

Rejuvenating Behaviourism as a Modern Psycholinguistic Theory of Language Teaching and Learning

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Abstract

The philosophical argument in the 17th century between rationalists and empiricists on whether the source of knowledge is reason or sense experience further extends to psycholinguistics. A parallel controversy arises in psycholinguistics between behaviourists who claim that language learning proceed empirically in human beings and innatists who claim that the capability for language acquisition is inborn in human beings. Behaviourism is a congeries of formulations arising out of empirical philosophy. This paper stresses the importance, relevance and application of behaviourism as a psycholinguistic theory to modern language teaching and learning. The pedagogical implications are discussed and relevant recommendations made. This effort is aimed at assisting the modern language teacher tap the benefits inherent in this age-long theory.

Keywords: Behaviourism, Modern Psycholinguistic Theory, Language Teaching and Learning

Introduction

Psycholinguistics as the study of the mental mechanisms that make it possible for people to use language has come full-blown. It is a scientific discipline whose goal is a coherent theory of the way in which language is produced and understood. Phyllis and Donald (1976) define psycholinguistics as the study of the mental processes which underlie the acquisition and use of language. Hence, it is a progeny of a rather unruly marriage between psychology, the study of behaviour; and linguistics, the study of language structure. One would, however, safely conclude that psycholinguistics is a science which provides for the use of linguistic analysis of grammar to identify the mental and behavioural processes which underlie language acquisition and development.

Behaviourism is an anti-mentalist school of psycholinguistics, which emphasizes that man is basically made up of actions (behaviours) in which thinking plays very little, if any part at all. Behaviourism is that school of psychology that is of the view that psychology should invoke only observable and measurable phenomena. Early in the twentieth century, psychology, had become somewhat obscurantist and even metaphysical. Behaviourism originated as a healthy reaction to this state of affairs; early behaviourists wanted to sweep away what they saw as empty speculations and the endless postulation of undetectable concepts. They therefore resolved to deal with nothing except what could be directly observed and preferably measured.

Along with their rejection of the excess baggage of earlier approaches, they often went so far as to reject such intangible concepts as “emotions”, “intentions”, “purposes” and even “minds”.

Behaviourism is an environmentalist theory of learning which holds that an organism's nurture, or experience, are of more importance to development than its nature, or innate contributions. Indeed, this school will typically deny that innate contributions play any role at all other than that of providing the animal with internal structure which environmental forces can proceed to shape.

It was J.B Watson (1878-1958) who popularized behaviourism in America but many others before him had propounded the doctrines that later became central to it. According to Chauhan (1987) behaviourism fits into the tradition of scientific materialism, starting from evolutionary biologist Jacques Leob who published in 1980 *The Mechanistic Conception of Life*. Then there were the objective Russian psychologists or reflexologists, I.M Sechenov, I.P Pavlov and Vladimir Bkhterov.

Later behaviourists are Hull and Tolman. They were both behaviourists but of different kinds. Hull developed a hypothetical deductive method in his drive reduction theory of learning. He formulated explicit postulates about learning such as reinforcement. On the other hand, Tolman was not as systematic as Hull. He was concerned with molar behaviour. This was a more cognitive form of behaviour.

B.F Skinner, Guthrie, Ivan Pavlov, Jean Piaget, Vygotsky and Osgood are some of the scholars who are associated with the behaviourist school. Guthrie proposed a theory of behaviour based on a single law. He said that any time a response occurs, it is linked with each of the stimulus elements present at the time*/the response is made. B. F Skinner had developed an objective approach known as operant conditioning in the later half of twentieth century. He produced a very powerful, pure descriptive behaviourism.

Types of Behaviourism

There are different types of behaviourisms viz;

1. Materialists behaviourism;
2. Epiphenomenal behaviourism;
3. Reductionist behaviourism; and
4. De facto behaviourism.

Materialist behaviourism: John B. Watson, the founder of behaviourism is of this type of behaviourism which regards mind and consciousness as religious superstition which are irrelevant to the study of psychology. Watson's criterion for determining whether something did or did not exist was whether or not it was observable.

Thus he stated:

No one has ever touched a soul (mind) or seen one in a test tube, or has any way come into a relationship with it as he has with objects of his daily existence.

In short, materialist behaviourism believes body exists, mind does not exist hence body is studied.

Epiphenomenal behaviourism: Most behaviourists after Watson found his materialism (the essential doctrine being that there is only one stuff in the universe, the material) too extreme. They formulated a position that generally does not deny the existence of mind. But, in practice they do not differ from Watson because none advocates the study of mind. Many take the Epiphenomenal view that mind exists but only as a reflection of bodily processes with the mind in no way influencing events in the body:

Skinner is evidently one who takes this point of view.

Thus Skinner (1971) says,

It (behaviourism) rejects explanation of human behaviour in terms of feelings, states of mind, and mental processes and seeks alternatives in generic and environmental histories.

In a nutshell, Epiphenomenal behaviourism believes body exist, mind exist, body influences mind but body is studied.

