiten (1992:200), operant conditioning governs a larger share of human behaviour than classical conditioning, as most human responses are voluntarily conditioned rather than reflexive. People engage themselves in many activities simply because they need some form of reward or reinforcement. Holmes (1994:25) supports this view when purporting that operant conditioning occurs when a response is followed by a reward so that in the near future the organism is more likely to use the response in order to get the same reward. Operant conditioning is different from classical conditioning in the sense that the response is followed by a reward whereas classical conditioning is due to the simultaneous pairing of two stimuli.

Skinner, who ultimately became known as the father of operant conditioning, persistently advocated his viewpoint, namely that external influences, and not internal thoughts and feelings, control human behaviour, and that operant conditioning principles should be used to control people's behaviour at home, at school, in the work situation, and in society (Louw, 1995:258). Critics of Skinner and behaviourism maintain that people will be robbed of their personal freedom if their behaviour is controlled to such an extent. Other psychologists also criticized him so because he ignored the role of cognitive processes in human learning behaviour and because he did not emphasize the constraints of biological predispositions (Meyer, 1989, in Louw & Edwards, 1995:258). Operant conditioning involves a number of processes such as acquisition and shaping, extinction and stimulus control and generation and discrimination. For the purpose of this investigation, only acquisition and shaping are discussed. Acquisition and shaping are relevant to the study as they involve the acquisition of knowledge during the teaching and learning process.

(a) Acquisition and Shaping

As in classical conditioning, acquisition in operant conditioning is the formation of a new response tendency (Weiten, 1992:203). According to Weiten (1992:203), operant conditioning responses are normally established through a gradual process called shaping, which is in simple terms the reinforcement of closer approximations of a desired response. He further stipulates that shaping is quite necessary when

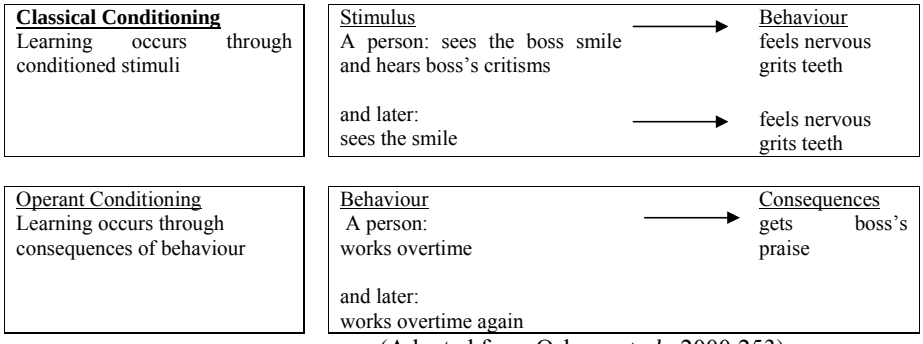
organizations are not in a position to emit the desired response themselves. Shaping is mostly used to train animals to perform impressive tricks and the results thereof are evident in zoos where animals are capable of riding bicycles, playing the piano, etc. Shaping can also be used to mould very complex human behaviour, such as programmed learning, which is an application of the shaping principle to educational effort (Keller, 1968, in Weiten, 1992:204). Programmed learning is nothing else but an approach to self-instruction in which information and questions are arranged in a sequence of small steps to allow active responding by the learner. He goes on to say that programmed learning also makes provision for rapid and regular reinforcement of learning efforts by giving the learners immediate feedback where the correct answering of questions lead to positive reinforcement. The whole process does involve shaping in the sense that it helps the learner acquire more complicated and complex responses through gradual and orderly reinforcement of smaller component responses.

From the above discussion, one can say that the processes of acquisition, extinction, generalization and discrimination in operant conditioning clearly parallel the same basic processes in classical conditioning.

Language educators should be knowledgeable about distinguishable commonalities in the behavioural manifestations of learning (Anderson, 2000:37). Language educators must also be aware of the need to create a tranquil classroom environment if primary school learners are to form associations during the learning process. Finally, the relationship between learning and motivation should also be taken into account. Of vital importance is the integration and application of the above elements of classical conditioning and operant conditioning as theories of learning. Reinforcement of good behaviour and rewards should always form part of the learning process.

Figure 2.1 highlights differences between classical and operant conditioning approaches.

Figure 2.1 Differences between classical and operant conditioning approaches



(Adapted from Osborn *et al.*, 2000:253)

The next section deals with the Social Learning theory.

2.3 THE SOCIAL LEARNING THEORY

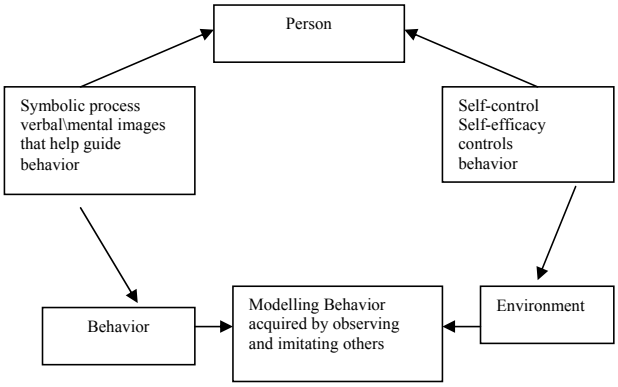
In the last few decades, a group of psychologists has begun to vehemently oppose the idea that most human learning processes are based on classical or operant conditioning (Louw & Edwards, 1995:273). They further argue that if all learning had been the result of rewards or punishment, and that if learning processes were mainly based on advanced individual cognitive processes, people's ability to learn would be drastically limited.

The most important advocate of the theory of observational learning is Albert Bandura. Bandura's work has had widespread influence among learning theorists, social psychologists, and cognitive psychologists (Hergenhahn & Olson, 2005:367). They further postulate that Bandura's work combines behaviourism and cognitive theory and continues to generate research. According to Hergenhahn and Olson (2005:367), Bandura's theory is the best integrative summary of what modern learning theory has to contribute to the solution of practical problems…a compatible framework within which to place information-processing theories of language comprehension, memory, imagery, and problem-solving. Bandura's learning theory proposes that the things people learn through observation usually result in changes in human development. According to Bandura's social learning theory, psychological functioning is best understood in terms of a continuous reciprocal interaction amongst behavioural, cognitive, and environmental influences (Hjelle & Ziegler, 1987:237). Bandura identified the following three elements

of the social learning process as put forward by (Louw & Edwards, 1995:274), namely attention to and observation of the relevant aspects of others' behaviour, memories of the behaviour in words and/or visual images, and translating the behaviour from the memory into action.

The Social Learning Theory is presented in Figure 2.2.

Figure 2.2 The Social Learning Theory



(Adapted from Osborn *et al.*, 2000:253)

Bandura studied the role of observation in learning through a series of experiments. He went on to compare the influence of observation alone with the impact of positive reinforcement and punishment on imitative behaviour. A group of children were shown the video of an adult aggressively attacking a doll, with one group seeing the adult later being rewarded for his aggressive behaviour (Louw & Edwards, 1995:274). It became evident that children who had seen the model being rewarded were more aggressive towards the doll afterwards and that those who had seen the adult being punished were less aggressive.

The findings of this experiment enable us to have a deeper understanding of how anti-social models can impact negatively on people's behaviour. For example, we learn that a child's environment, family, and television programmes, videos, and films which children watch can lead to anti-social behaviour. We therefore, tend to understand why parents who abuse their children often have aggressive children. It also became very clear that positive reinforcement and punishment, not only of children but also of their models, help to determine whether people will carry out behaviour which they have observed.

Although much social learning is fostered through observation and real life models, people tend to mimick models' behaviour after they have been presented in verbal or pictorial form (Bandura, 2006:3).

Louw and Edwards (1995:275) contend that Bandura views social learning and conditioned learning as an integrated whole. According to Bandura, positive reinforcement assists to determine whether people will continue to carry out observed behaviour or not. For instance, students often work hard for a lecturer who sets very fair and sensible tests, simply because they expect that their study efforts will be rewarded by a good mark at the end of the day and vice versa.

Bandura does not differ with Skinner about the importance of reinforcement. However, he does not view it as a mechanical process. In his opinion, people are very active beings by nature, who are looking for positive reinforcement on the basis of their own expectations. In addition, Bandura puts emphasis on the premise that people are capable of setting their own standards (which they often do through observing models) and thereafter reward themselves if they achieve this, or punish themselves in case they fail to do so.

Finally, it is imperative to point out that the social learning theory has very important educational implications. It appears to represent a synthesis of the most valuable elements of the different forms of learning and therefore seems to be the culmination thereof. It is based on cognitive principles, includes the basic principles of operant conditioning, and is applied to people as social beings which can think, act, feel and communicate in relation to other people.