Reductionist Behaviourism: This agrees that mind exists as does body, but it believes that whatever happens in the mind also happens in the body. They believe both mind and body are two aspects of a single reality. (This view contrasts with the epiphenomenal view which holds that body is primary reality). Since, by taking this position, one can learn all there is to know about mind by a thorough study of body, there is no need to study mind.

De Facto Behaviourism: This may believe that mind exists and even causally interact with body, but they reject the study of mind because it is not objective and presents difficulties in conditioning empirical investigations. These theorists say that they are neutral with respect to the metaphysical issues. However, because they do not engage in the study of mind, but study only body with relationship to the world, in practice they do not differ from materialists, epiphenomenalists and reductionists. As such they are de facto behaviourists.

The main Tenets of the Behaviourist Theory

1. Psychology be taken from the controversy of mentalistic approach to objective psychology.
2. Environment is much more important than heredity in the determination of behaviour.
3. Conditioning is the key to the understanding of behaviour.
4. Subject-matter of psychology is human and animal activity which can be observed and measured in an objective way.
5. Consciousness, if at all exists, is not the subject of scientific study. The unit of behaviour is reflex or stimulus-response (S-R) connections.
6. The chief method of learning is conditioning. It rejects introspection as the method of studying behaviour.
7. The association of a particular response with a particular stimulus constituted a habit.
8. Language learning is basically habit-formation. By and large, behaviourists such as Watson (1924) or Skinner (1957) set out to know how habits were established.

BEHAVIOURISTS VIEWS ABOUT LANGUAGE LEARNING AND ACQUISITION

This paper would examine the behaviourists' views about language learning and acquisition through the eyes of B.F Skinner and C.E Osgood. This is because they specially theorized for language.

B.F. SKINNER'S S-R THEORY

In his book *Verbal Behaviour* (1957), Skinner describes language as operant behaviour in that it is emitted without observable stimuli and is controlled by its consequences (reinforcement). He maintains that if the consequence is rewarding, the linguistic behaviour increases in frequency. Whereas if the behaviour is punished in some manner, its occurrence decreases and eventually is extinguished. Consequently, children initially learn to emit and respond to the sounds which constitute language because these sounds are associated with positive reinforcement. For example, if the child makes sounds such as "dada" and receives much adult attention (positive reinforcement), he is likely to emit the sound again. As his experiences increase, his behaviour is shaped through reinforcement to make the sound in a manner which more closely resembles the adult pronunciation, "dada" becomes "daddy" and to associate that sound with a particular individual.

Skinner attempts to account for all language development through a list of behaviours which he calls "**Verbal Operants**". The **Mand** is his term to denote the verbal language which reduces a drive state, as in a thirsty child learning the word "water". The **Tact** is a verbal response to a physical stimulus, as in associating "chair" with the object.

Echoic behaviour refers to duplication of previously heard speech such as imitating a parent's verbalizations. **Textual Behaviour** is a verbal response to graphic symbol as in pronouncing a written word. Finally, **Intraverbal behaviour** denotes a response to other verbal behaviours or the habitual association of a word with another word e.g. bread and butter.

Skinner's (1957) formulation for learning is particularly influential because of its implications for second and foreign language learning and because Chomsky's criticism of its philosophical and psychological basis marks the birth of modern psycholinguistics. As Adediran (1991) puts it,

Skinner's operant conditioning or instrumental learning describes a more active learning process than Pavlov's (1927) stimulus response (SR) model from which it is derived (Adegbite, 2009).

C.E OSGOOD'S S-r-s-R THEORY

C. E Osgood was another behaviour psychologist who saw language as something essentially symbolic and meaningful. He was therefore critical of Skinner's theory, on the ground that it did not pay sufficient attention to the meaningfulness of utterances. His contribution is in the area of trying to show the semantic intentions or the meaningfulness of various utterances. To accomplish that he developed what is known as Osgood's semantic differential by which words are indicated on a scale of preferences with different meanings attached to them.

Osgood proposed a multistaged model of language behaviour which included representations of implicit stimuli and responses which mediate between the observable Stimulus (S) and Response (R). In short, he conceptualized and provided for the intervening mentalistic activities. i.e. partial responses (r) and stimuli (s) which occur in the brain and take care of the problem of meaning or semantics. His model can, therefore, be represented as S-r-s-R in contradiction to Skinner's simplistic and incomplete S-R model.

In other words, he said that it is not just enough to say people make tact, mand and echoic responses; we should have clearly conceptualized view of what these responses represent, or of the semantic intentions of the speaker.

Osgood explained the associational process by suggesting that when a primary stimulus is closely followed by the occurrence of the secondary stimulus, the latter evokes a fractional part of the response behaviour originally elicited by the primary stimulus. Let us assume, for example, that a large animal (primary stimulus) has been presented to a child in close association with pronunciation of the word "dog" (secondary stimulus) and that the child has responded to the animal by fleeing. On another occasion when the child encounters the word "dog" it has now become representative of the animal (primary stimulus) and will evoke a fraction of the original response which occurs within the child as "r" as it is not the overt response "R" which the child actually

makes. The next chain in the association occurs when the fractional “r”, a mediating process, produces covert self-stimulation which is implicit “S”. That is, the partial response evokes new stimulation inside the child. For example, the desire to flee might cause awareness of the absence of a parent. This internal or implicit “s” is also a meditating process because it in turn evokes the observable response®, crying.