Louw and Edwards (1995:277) further maintain that social learning has very powerful implications for our personal lives, for the entire education sector, for society and for handling inter group conflict in society. Observational learning can make people do things that they would otherwise not have done at all and it can also influence people's behaviour either positively or negatively.

There is an alarming need for knowledge and application of social learning principles as they are gradually becoming more and more appealing to leaders and public figures in our country. The main reason for this is that public figures have a tremendous role to play,

with regard to the modelling of positive and constructive behaviour. The key assumption of social learning is that modelling influences learning chiefly through their informative function (Hjelle & Ziegler, 1987:196), which means that, during exposure, observers acquire mainly symbolic representation of the modelled activities which serve as prototypes for both appropriate and inappropriate behaviour. A discussion of the above-mentioned processes follows.

2.3.1 Attention Processes: Perceiving the Model

According to Bandura, people cannot learn effectively by observation unless they attend to or accurately perceive the salient and distinctive features of the model's behaviour (Hjelle & Ziegler, 1987:243). It appears that it is not enough for a person to merely see the model and what it is engaged in. Rather, the individual must attend to the model with sufficient perceptual accuracy to extract the relevant information to use in imitating the model. Attentional processes therefore, impact on what is selectively perceived in the models to which one is exposed and what is acquired from that type of exposure.

Seemingly, there are several factors that influence the whole attention process. Some involve observations; others involve the modelled activities, while others involve the structural arrangement of human interactions. But the likelihood is that exemplary behaviour will be attended to by the observer in the whole process. Bandura (1977, in Hjelle and Ziegler, 1987:244) posits that, amongst the attention determinants, influency modelling and associational patterns are of the utmost importance, simply because the people with whom they associate themselves interact, either by preference or imposition, restrict the type of behaviour that will be observed and hence learn most thoroughly.

Attention to models is also governed by their interpersonal attractiveness, and some models appear high in competence, especially those that are alleged experts, or who are celebrities who command greater attention than models who lack these attributes (Hjelle & Ziegler, 1987:244). Basically, any set of characteristics that causes a model to be perceived as intrinsically rewarding for prolonged periods of time increases the probability of more careful attention to the model, and, consequently the probability of modelling. It is, therefore, very important for language educators to model good writing skills, if primary school learners are to pay attention to such skills.

2.3.2 Retention Processes: Remembering the Model

The second process involved in social learning is the long-term retention of activities that have been modelled at one time or another. The bottom line is that people cannot be affected by their observation of a model's behaviour if they do not have a good memory of it. Indeed, without the capacity to remember exactly what the model did, the observer is unlikely to demonstrate any enduring behavioural change.

Bandura proposes two main internal representational systems as the means by which the model's behaviour is retained and converted into later action. The first one is imagery where mental images are formed so that references to events previously observed immediately calls forth a vivid image or picture of the physical stimuli involved. The second representational system involves the verbal coding of previously observed events in which people normally recite to themselves what the model is doing. Bandura further stipulates that social learning is greatly facilitated by such verbal codes as they carry considerable information in an easily stored form (Hjelle & Ziegler, 1987:245).

2.3.3 Motor Production Processes: Translating Memories into Behaviour

The third basic component involved in social learning consists mainly of translating symbolically coded memories into appropriate action. Despite the fact that a person may have carefully formed and retained symbolic representations of a model's behaviour and rehearsed that behaviour many times, he/she may still not be in a position to enact the behaviour correctly. Experience also taught us that the observation of models is not enough to ensure a smooth and coordinated performance of the act. Persistant practice in performing the skills on the basis of informative feedback is essential if one is to manifest that kind of behaviour to perfection.

Additionally, observing and intentionally rehearsing certain behaviours may also facilitate the learning process, especially if one is capable of performing the necessary movements based on what had been observed earlier on. This type of silent rehearsal is very helpful with skills such as driving but may not be as useful with more complicated skills, such as diving from a ten-meter springboard (Hjelle & Ziegler, 1985:245). Similarly, Grade 4 learners should have well- developed motor skills if they are to write well.

2.3.4 Motivational Processes: From Observation to Action

The fourth and final component involved in modelling concerns reinforcement variables. Hjelle and Ziegler (1985:246) postulate that these type of variables influence observational learning by exerting selective control over the types of modelling cues to which a person is most likely to attend, and they also affect the degree to which a person tries to translate such learning into overt performance.

According to Bandura, people will not perform any type of behaviour without sufficient motivation to do so. Generally, if positive incentives are provided, modelling and observational learning is promptly translated into action (Hjelle & Ziegler, 1987:246). Moreover, not only does positive reinforcement enhance the likelihood of overt expression or actual performance of the behaviour in question, it also influences the person's attentional and retentional processes. Coupled with that, a person's burning desire to attend, to retain, and to perform a modelled behaviour may be influenced by the anticipation of reinforcement or punishment for doing so. On the other hand, the observation that another's behaviour brings about positive rewards, or prevents some aversive condition, can be a compelling incentive to attend to, retain and later to perform that kind of behaviour.

The role of incentives should not be underestimated if the learning process is to be effective and successful. Human cognitive processes are present in the above four elements. According to the social learning theory, learning through observation usually leads to human cognitive development. This theory of learning would therefore imply that language educators and parents should model good linguistic behaviour to the learners. Central to this theory is the fact that psychological language is best understood where there is continuous reciprocal interaction amongst behavioural, cognitive and environmental influences (Hjelle & Ziegler, 1987:237). It appears that there is a close connection between Bandura's theory of learning and READ's training programmes in the sense that READ's approach to language teaching and learning promotes an understanding of the relationship between behavioural, cognitive and environmental influences.

Bandura's theory has many implications for education. Bandura believes that anything can be learned by direct experience and observation (Hergenhahn & Olson, 2005:364).

Bandura's theory also emphasises the importance of models which can be effective if they have respect, competence, high status and power. Thus, in most cases, educators can be more influencial models (Hergenhahn & Olson, 2005:364). For instance, they can model skills, problem-solving strategies, moral codes, performance standards, general rules and principles, and creativity. Central to Bandura's theory is the concept of observation, which makes it relevant to the teaching of writing as the crux of this investigation. In the light of the above, one would say that it is vital for language educators to consider the attentional, retentional, motor, and motivational processes of each learner. Coupled with that, one would also argue that there are similarities between Bandura's theory and READ's training model, which also emphasizes modeling and reinforcement of positive behaviour or performance. READ materials are the same as those proposed by Bandura because they have been designed in such a way that they enable language educators to model writing skills to the learners. For instance, language educators are able to model the writing skills to the learners, when teaching Shared Writing as a course. This particular course is aimed at improving primary school learners' writing competencies such as hand-writing, sentence construction, spelling etc. In the light of the above, one would argue that Bandura's theory of learning is still relevant to the teaching of writing as the crux of this study.

Very interesting to note though is the fact that, Bandura's contributions are regarded as commonsense observations by contemporary readers (Hergenhahn & Olson, 2005:367). It should also be remembered that the foundations of Bandura's theory were developed at a time when most, if not all, learning theorists insisted that learning had its foundations in direct experience with the environment. Even Piaget (1973) denied the role of observational learning in young children. Even though Bandura's theory addresses problems in learning, memory, language, motivation, personality, moral conduct, psychological dysfunctions, and societal issues such as media influences on behaviour, it does not serve as a panacea for all the problems related to the teaching of writing as the focus of this investigation. Following is a discussion of Neo-behaviourism as a movement.

2.3.5 Neo-behaviourism

Behaviourists such as Hull, Maltzman and Berlyne introduced the notion of a "mediating response". These mediating responses were seen as implicit covert responses that generate "mediating stimuli" which can elicit further mediating responses or overt behaviour (Gilhooly, 1996:8). Chains of mediating stimuli and responses are taken to represent thought sequences (Pienaar, 1998:16). Many of these neobehaviourist ideas were overshadowed by the information-processing approach which began in the early 1960s. A discussion of the Gestalt theory is presented in the next sub-section.

2.4 GESTALT THEORY OF LEARNING

The German noun "gestalt" cannot precisely be translated into English. The closest approximations of its meanings are the words "form", "figure", "shape", "configuration"or "structure". Gestalt psychology as a distinct school was founded in 1912 by the German psychologist Max Werthimer (1880-1943). It emerged in reaction to the older association theories. Gestalt psychologists' view of learning differs from that of behaviourists in the sense that behaviourists discussed learning in terms of conditioning whereas the Gestaltists conceived of learning in terms of insight. Where the behaviourists investigated learned specific responses to simple stimuli, the Gestaltists studied learned and patterned responses to complex stimulus fields. Where the behaviourists emphasized elements, the Gestaltists stressed whole entities (Hjelle & Ziegler, 1987:11).

The Gestalt psychologists objected to the different forms of "elementarism" represented by the classical introspectionists and early behaviourists (Gilhooly, 1996:6). Their theory focused on perception rather than on thinking or learning, and the importance of perceptual organization was stressed. They argued that psychological experience is not composed of static, discrete representational elements, but rather of an organized, dynamic field of events that interact with one another (Dominowski & Bourne, 1994:17). The Gestalt school felt that properties of the whole psychological field are different from the sum of its individual parts, and therefore no analysis of individual parts can be entirely successful. They stated that to understand psychological phenomena such as learning, thinking and motivation, one must consider a system where an alteration to any part could affect other parts.

Having said that, one can say that Gestalt psychology emphasizes the impossibility of understanding complex psychological processes, but at the same time attempts to break them down into their component parts. According to the Gestaltists, the whole is greater than, and different from, the sum of its parts. While this general idea is found in the writings of many philosophers and psychologists of the nineteenth century, it was the Gestalt psychologists who crystallized this notion and applied it to twentieth-century psychology (Hjelle & Ziegler, 1987:11). In the light of this, one can say that their influence on contemporary personality theories can best be seen in the various attempts to conceptualize and access personality in a holistic manner. Whether or not they formally identify themselves as Gestaltists, many psychologists perceive personality as an organized dynamic whole that cannot be reduced to the sum of its parts.

According to the Gestalt theorists, what one perceives depends upon the background against which it is perceived and the mental set, needs, attitudes, interests and motivations of the perceiver (Hjelle & Ziegler, 1987:13). In Gestalt learning, observations merely help the learners to restructure the field of perception so that the solution to the problem stands up as a meaningful whole. It is as if the mind is familiar with several elements of knowledge and is groping for the last piece that will eventually make the mental jigsaw puzzle complete. Educators are, therefore, faced with a challenge of setting the stage and manipulating the environment so that children are capable of restructuring the field of perception, and this is usually regarded as the highest form of learning.

Kohler (1971, in Hjelle and Ziegler, 1987:14) also conducted a number of experiments which demonstrated that animals can sometimes solve problems by insight. The suggestion is that if animals can do this, how much more could human beings. In one series of experiments, hungry chimpanzees were placed in a cage in which two rods happened to be lying around. A banana was placed outside the cage and out of the animal's reach. Both rods were too short to be used as a rake to reach the banana, but one rod could be screwed into the other to form a rod long enough to rake the banana into the cage. After several attempts at trying to solve the problem, the most intelligent ape hit upon the solution.

It would appear that some organization and reorganization must have taken place in the minds of apes to lead to a solution to the problem. All Kohler did was to ensure that they were hungry, pose the problem, and make certain apparatus available. Of course, in the

case of apes, perhaps it is essential that the animals should be able to see the rods and other apparatus at the same time. But with human beings, imagery could play an important part in structuring and restructuring one's perceptual field.

However, it is not enough that all the elements necessary for the solution of a problem are present in the perceptual field at the same time. Many experiments have been carried out with human subjects in which every precaution was taken to ensure that they had the knowledge and apparatus necessary to solve various problems, yet many of them failed. Nor is there any guarantee that because the perceptual field has been structured this will lead to a solution. It is quite possible to have a reorganization that has never taken place before, and perhaps only a particular organization will lead to a solution.

Finally, it is important to mention the fact that, unlike the Associationists who place more emphasis on external stimuli and the building of associations, the Gestaltists draw our attention to the theory of organization and reorganization within the structure of the organism itself. It would seem that, in addition to building up associations and conditioned reflexes, in problem-solving situations, for example, the problem is often solved by a sudden flash of insight (Hjelle & Ziegler, 1987:13). READ's training model promotes the creation of a tranquil classroom environment. Central to READ's training model is the concept of motivation, the acknowledgement of learners' needs, attitudes and interests. Seemingly, there are some similarities between READ's training programmes and the Gestalt theory of learning. In view of the above, one would argue that the Gestalt theory is still relevant to the teaching of writing in the primary schools.

According to the Gestalt theory of learning and READ's training programmes, language educators would be expected to create a classroom atmosphere which is in line with the learners' mental set including needs, attitudes, interests, and motivation. It would also imply that language educators have to be well-trained if they are to achieve this alignment. A discussion of the information processing model is presented in the next section

2.5 THE INFORMATION PROCESSING MODEL

The conception of people as limited information-processing systems developed apace during the Second World War when a generation of psychologists put their knowledge

and skills to work in a number of areas, such as the construction of tests for personnel selection and development of training techniques (Wood, 1998:11). He further postulates that psychologists also helped to design the machines of war and instruments of defence, detection and communication to take account of what has become known as "human factors".

In the past, philosophers compared memory to a tablet of hot wax that would preserve anything that chanced to make an imprint on it (Carole & Carole, 1993:241). Today, many people think of memory as a mental tape recorder, automatically recording, in both audio and video, the living moments of their lives. However, both of these metaphors are misleading. The fact of the matter is that not everything that impinges on our senses is tucked away for later use. If it were, our minds would be cluttered with all sorts of mental "junk"or any other information that could be imprinted on it.

In the last three decades, memory research has been greatly influenced by a view of the brain as an information processor, which is reflected in the model of memory put forward by cognitive psychologists such as Atkinson and Shifrin (1968) in (Louw & Edwards, 1995: 286). According to Clarke-Steward *et al.,* (1985:352), one of the earliest versions of the information-processing model was a theory of attention proposed by Donald Broadbent (1958). The theory was discovered to explain what happened in dichotic listening tasks where people were given information in one ear over a headphone that is different from the information that is given in the other ear. It became so evident that people found it very difficult to integrate the sets of numbers or information heard by both ears in the order they were presented to them. Broadbent (1958, in Clarke Steward *et al.,* 1985:352) then theorized that the numbers, like any other information, pass through the senses to a short-term store, the information passes through a filter that selects some information for further attention, then it goes to the perceptual system where its meaning is extracted, and finally, it goes to the long-term memory where responses are framed. He further suggested that because the selective filter can switch a person's attention from one ear to the other so rapidly, the person first attends to information entering one ear and retains the other ear's information in the short-term storage, then switches attention to the unattended ear's information (Clarke-Steward *et al.,* 1985:352).

Scholars such as Atkinson and Shifrin (1968, in Louw and Edwards, 1995: 286) hold the same view as Broadbent as they are the direct descendants of his theory. Nowadays, the

information-processing approach is still influencing the field of cognitive psychology and cognitive development. It depicts people as manpower with specific, limited capacities to organize information into sets of subjects (Clarke-Steward *et al.*, 1985:352). Generally, psychologists who follow an information-processing model investigate patterns of error, verbal statements, eye movements, and people's representation of information in their efforts to produce and test models of cognitive development. Carole and Carole (1993:241) assert that the information-processing model borrows liberally from the language of computer programming and that instead of stimuli there are inputs and instead of responses, reference is made to outputs. Logically, information is actively processed in a series of sub-routines between inputs and outputs.

Also guided by the computer analogy, the memory model of Atkinson and Shifrin (1968, in Louw & Edwards, 1995:286) postulate that memory processing takes place in a series of three stages, namely encoding, storage, and retrieval and that memory itself is dependant on three different systems of storage, namely sensory storage, short-term storage and long-term storage. Atkinson and Shifrin also came up with what is commonly known as the multi-store information processing model. The information processing model is divided into three stages, namely encoding, storage and retrieval.

Of note is the fact that the information-processing approach is the dominant approach regarding basic thinking (Pienaar, 1998:17). Most researchers make a clear distinction between this idea of a basic thinking model and higher order thinking which determines the extent to which individuals think. In view of the given background, one would conclude that there is a close link between the information processing model and the principles underpinning READ's training programmes. The implementation of READ's training programmes is based on the assumption that memory processing takes place in three stages, namely, encoding, storage, and retrieval. It is, therefore, imperative for Grade 4 learners to store the information into the sensory storage, short-term storage and long-term storage if effective language learning is to be enhanced. In the light of the above discussion, one would argue that the information processing model is very relevant to the teaching of writing as an aspect of language development. Following is a discussion of constructivism as an alternative to the objectivist perspective of learning.

2.6 CONSTRUCTIVISM

Constructivism emerged as an alternative to the objectivist perspective and as an approach that has gained credibility in some educational circles over the past three decades (Arends, 1994:4). The objectivist perspective on learning is the traditional western view about the nature of knowledge and it regards knowledge as truths to which humans has access. Arends (1994:4) further stipulates that the consequences of the traditional method of teaching are more detrimental to humanity than was envisaged. The fundamental problem with this approach to teaching is that schooling seemed too internally focused and did not prepare people for life. Basically, the constructivist viewpoint emerged as a catalyst as it encourages students to construct their own knowledge in a context where the provision of education entails creating appropriate learning situations that afford the learner opportunities to develop personal knowledge that can be used in their daily lives (Wilson, 1996:33).