Although the ideas put forth by Skinner and Osgood vary in many particulars, they both reflect the associationist's belief that the position of each word in a sentence is determined by the word which immediately precedes it. Since each word is a stimulus for the next words, a sentence may be defined as a left to right chain of stimulus-responses associations. Therefore, according to behaviourists, the speaker's placement of words in a sentence is based on the probability that they belong in a certain order because they have occurred in that order previously.

APPLICATION OF BEHAVIOURISTS' LEARNING THEORY TO MOTHER-TONGUE AND SECOND LANGUAGE ACQUISITION.

The behaviourists held that language acquisition was a product of habit formation. Habits were constructed through the repeated association between some stimulus and some response, which would become bounded when positively reinforced. (Larsen-Freeman and Long, 1991).

Second language learning, then, was viewed as a process of overcoming the habits of the native language in order to acquire the new habits of the target language. This was to be accomplished through the pedagogical practices of dialogue memorization, imitation and pattern practice. Over-learning automatically was the goal.

The theories of habit formation were theories of learning in general. They could be and were applied to language learning. In L1 acquisition, children were said to master their mother-tongue by imitating utterances produced by adults and having their efforts at using language either rewarded or corrected. In this way children were supposed to build up a knowledge of the patterns or habits that constituted the language they were trying to learn. It was also believed that second language acquisition

reinforcement were the means by which the learner identified the stimulus-response associations that constituted the habits of the L2. Language learning, first and second, was most successful when the task was broken down into a number of stimulus-response links, which could be systematically practised and mastered one at a time.

Behaviourists' accounts of second language acquisition view the learner as “a language producing machine”. The linguistic environment is seen as the crucial determining factor. In this model of learning, input comprises the language made available to the learner in the form of “stimuli” and also that which occurs as feedback. Thus the availability of suitable stimuli is an important determining factor in second-language acquisition.

Behaviourist theories emphasize the need to regulate the stimulus or the stimuli by grading the inputs into a series of steps, so that each step constitutes the right level of difficulty for the level that the learner has reached.

Furthermore, behaviourist principles apply to all learning, including language learning. According to Skinner (1957), language is acquired by behaving in language, and verbal responses, as a subclass of responses, can be explained by the general laws governing the establishment of connections between stimuli and responses (Greene, 1972). A particular set of words is directly relatable to an identifiable external event. Therefore, given a context, an appropriate utterance is predictable, all one needs is to identify the controlling variables in the particular environment and the ensuing dialogue becomes predictable. According to Skinner (1957), verbal responses are directly attached to stimuli without any need for intervening variables such as meaning, ideas or grammatical rules. (Adegbite, 2009).

IMPLICATIONS OF BEHAVIOURISM TO LANGUAGE TEACHING AND LEARNING.

From the discussion so far, certain essential elements in the learning situation can be identified with regard to language.

- The first is that learning can produce errors which can be corrected through practice, self-correction and modification of previous responses.

- Second is that language learning is mechanical and it requires the active participation of the learner through repetitive actions of elimination and association of features. Reinforcement is also an essential element in the learning situation. A correct response must be reinforced or rewarded promptly before any other behaviour intervenes.

-Third, the listener reinforces correct verbal behaviour as he nods in agreement or gives verbal response, but in certain circumstances the speaker is his own listener and he/she reinforces his/her own behaviour. Reinforcement can help to increase the learner's motivation.

-Fourth, the features in the environment of learning are crucial to the whole learning process. The learning task is set contingent on the environment; and by performing the task, the learner is working on both himself/herself and the environment. In this regard, a knowledge of the features of the situational context is necessary for predicting (understanding) the utterances that will occur in a verbal interaction. (Adegbite, 2009).

CONCLUSION AND RECOMMENDATIONS

Irrespective of whether the type of learning behaviour described by psychologists working within the frameworks provided by Watson and Skinner actually occurred, habit-formation theory dominates discussions of both first and second language acquisition up to date.

In addition to offering a general picture of second language acquisition as habit-formation, behaviourism has also explained why the L2 learner made errors (as that, old habits get in the way of learning new habits-interference).

Parents and teachers interested in shaping particular language behaviours may do so by following the principles of operant conditioning (reinforcing desirable behaviours). In fact, the educational application of the behaviourists language theory has been less than overwhelming. (Phyllis and Donald, 1976).

By and large, behaviourism exercised great influence over the linguist Leonard Bloomfield and the American Structuralists who followed him: they

too, preferred to concentrate on directly observable linguistic behaviour and to refrain from abstract theorizing. It would not be gain-saying to assert that the principles of behaviourism appear to explain both L1 and L2 reliably than the mentalistic abstraction of the mentalists.

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