Logically, the basic point of departure of constructivism is that learning is an active process of constructing meaning. In view of the given background, one would say that constructivism views learning as a process that occurs in individualized, social contexts where knowledge is acquired through active construction and reconstruction of meaning (Nieman & Monyai, 2006:6). They further postulate that learning is a process during which the learner constructs his or her own understanding and knowledge of the world on the basis of information that is passed on. According to Wilson (1996:3), constructivism views learning as a process that enables the learner to engage in meaningful, authentic activities which will ultimately lead to the construction of understanding and development of skills relevant to problem solving.

Henson (2004:15) supports this view when stipulating that constructivism enables the learners to question their own understanding and discover new understanding. Rather than viewing knowledge as fully known, fixed, and transmittable, the constructivist perspective holds that knowledge is somewhat personal and meaning is constructed by the learner through experience (Arends, 1994:4). He goes on to say that learning is a social process in which learners construct meaning, which is influenced by the interaction of prior knowledge and new learning events. Nieman and Monyai (2006:74) support this view when postulating that the construction of meaning and knowledge is the result of the interaction between the information that is being presented by the educator and the

learner's interpretation of that information based on his experiences, understanding and prior knowledge.

Constructivism has two main trends, namely cognitive and social constructivism. Cognitive constructivism focuses on the cognitive processes people use to make sense of the world around them (Nieman & Monyai, 2006:6). Borich and Tombaro (1997:177) view cognitive constructivism as an approach to learning in which learners are provided with the opportunity to construct their own sense of what is being learned by building internal connections or relationships among the ideas and facts being taught. According to these authors, learning should be regarded as a process of creating knowledge. On the other hand, social constructivism perceives learning as a social process whereby learners acquire knowledge through interaction with their environment instead of merely relying on the educator's intervention or mediation skills (Powers-Collins, 1994:5). Borich and Tombari (1997:178) support this view when postulating that the cultural group within which a learner finds him/herself is of utmost importance as learners use their own experiences to construct meaning in a way which makes sense to them.

This perspective on constructivism as a theory of learning is also supported by Nieman and Monyai (2006:7) who purport that constructivism regards learning as a process of reflection and interpretation of experiences. According to Nieman and Monyai (2006:7), each learner comes to the classroom with his/her unique set of experiences which determines how new information is integrated with experiential knowledge to reach a new understanding. In the light of these views, one would say that a learner's learning is to a great extent, influenced by his/her own cognitive framework which he/she has built up on the basis of previous experiences, and interaction with the people around him. Nieman and Monyai (2006:7) also reiterate the importance of cultural background and experiential knowledge if educators are to act as mediators of learning.

Although the importance of contextualization to constructivism is still a debatable issue, many constructivists believe that learning should take place in realistic and authentic educational settings, and that testing should not be a separated activity, but should rather be integrated into the task that the learners are performing (McGriff, 2001:8). Following are the basic assumptions underpinning constructivism as a theory of learning:

- Knowledge is constructed from experience;

- Learning is a personal interpretation of the world;
- Learning is an active process in which meaning is developed on the basis of experience;
- Conceptual growth comes from the negotiation of meaning, the sharing of multiple perspectives and the changing of internal representations through collaborative learning;
- Learning should take place in realistic educational settings; testing should be integrated with the task and not a separate activity (Merrill, 1991 as quoted by Mergel 1998).

The above postulations represent the underlying assumptions about constructivism as an approach to learning. Based on the implications of constructivism, one would argue that there are similarities between OBE and constructivist perspective on learning. For example, the role of the educator is that of the facilitator, therefore, it is important for them to understand that children differ considerably, educators emphasizes learning, not teaching, educators must understand the importance of learners' prior knowledge, learners are actively involved in the lesson, the context within which learning occurs is taken into consideration, educators create opportunities for learning through social interaction, educators encourage an enquiring attitude in learners, learning is interesting and enjoyable, educators motivate learners through learning mediation, there is a concern for the transfer of learning and educators have the responsibility to make every lesson a positive and productive learning experience (Nieman & Monyai, 2006:13-20).

Du Plessis *et al.,* (2007:3) support this view when postulating that constructivism is the one most frequently used and on which the education dispensation (OBE) in South Africa is partly founded. Central to the constructivist theories of learning, is the idea that learners must construct knowledge in their own mind and that educators cannot simply feed learners with knowledge as illustrated in the preceeding paragraph. This perspective on learning suggests that educators facilitate the process of knowledge construction by making information meaningful and relevant to students, creating opportunities for students to discover and apply ideas themselves and encouraging students to become aware of, to discover and consciously pursue new strategies for learning (Du Plessis *et al.,* 2007:4). Generally, the constructivist approach proves to be very powerful and necessary in the sense that it suggests that knowledge acquired by the learners must still be anchored in his/her experiences. Wilson (1996:49) supports this claim when contending that the

constructivist perspective on learning emphasizes the notion that knowledge is something that the learner constructs, using his/her pre-existing knowledge.

A more inclusive and empowering perspective of learning is one which is based on the notion that learners are active participants in the construction and reconstruction of their own knowledge. At the heart of constructivist theories of learning is the idea that learners must construct knowledge in their own minds (Du Plessis *et al.*, 2007:4). To illustrate fully the implications of a constructivist view of learning, Killen (2002:5) recommends that the following points be considered when following a constructivist approach to teaching and learning:

- People learn what is personally meaningful to them;
- Learning is developmental;
- Individuals learn differently, but in general people construct new knowledge by building on their current knowledge;
- Much learning occurs through social interaction;
- People need feedback to learn, but feedback needs to be accurate, useful and timely;
- Successful learning involves the use of strategies, which themselves are learnt;
- A positive emotional climate strengthen learning; and
- Learning is influenced by the total environment.

In view of the above discussion, one would argue that constructivism is relevant to the teaching of writing as the focus of this study. Any theory of learning which is based on the principles of OBE can be effectively applied to the teaching of writing as an aspect of language development. It is also imperative to mention the fact that READ's training programmes are underpinned by constructivist and OBE principles. For instance, READ's materials have been designed in such a way that they are activity-based which is an important characteristic of learner-centredness. Moreover, READ's training programmes are outcomes-based, which is one of the principles of Outcomes-based education. It is against this background that one would argue that READ materials are aligned to constructivism.

Following is a discussion of the views of educationalists and psychologists.

2.7 THE VIEWS OF EDUCATIONALISTS AND PSYCHOLOGISTS ON LEARNING

Jean Piaget (1896-1980), a French-speaking Swiss, was one of the most influential psychologists of the twentieth century. His description of the child's cognitive development is viewed by many psychologists as the best known and the most important theory of development (Louw *et al*., 1999: 71). Moreover, Piaget's theory of cognitive development is not only studied all over the world, but also forms the theoretical basis of much research in South Africa (Dreyer, 1973; Moll, 1984; and van Ede, 1978 in Louw *et al.* 1999:71). A central aspect of Piaget's theory is the proposition that children's thinking is different in kind from that of mature individuals (Wood, 1998:52). He further states that all children develop through the same sequence of stages before achieving mature, rational thought. Development for Piaget is not simply the continuous accumulation of things learned step by step. Rather, it involves a number of intellectual revolutions at specific junctures in the life cycle, each one of which involves important changes in the structure of intelligence (Wood, 1998:52). Several critical arguments about children's ability to learn, flow from this cognitive theory. Some important aspects of Piaget's theory include:

- Distinct periods of development are postulated to be universal and sequentially invariant;
- Biological structures focus and direct the infant's learning;
- The child learns through experience and interaction with the environment;
- The child must learn to act upon and transform the environment to know reality;
- Physical knowledge is acquired by experiencing actions and object characteristics;
- Perception is an active rather than a passive learning process;
- Perceptual development permits the development of symbolic representational systems;
- Cognitive structures and their development underlie the acquisition of language;
- Symbolic functioning includes all mental behaviour concerned with aspects of reality that are not immediately present;
- Language differs from other forms of symbolic functioning because it is a social communication system rather than an isolated internal system such as imagery;
- Language as a social system is the end result of communicative, cognitive, social, play and imitative development; and

- Language, as a symbolic function, represents the child's experiences (Bernstein & Tiegerman, 1993:50).

According to Piaget (1971, in Louw *et al.,* 1999:71), cognitive development is the result of an individual's interaction with the environment. He further stipulates that the whole process of cognitive development is determined and influenced by a multiplicity of factors, particularly maturation, which occur through certain stages in the child's development. Some of those factors will be briefly discussed in the following sub-sections.

- **Maturation**

  Maturation of the nervous and endocrine systems is the result of heredity and it is of course a distinguishable character of the human race. Normally, it happens that at a predetermined stage in the individual's life, both the nervous and the endocrine systems reach a certain maturational level that enables the individual to operate in a very particular way and to interact with the environment in a special way (Louw *et al.,* 1999:71). Logically, the interaction of a boy that can walk, and that of a baby that can only crawl, serves as a good example of how the process unfolds.

- **Experience and practice**

  The maturation of the nervous system and endocrine system influences the individual's cognitive development. Maturation alone is not enough for the process of cognitive development to take place especially if it is without experience and practice. Therefore, children must be in a position to practice the acquired cognitive skills so that these skills become integrated into and coordinated with existing cognitive skills (Louw *et al.,* 1999:72). They further maintain that, through experience, children become aware of the characteristics of objects and also learn that there are certain rules that apply in a situation. For example, the number of marbles remains the same no matter how they are moved about and arranged in different patterns.

- **Social interaction and transmission**

  Children learn not only through experience, but also through social interaction and transmission (Piaget & Inhelder, 1969, in Louw *et al.,* 1999:72). Logically, parents, family members, and educators educate children and transmit knowledge to them through social interaction. Hence, it is important for learning and development to

expose children to situations where they can interact with others in order to gain knowledge.

- **Equilibration**

  An individual's attempt to solve problems and to learn new things also impacts on his/her cognitive development. Reference is therefore, made to a self-motivating process which is called equilibration. Equilibrium occurs when the individual's pre-existing knowledge and cognitive structures are sufficient to cope with the stimuli from the environment. On the other hand, disequilibrium is the opposite of equilibrium in this context and it normally motivates the learners to adjust and change their thinking and knowledge in order to reach a state of equilibrium. Equilibration does not result in the recovery of an earlier state of balance, but rather in the achievement of a higher level of equilibrium (Louw *et al.,* 1999:73). Thus, the new level will be consistent with the individual's level of maturation and experience. In the light of this, one can therefore argue that cognitive development is the outcome of the constant interaction between maturation, experience and practice, social interaction and transmission and equilibrium.

Piaget divides human cognitive development into four distinguishable periods or stages, namely:

- Sensory-motor period (from birth to about 2 years);
- Pre-operational period (from 2 to about 7 years);
- Period of concrete operations (from 7 to 11 or 12 years); and
- Formal operational period (adolescence).

When looking at the characteristics of the various periods of cognitive development, it should always be noted that a growing child can operate at one level of cognitive development in certain respects and at a lower level in other respects (Louw *et al.,* 1999:75). This developmental gap is referred to as a 'decalage'. For example, a child who is capable of solving problems by means of abstract thought may still, when solving other problems, function in a more concrete way. For the purpose of this study only the concrete operational stage is discussed.

This stage is referred to by Piaget as the concrete operational period. Even though the child is now capable of thinking operationally, such thinking is still concrete and not yet

abstract. The child's thinking is now viewed as concrete because the actions and operations he/she carries out are mainly based on objects and not on hypotheses which have been abstractly expressed in words (Piaget & Inhelder, 1969, in Louw *et al.,* 1999:80).

The only difference between the concrete-operational children and pre-school children is that they are capable of engaging in advanced stages of thinking such as geo-centricism, centering and transductive classification (Louw *et al.,* 1999:80). However, concrete operational children still have the semiotic function, but experience problems when it comes to abstract thinking. Such children find it difficult to reason in terms of hypotheses or speculate about possibilities. Transitive inference and class inclusion have confirmed that Piaget's theory of cognitive development can be validated cross-culturally (Mwamwenda, 1995:115). There is also a general adoption trend, so that the older the child, the better the cognitive performance.

However, the above theory suggests some educational implications that need to be observed by educators as well. Basically, no system of education can be effectively implemented without understanding how children grow and develop, and how such growth and development are related to the four phases of differentiated education as provided for in Act 39 of 1967 and elaborated upon in subsequent regulations (Behr, 1990:16). The first phase, namely, the junior primary phase (Grade 1 to Grade 3) concentrates on mother tongue instruction. The second phase, namely the Intermediate Phase (Grade 4 to Grade 7) is the focus area of the investigation as Grade 4 learners fall within this phase. It is equally important for language educators to be knowledgeable about the level of development of their learners. It would also imply that the learning content should actually be suitable to the learner's level of development. Therefore, Piaget's theory has a significant role on educational practice. Unlike many of the learning theorists, Piaget is not easily categorized as a reinforcement theorist, a contingency theorist, or a contiguity theorist (Hergenhahn & Olson, 2005:307). Like many researchers in what is called the "cognitive" school, Piaget assumes that learning happens more or less continuously and that it involves both acquisition of information and cognitive representation of that information.

However, many contemporary psychologists point out problems inherent in Piaget's research methodology. For example, they postulate that Piaget's clinical method can

provide information that is not readily recorded in rigorously controlled laboratory experiments (Hergenhahn & Olson, 2005:306). Criticism is also levelled at his notion of development through increasingly complex stages. Some of his critics stipulate that very young children are not limited as was initially believed. Despite all these criticism, Piaget's theory of learning still underpins current approaches to learning. For instance, READ's training programmes are also based on Piaget's theory of learning. Even the selection of material is guided by the learners' level of development at READ. The connection between Piaget's theory of learning and READ's approach to language learning is evident. For example, READ materials are developed in such a way that the learners' level of development is taken into consideration. As a result of that, READ's materials are suitable to primary school learners' level of development. In view of the above discussion, one would say that Piaget's theory of learning is still relevant to the teaching of writing as an aspect of language development. Following is a discussion of Vygotsky's theory of learning and an illustration of how it elucidates our understanding of READ's training programmes.

2.8 VYGOTSKY'S THEORY OF LEARNING

L.S Vygotsky, a Soviet psychologist placed instruction at the heart of human development (Wood, 1998:10). Like Bruner and quite unlike Piaget, Vygotsky regarded intelligence as the capacity to learn through instruction. During the past decade, however, Vygotsky's influence on psychological thinking worldwide has been considerable (Wood, 1998:10). Like Bruner, who was influenced by him, Vygotsky puts language and communication at the core of intellectual and personal development.

What is unique about Vygotsky's theory is its scope and philosophical foundations. Unlike Piaget with a background of biology and natural sciences, Vygotsky's primary concern was an understanding of the nature, evolution and transmission of human culture (Wood, 1998:11). According to Vygotsky (1986:188), all specifically human mental processes are mediated by psychological tools such as language, signs and symbols. These tools are invented by human society and they are acquired by children in the course of interpersonal communication with adults and more experienced peers (Kozulin, 2003:65). Having been acquired and internalised by children, these tools then function as mediators of the children's high mental processes.

Vygotsky viewed school instruction as the major avenue for mediated learning and therefore, as the major contributor to children's development during the period of middle childhood. He emphasized, however, that such a development generating effect of instruction would take place only if the process of instruction was organized in a proper way (Kozulin, 2003:67).

In contrast to Piaget's (1970) constructivist notions that were discussed earlier on, Vygotsky , held that children should not and cannot be required to understand the world by way of being rediscovered by humankind (Kozulin, 2003:66). Vygotsky also emphasized the importance of learning scientific concepts but not just verbal factual information and memorization (Kozulin, 2003:67).

As his theory developed, Vygotsky further attempted to explain psychological development in terms of the differentiation and development of social systems of interaction and action in which the individual participate (Daniels, 2005:34). In parallel with this change in his explanatory principle, Vygotsky reduced his emphasis on the relationship between specific mental functions in psychological systems (Daniels, 2005:34). Rather, he began to develop a system of psychological processes in connection with the individual's concrete actions and interactions.

One of Vygotsky's main contributions to educational theory is a concept termed the "zone of proximal development", Vygotsky used this concept to refer to the gap that exists for an individual (child or adult) between what he is able to do alone and what he can achieve with help from one more knowledgeable or skilled than himself (Wood, 1998:26). This concept also leads to a very different view of readiness for learning from that offered by Piagetian theory. In other words, readiness in Vygotskian terms, involves not only the state of the child's existing knowledge but also his capacity to learn with the help.

It is important to mention the fact that READ's training programmes are based on Vygotsky theory of learning. Basically, READ's training programmes seek to close the gap that exists for an individual between what he/she is able to do alone and what he/she can achieve with the assistance of a more knowledgeable person. In addition, READ materials have been designed in such a way that they enable language educators to facilitate the process of learning with ease. It is for the same reason that READ

Educational Trust puts more emphasis on the training component of its programmes. READ trainers ensure that language educators who are involved in READ's training programmes are well-trained so that they can be able to effectively pursue the training function. Logically, READ's endeavour to empower language educators might lead to effective implementation of its training programmes which would also lead to improved learner performance levels.

In the light of the above, one would conclude that both theories offer a way of conceptualizing individual differences in educability. It can also be argued that there are similarities between Vygotsky's theory of learning and READ's model of training, which implies that READ's training programmes might also have an impact on language teaching and learning as they empower language educators with effective language teaching skills. It is also against this background that one would argue that Vygotsky's theory of learning is still relevant to the teaching of writing in the primary schools. Certainly, language educators who are interested in such topics as how to engage learners in becoming more fluently literate, can refer to theories of scholars such as Vygotsky. .Having said that, one would argue that Vygotsky has offered a crucially important insight into the field of language teaching and learning.

In addition, Vygotsky's zone of proximal development has many implications for those in the educational milieu. One of its critical implications is the idea that human learning presupposes a specific sound nature and is part of a process by which children learn intellectual aspects in the social milieu (Vygotsky,1978). According to Vygotsky (1978), an essential feature of learning is that it awakens a variety of internal development processes that are able to operate only when the child is in the action of interacting with people in his environment and in cooperation with his peers.

Therefore, when it comes to language learning, the authenticity of the environment and affinity between its participants are essential elements to make the learner feel part of this environment (Schuitz, 2004:5). Following is a discussion of Feuerstein's theory of learning.

2.9 FEUERSTEIN'S THEORY OF LEARNING

In his theory of cognitive modifiability, Feuerstein (1979), who is also regarded as the father of learning mediation, views the individual as a malleable being capable of being changed and modified up to the last moment of life (Nieman & Monyai, 2007:9).

Mediated learning experience (MLE) represents a way of looking at the quality of interaction and is not specifically related to content. Thus MLE may be apparent in different environments, different functions, and different cultures. Individual differences in cognitive functionality, stemming from environmental influences are mainly dependent on the quality and quantity of mediated the learning experience. The more properly the mediated learning experience are enhanced, the more effective will be the learners' cognitive modifiability (Feuerstein & Feuerstein , 1991:182). Reuven Feuerstein based his approach towards cognitive development and thinking on the idea that human beings are open systems, with receptiveness as their central characteristics (Pienaar, 1998:23). Tribus (1999), in support of this view, suggests that the mediator of learning should be a warm person who strives to discover how the learners learn and how to improve the learners' learning process.

In the mediation process, the educator broadens the wild's environment and connects it with previous experiences and cultural background. In this way, the learners are able to link divergent aspects of experience together in a meaningful way (Nieman & Monyai, 2006:9). According to Feuerstein (1991:182), the process of cultural transmission consists of two dimensions, namely, consent of that heritage, experiences passed from one generation to the next, and mediated learning which relates to principles of modifiability and learning. However, it should be noted that mediated learning does not depend on the level of the language and knowledge embodied in the culture per se but on the quality of interaction between mediators and learners (Feuerstein, 1991:182).

Following is a discussion of the twelve parameters that describe the quality of the mediated learning experience.

- **Intentionality and Reciprocity**

  Mediation is regarded as a much more intense and interactive process than mere information sharing. The mediator engages the learner with a deliberate intention to

teach and to change the learners' mental state in such a way that it will affect the learners' way of dealing with a variety of stimuli.

On the other hand, the learner should respond with a reciprocal desire to learn and there should be rapport and mutual understanding (Nieman& Monyai, 2007:10). Therefore, metacognition in the form of self-reflection, insight and articulation forms an important part of mediational interaction as the learner is made aware of the learning process involved.

- **Transcendence**

  Feuerstein (1991:216) defines transcendence as adult's behaviour which is directed towards the expansion of a child's cognitive awareness, beyond what is necessary to satisfy the immediate need which had triggered the original interaction and apply the lessons and experiences learned to other situations. The educator should therefore, focus on tasks that promote life skills, such as thinking and writing skills and those that lead to situations where the learner can understand himself better through self-reflection (Nieman & Monyai, 2007:10).

- **Mediation of Meaning**

  The mediation is supposed to interpret the meaning of the interaction to the learner. This mediation can be done through facial gestures, sounds, verbal expressions of affect, classification, labelling and the identification of value in relation to the learners' past and future experiences (Feuerstein, 1991:216). Feuerstein (1990:98), states that the learner can relate objects and events to broader systems, categories and classes.

- **Mediation of feeling and competence**

  This aspect over emphasize the importance of feedback during the learning process. Mediation of feelings and competence relates to any reaction of an adult expressing verbally or non-verbally, satisfaction with a child's behaviour and including a specification of the behaviour component or components which the adult consider successful (Feuerstein, 1991:216). It is the responsibility of the mediator to help the learner to achieve competence and then mediate the feelings of satisfication and completion (Nieman & Monyai, 2007:11).

- **Mediation of regulation and control of behaviour**

  Feuerstein (1991:216) describe mediated regulation of behaviour as adult behaviour which models, demonstrates, and/or verbally suggests to the child a regulation of behaviour in relation to the nature of the task, or to any other cognitive process prior to overt action. This parameter basically implies that learners should be helped to use their metacognitive skills.

  Metacognition indicates a higher order of cognition or consciousness of thought contents and thinking processes. On the other hand, cognition indicates that a person possesses, for instance , writing skills, while metacognition is an awareness of and deliberate control over these skills (Stewart & Tei, 1983:36), Metacognition is an awareness of one's own cognitive processes, and self-regulation and control of these processes according to the learning task concerned. They further contend that metacognition entails deliberate selection of learning strategies, aligning these strategies with the demands of the learning task, and checking or monitoring comprehension. All these metacognitive self-reflective activities are vital to ensure regulation and control of behaviour.

- **Mediation of sharing behaviour**

  Learners should be given the opportunity to learn from one another. The educator should promote a sense of sharing and cooperation between learners because it is an essential part of their social existence (Nieman & Monyai, 2007:11).

- **Mediation of individuation and psychological differentiation**

  While it is important for learners to learn how to co-operate with one another, they should also learn to remain individuals and develop their own personalities. This parameter promotes individualization during the learning process.

- **Mediation of goal-seeking, goal-setting and goal achieving behaviour**

  This parameter emphasizes the fact that learners should learn to set realistic goals for themselves and to develop ways to achieve them.

  According to Nieman and Monyai (2007:11), learners should learn how to evaluate whether they have achieved their objectives and whether the set objectives were realistic or not.

- **Mediation of challenge: The search for novelty and complexity**

  This parameter suggests that learners should be taught how to react to challenges. They should be prepared to deal with the complexity of the world. It is therefore, vital for the educator to provide tasks that are difficult enough to present a challenge to learners.

- **Mediation of an awareness of the human being as a changing entity**

  The mediation process should lead to a situation where the learner becomes his / her own mediator.

  Learners should therefore be given the opportunity to assess themselves and become aware of their own progress. The educator can achieve this by using progress charts or doing self-assessment activities with learners (Nieman & Monyai, 2007:12).

- **Mediation of the search for an optimistic alternative**

  Feuerstein and Feuerstein (1991:48) posit that the ability to know that something is possible makes the involved individual become committed to the search for ways to turn the possible into what is regarded as being impossible to attain. It is therefore imperative for educators to mediate the search for an optimistic alternative if learners are to succeed in problem-solving.

- **Mediation of the feeling of belonging**

  It is the responsibility of educators to mediate the feeling of belonging. Nowadays, families offer little support to children and this is characteristic of most western societies (Nieman & Monyai, 2007:12).

  This parameter is also in line with Maslow's hierarchy of needs, which highlights the importance of belonging to the group.

  In the light of the above, one would conclude that Feuerstein theory of mediation has important implications for the teaching of writing as the focus of this investigation. The development of abstract thinking or language would lead to development of unity as an important aspect of language. There is also a close link between Feuerstein's theory of learning and READ's training model. Both approaches emphasize selection of stimuli, provide models of behaviour, consolidate, reinforce and contextualize

learning experiences, and compare objects and events, to develop in learners the ability to discriminate between what is common and what is different. In view of the above discussion, one would conclude that Feuerstein's theory of learning is also relevant to the teaching of writing as an important aspect of language development.

A discussion of theories of language acquisition is presented in the next section.

2.10 THEORIES OF LANGUAGE ACQUISITION

According to Nieman and Monyai (2006:25), language is central to people's lives. They further postulate that language serves various purposes such as personal, communicative, educational, aesthetic, cultural, political and critical purposes. Language is much more than a set of words and grammar rules (Banks, 1997:272). The term 'language' is a very comprehensive concept. It may refer to a particular language such as English, Sepedi, Tsonga, Zulu etc., but it also refers to languages which are not spoken. The term 'language' may also be used to describe non-human systems of communication such as computer languages (Louw & Edwards, 1995: 375). It should also be noted that animals, too, have systems of communication that are called languages. In the same vein, language also distinguishes human beings from other species, for instance, the specifically human forms of communication such as speech, reading, writing, and the ability to understand language produced by others.

The importance of language for effective learning becomes evident if we consider that the ability to use language determines not only the nature of a person's relationship with others and the ability to communicate, but also the ability to think, since language is the medium of much of human thought. Because of this close link between language and thinking, the learners' ability to think and learn depends on their ability to use and understand language (Nieman & Monyai, 2006:25). In addition, language also serves as the medium for learning that takes place at school. Language and learning and learning are interdependent as language is the means of access to all study material.

Educators have to make sure that there is a common understanding in the language used in the classroom as language plays an important role in learning. To achieve this, classroom talk, sharing, comparing, contrasting and arguing perspectives against those of

others, as well as constant reflection on what is being learnt, should be regular classroom activities (Nieman & Monyai, 2006:26).

In view of the given background, one would say that language is a powerful and transformative part of culture. It is what makes collaboration possible, and using language is a way of transmitting and negotiating knowledge. As with culture, language is learned, it is shared, and it evolves and changes over time (Banks, 1997:272). According to Banks (1997:272-273), language is a forceful instrument for giving individuals, institutions and cultures their identity. It is an effective tool to communicate values, attitudes, skills and aspirations of a particular cultural group.

Language can be analyzed from many different points of view. For instance, at the physical level, it is a system of sounds and movements made by the human body and decoded by the listener's auditory system. From the cognitive point of view, it is a tool for the expression of thought. From the anthropological point of view, it is an intricate and pervasive component of culture. From the semiotic point of view, language can also be studied as a system of signs and symbols that have socially determined meanings (Banks, 1997:273). On the other hand, metalinguistic skills represent a higher conceptual understanding of production and comprehension skills with which the child can stand back and "talk about talking". This indicates an awareness of the language rules and how they can be applied (Bernstein & Tiegerman, 1993:50). Similarly, the development of meaning has been described in terms of semantic characteristics, which are closely related to children's perceptual and functional notions of the environment (Bernstein and Tiegerman, 1993:83). In view of the above, one would argue that there is a close relationship between meaning and sentence construction.

The focal point for READ Educational Trust as an organization is the acquisition of language and the associated skills of reading, writing, speaking and listening. Therefore, READ's model focuses mainly on the mastery of the above-mentioned language skills. However, it is important to mention the fact that this investigation focused on writing as a skill as it assesses the impact of READ's training programmes on Grade 4 learners' writing competencies.

During the last decades, many theories have been suggested to account for the acquisition of language. According to Louw and Edwards (1995:384), the first theory to emerge was

behaviourism, which was postulated by Skinner (1957). Later on, an alternative explanation or theory of language acquisition was put forward by Chomsky (1959, in Louw and Edwards 1995:384) who actually believed that language acquisition is governed by a number of rules and principles. Following is a discussion of Chomsky's theory of language acquisition.

2.11 CHOMSKY'S VIEWS ON LANGUAGE ACQUISITION

According to Louw and Edwards (1995:385), an explanation put forward by Chomsky (1980) emphasizes the creativity and productivity of language which is a universal phenomenon. Chomsky is outlining an account of the acquisition of linguistic competence that is, the growth of the body of knowledge about the structure of the language which, Chomsky proposes, underlies the speaker's ability to speak and understand the language (Elliot, 1983:8). He further postulates that the educators and the learners are faced with a set of primary linguistic data, where both have to construct a grammatical system which accounts for the data. Chomsky proposes as a theoretical construct a language acquisition device (LAD), which accepts as input the primary linguistic data and has as output a grammar of the language from which the data have been drawn. Of vital importance is the fact that Chomsky views the activities of the child learning his language as formally equivalent to the workings of the LAD with input and output specified above (Elliot, 1983:8). Basically, Chomsky propagated a view of the language acquisition capacity that is rather like a 'mental organ' (Chomsky, 1980:188) in Wood (1998:120). However, Chomsky disagreed with Skinner's proposal that language is learnt systematically from the environment and reinforced by rewards. Rather, he was of the opinion that infants are born with an innate language acquisition device which makes it possible for the language user to discover the rules of the first language commencing with the simple rules and later progressing to those that are more complex (Chomsky, 1980:188).

In the light of the above discussion, one would argue that there are some similarities between READ's training model and Chomsky's views on language acquisition. For instance, READ's training programmes also acknowledge the learners' pre-existing knowledge. READ materials are designed in such a way that they enable the learner to develop a grammatical system which accounts to the content. Based on the above

discussion, one would argue that Chomsky's views on language acquisition are still relevant to the learning of writing as the focus of this investigation.

Chomsky (1980:188) reiterated the fact that the afore-mentioned rules cannot be acquired through reinforcement, as the speech of adults is riddled with many hesitations, pauses and uncounted grammatical errors, and it serves as a very poor model for children in as far as the acquisition of language is concerned. According to the author, a competent language user is one who has acquired all the rules of any given language. There are several implications to be drawn from the notion that people have an inherent ability to learn language. For example, if a first language has not been developed by a certain critical period in life, it will never develop later and that the order in which language is acquired is remarkably similar (Chomsky, 1980:188). .

Worthy to mention is that Chomsky's cognitive theory of language development has got some limitations. For example, the cognitive theory highlights the importance of meaning and cognition. However, it does not explain why some children, in spite of age-appropriate cognitive abilities, lag in their linguistic development. It would seem that conceptual abilities are not the only abilities important for language learning but that these abilities are not accounted for in the semantic or cognitive approach. Some critics postulate that the cognitive approach does not answer the question of how children acquire language, nor does it explain the relationship between later developing abilities and corresponding linguistic attainments (Bernstein & Tiegerman, 1993:13). They further state that Chomsky's theory ignores the role of linguistic input to the language acquisition process.

On the other hand, Chomsky's views have made some contributions to language development. According to Bernstein and Tiegerman (1993:14), the cognitive or semantic approach to language development gave impetus to multifaceted research on the cognitive prerequisites of language, the universality of children's cognitive experiences resulting in universality in their coding of meaning and the relationship between language and thought. Although languages differ in the word sounds they use and the grammatical rules they embody, Chomsky believed that they all share certain universal properties, which is an innate system or Language Acquisition Device that has been highlighted in the preceeding paragraphs (Chomsky, 1980:188). A discussion of the pragmatic approach to language acquisition is presented in the next sub-section.

The pragmatic approach views language development within the framework of social development. According to Bruner (1975), in Bernstein and Tiegerman (1993:14), children learn language in order to socialize and to direct the behaviour of others. Social interaction and relationships are deemed crucial because they provide the child with the framework for understanding and formulating linguistic content and form. Within the pragmatic model, caretaker-child interactions are considered to be the originating force for language learning (Rees, 1978) in Bernstein and Tiegerman (1993:14). The pragmatic model can be summarized in the following statement:

- Language is acquired if and only if the child has a reason to talk;
- Language is acquired as a means of acknowledging already existing communication functions;
- Language is learned in dynamic social interactions involving the child and the mature language user in his environment; and
- The child is an active participant in this transactional process and must contribute to it by behaving in a way which allows him to benefit from the adult's facilitating behaviour (Bernstein & Tiegerman, 1993:14).

In view of the above background, one would argue that the social milieu in which the child develops contributes to language acquisition. Bruner (1975), in Louw and Edward (1995: 386), reiterates the importance of the interpersonal context in which language appears by citing the intimate interaction between the infant and its caretakers. Similarly, mothers and infants develop highly repetitive routines which form a stable basis for the child who has to discover what the verbal comments of the mother mean.

Additionally, the effective use of the mother's speech to the child which is commonly known as 'motherese' is an indication of the importance of the social context in which the child grows. This type of speech enables the infant to acquire the language quickly as it is generally pitched higher than that to other adults. Moreover, the pitch rises rather than falls at the end of the sentence and there is also a great deal of emphasis on important words. Syntax or the meaning of words is simplified, and sentences are very short for the child to understand them quickly. Of note is the fact that the pragmatic approach to language acquisition forms the basis of READ's training model which takes cognizance of the social context in which language teaching and learning occurs. In fact, READ's training programmes promote the creation of a tranquil classroom situation. For example,

READ materials contain interesting stories and pictures which enable language educators to dramatize lessons which in turn, lead to the creation of a positive atmosphere in the classroom. It is thus imperative for language educators to create a positive classroom atmosphere, if effective language teaching and learning is to take place.

Based on the above discussion, one would also say that the pragmatic approach has expained the most significant principles of language. For instance, it highlights the social aspect of language and places language use in center stage and therefore, attempts to answer many of the questions raised by other perspectives, namely the role of linguistic input, the continuity between gestures and words, and the ways children learn the complex social devices through which people make their intentions known. In addition, the pragmatic approach has stimulated research on the conditions and contexts in which communication develops and has identified the social prerequisites of language acquisition. In a nutshell, the pragmatic approach contributes to our understanding of language development, and enables us to appreciate the complexity of language in the absence of a full-blown model.

However, the pragmatic approach to language acquisition has got it own limitations as it does not give an account of how communicative intentions get linked to linguistic structures and how children acquire symbols for referents. Two further limitations relate to the newness of the pragmatic view where present researchers do not agree on a common system for classifying communicative intentions and a system for assigning a specifice intention to children's utterances, which has not yet emerged (Bernstein & Tiegerman, 1993:15).

2.12 SECOND LANGUAGE ACQUISITION

Education is largely concerned with verbal and non-verbal communication between educators and learners, parents and educators, and learners among themselves (Nieman & Monyai, 2006:26). It is basically concerned with the fact that the educator and the learners should be in the right frame of mind for effective learning to take place. On the other hand, the educator's effective communication can help learners to make the right choices about their behaviour, as it can motivate them and keep them involved with what they are doing. When learners are not being taught in their home language, however, the communication and mediation process becomes very complex (Nieman & Monyai,

2006:26). They further stipulate that learners need a basic background knowledge of the acquisition of a first and an additional language in order to cope with the teaching and learning process.

During the past three decades, extensive research was done on the acquisition of language and, although the debate on language acquisition has gained momentum, the research of two scholars has laid the foundation for further debate (Nieman & Monyai, 2006:2). According to these authors, the insights of Jim Cummins and Stephen Krashen still carry a great deal of authority concerning teaching through the medium of an additional language. Krashen, in particular, tried to analyze the acquisition of an additional language, whereas Cummins emphasized the interaction between the first and the additional language. Krashen (1976) was the first to give verbal expression to the difference between the deliberate, conscious learning of a language during one or two periods a day at school and the acquisition of a language in a social environment where language is used for daily communication (Nieman & Monyai, 2006:27). Krashen (1976:77) postulates that learning to read and write in another language is a mammoth task and that it should be regarded as an important accomplishment.

Basically, language acquisition refers to the way children acquire their mother tongue. It happens unconsciously, through informal learning, and when a person is acquiring something or has already acquired it, he/she is not always aware of the fact that it is happening or has happened. According to Krashen (1976:77), people need sufficient exposure to comprehensible input in the additional language and enough time to appropriate the new language without realizing that they are doing so. If this happens, the learner will develop an intuitive feeling for the correct language usage and the ability to master the correct word order. Conscious learning of a language, on the other hand, leads to the acquisition of knowledge of a language and explicit formal linguistic knowledge of that specific language. Nieman and Monyai (2006:27) postulate that language is learnt by consciously learning new words, learning the grammar rules of a language and how to apply them. Conscious learning of a language usually takes place in formal language teaching situations. Krashen (1976:8) states that there is an interaction of various concepts and the variables within the learners that are assumed to contribute to the successful learning of a language or that might account for the failure to learn.

Second language learners are also referred to to as ESL (English as a Second Language) learners or LEP (Limited English Proficiency) learners (Arends, 1994:138). According to Arends (1994:138), second language learning is not an easy task as communicative and writing competence in any language consists of more than simply knowing its pronunciation, word formation, grammar and vocabulary. The speaker also needs to understand how to organize speech beyond the level of single sentences; how to make and interpret appropriate gestures and facial expressions; about the norms surrounding using language in accordance with roles, social status, and in different situations; and how to use the language to acquire academic knowledge (Arends, 1994:138). In first language learning, these abilities are acquired over an extended period of time and in meaningful social interaction with others. Cummins (1981:12) estimates that non-English speakers require 2 years to attain basic communication skills but need 5 to 7 years to develop Cognitive-Academic Language Proficiency (CALP). This implies that children can get along on the playground and in social situations very readily, but to become skillfull in learning academic content in the medium of English takes much longer. In a similar line of thought, English as a medium of instruction might have been a barrier to the implementation of READ's training programmes as the majority of the learners are second language speakers.

It appears that the task of learning a second language is a major challenge. Second language learners do not passively soak up a new language; they must listen attentively, rely on social and other context cues to help them make assumptions about how to use the language, test out their assumptions, and revise accordingly (Arends, 1994:139). As a result of that, second language learning may appear to be a confusing disarray of complex verbal stimuli that reach the learners soley as "noise". However, language learners will differ in the way they cope with this complexity and uncertainty. In the light of the above information, one would indicate that a discussion on language learning theories is only touching on two theories in this chapter.

In the preceeding section, it has been explained that learners who study through the medium of a language other than their home language struggle to cope with the linguistic demands of academic study (Nieman & Monyai, 2006:48). For these learners, language could become a barrier to learning. For example, Temel *et al*. (1998:41) stipulate that English learners face many challenges in the classroom.

The main reason for this is that English is spoken in many different ways in South Africa. The problem is that different pronunciations often lead to misunderstandings (Nieman & Monyai, 2006:48). According to these authors, only a small percentage of people who use English as their home language speak Standard British English and use standard English pronunciation. They further maintain that Afrikaans-speaking South Africans usually have a broad accent of their own when they speak English and tend to pronounce them very clearly. Similarly, the languages of the black people influence the way they pronounce words, with the result that they may say "weck" instead of "work", "detty" for "dirty", "heven" for "haven't" or "bed" instead of "bird".

Pronunciation and accent are not necessarily a problem, unless the accent and pronunciation cause learners to spell words incorrectly or to misinterpret the content. This puts more demands on language educators as they have to apply intervention strategies during the lesson. For instance, they could write the words which could be problematic on the board if they realize that learners struggle with their accent or pronunciation of words. However, the primary goal for English learners is to gain enough English proficiency to carry out school tasks about as well as their fluent English-speaking peers (Terrel *et al*., 1998:42). In kindergarten and first grade, "the linguistic performance gap" between English learners and their English-speaking contemporaries is relatively small (Peregoy & Boyle, 2005:62). But in later grades, school presents increased challenges for English learners because they have more to achieve and less time in which to achieve it. Also, English learners are typically competing with fluent English speakers in the classroom. Cummins and Schecter (2003:8) point out the first language speakers are not waiting for ESL students to catch up in the classroom. Every year, their literacy skills are expanding and, thus, ESL students must catch up with a moving target, which is a major challenge.

There is a discrepancy, too, between challenges confronting an English learner who is beginning first grade and one who is entering Grade 5. When students are in the early stages of language acquisition, their main objective is to understand their educators and peers and make themselves understood. Much of the language they use is for social purposes, such as interacting on the play ground (Peregoy & Boyle, 2005:62). However, especially as they proceed through the upper grades, English learners are asked to engage in higher level thinking and problem solving; they have to work diligently to acquire the formal-language competence that they need for more advanced instruction in the content

areas. English learners must manoeuvre their way through the complex social and cognitive interactions in English, not only orally, but also in reading and writing (Peregoy & Boyle, 2005:63).

In the light of the above discussion, one would say that educators need a repertoire of techniques to support English learners in achieving the goal of full English-language and literacy development….development that is at the same level of proficiency as that of fluent English-speaking peers. If students are to become capable of using both oral and written language in formal ways for academic purposes, their educators must believe and expect that they can meet this aim and "provide social and academic support at every step along the way" (Peregoy & Boyle, 2005:64). The techniques that are appropriate for Grades 3-12 are explicit development of academic language. Educators need to make their messages understandable to English learners. Only when they understand the instruction do English learners have access to what is being taught.

It is therefore, against the given background, that one would say that English as a medium of instruction might have impacted on the manner in which READ's training programmes were implemented in schools. The reason for this argument is that READ's training programmes are offered in English and that the majority of the participants are Second Language Speakers as was indicated earlier on.

2.13 CONCLUSION

Chapter 2 dealt with the concept of learning as well as philosophical ideas and models from a historical perspective. For example, emphasis was placed on approaches such as Behaviourism, Classical Conditioning, Operant Conditioning, Social Learning, as well as their manifestations and relevance to the study. Neo-behaviourism, Gestalt psychology, the information-processing model, constructivism, Piagets' theory of learning, Vygotsky's theory of learning and Feuerstein's theory of modifiability, as theories of learning, were also discussed in this chapter. The main aim of discussing these theories and models was to determine their relevance to the study and to highlight their linkage with READ's training programmes as the phenomenon under study. Basically, theories of learning were dicussed with a view to elucidate our understanding of READ materials and programme better. An attempt was also made to highlight their relevance to educators' classroom practices within the school situation.

On the other hand, the complex nature of the concept of learning suggests a holistic approach in any endeavour to address problems that are related to it as a multiplicity of factors comes into play. This puts more pressure on organizations such as READ because they are faced with several challenges, such as overcrowding in schools, family problems, leadership problems in schools, poor organizational cultures, etc. Having said that, one can therefore, deduce that service providers such as READ need to carefully look at the extent to which the various philosophical ideas, educational theories and models impact on the concept of learning and the implementation of intervention programmes, particularly during the planning phase. In the next chapter, another literature review is undertaken in order to examine factors that might have an impact on the implementation of language programmes offered by service providers such as READ Educational Trust.