

A Review of Behaviorist Learning Theory and its Impact on the Learning Process in Schools

Alfajri Yusra¹, Neviyarni S², *Erianjoni³

¹Doctor Program of Education Science, Postgraduate School - Universitas Negeri Padang, Indonesia

²Department of Counseling Guidance, Faculty of Education Science - Universitas Negeri Padang, Indonesia

³Department of Sociology, Faculty of Social Science - Universitas Negeri Padang, Indonesia

*E-mail: erianjoni@fis.unp.ac.id

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ABSTRACT

Behavioristic learning theory and its influence on learning and the learning process are discussed in this article. According to behavioristic theory, learning results in behavior modification. Behavioristic learning theories are hypotheses about how people learn, and they argue that rewards and reinforcement play a role in learning. According to this belief, the behavior will stop if it receives punishment. The expression "stimulus-response" is used in behavioristic learning theory to describe how a stimulus, or a stimulus in the form of rewards, reinforcement, and punishment, will produce a reaction. The behavior may persist or cease in response. This behavioristic hypothesis is studied by psychologists who view behavior change as evidence of learning. Despite receiving a lot of support and criticism, the behavioristic theory still has an impact on the teaching strategies used during the teaching and learning process.

Keywords: Theory, Behaviorist, Learning, Impact



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INTRODUCTION

Learning is a deliberate process that people go through to change from ignorance to knowledge (Tully et al., 2018), from having the wrong attitude to being right (Chambers et al., 2022), and from not being good at something to being skilled at it (Bishop, 2017). Learning is more than just memorizing facts or information. The challenge is how to actively involve people in transforming the learning outcomes they receive into an event that benefits them personally. The theory is a set of teachings about an event that includes concepts, methods, and principles that can be researched, dissected, and verified (Pearce & Zare, 2017).

The implementation of teaching and learning activities between teachers and students, as well as the creation of learning strategies that will be used both inside and outside the classroom, are all governed by learning theory (Persky & McLaughlin, 2017). Seaman et al (2017) stated that a collection of interrelated theories that explain various facts and observations about learning events is known as a learning theory. It may be easier for students to understand what is being learned if learning theory is used in conjunction with appropriate development processes, selection of subject matter, and message design components. The learning atmosphere will also be more relaxed and fun (Katrina et al., 2019). Learning is essentially an intangible mental process. In other words, the process of change that occurs in someone who is learning is difficult to see but can be seen through signs of behavioral change. Behavioristic learning theory is a type of learning theory that emphasizes changes in learner behavior (Clark, 2018). Muhajirah (2020) states that behavioristic learning theory is a psychological theory that emphasizes actual behavior and

is not related to the relationship between consciousness and mental construction. The teacher's authoritarian style, role as a channel of indoctrination and propaganda, and role as manager of behavioral input determine behavioristic learning theory. This is because according to behavioristic learning theory, humans depend on the stimuli they receive (Çeliköz et al., 2019). The main purpose of this teaching is to change student behavior for the better. Behavioristic learning theory is used in learning in addition to deducting points for breaking the rules. Knox et al (2020) said that according to behavioristic learning theory, learning results in behavior modification. If someone can show improvement in behavior, it is assumed that they have learned. Input, or input in the form of a stimulus, and Output, or Output in the form of a reaction, are both significant from the behavioristic perspective. The study of behavior according to the relationship between perceptible stimulus and reaction, not by consciousness or mental fabrication, is the focus of behavioristic learning theory. Cognitive theory, in contrast to behavioristic learning theory, holds that learning is a mental activity that cannot be seen with the naked eye.

Learning outcomes that can be witnessed, measured, and evaluated concretely are very important in behavioristic learning theory. Learning outcomes are achieved through a process of improving responses to the internal and external learning environment (Nasrallah et al., 2022). Strengthening bonds, relationships, character, and tendencies to change behavior are learning aspects. The goal of behavioristic learning theory is to shape desired behavior. The term "stimulus-response learning" is often used to describe behavioristic learning. All student behavior is the result of learning and is a response to the environment. If behaviorist learning is brought into the classroom, learning will be of higher quality. This theory can be applied in the current learning process based on its constituent parts. It is easy to find behavioristic learning theories used in educational settings. This is because the simplicity of this idea can be used to improve the quality of students.

METHODS

A type of research used to study behaviorist learning theories and their impact on learning is the systematic literature review (SLR). Literature research methods to identify, review, evaluate and interpret all available research. This method is for structured review and identification of journals following established procedures for each process (Adams et al., 2017). Information is gathered by reading literature related to the topic under discussion. Data sources, particularly literature, maybe books, scholarly articles, research journals, research reports, seminar papers, and other forms related to this research. The resulting data sources are journals published and indexed in the Google Scholar database.

FINDINGS AND DISCUSSION

3.1 Review literature (Findings)

A. Behaviorism

This theory was coined by Gagne and Berliner and contains changes in behavior as a result of experience. This theory prioritizes measurement because the measurement is an important thing to see whether there is a behavior change. Responses to stimuli can be

strengthened by positive or negative feedback on the desired behavior (Kim et al., 2020). This theory then developed into a flow of learning psychology that influenced the direction of the development of theory and practice of education and learning known as the behavioristic school which emphasizes the formation of behavior that appears as a result of learning.

The flow of learning psychology that has had a very large influence on the direction of the development of theory and practice of education and learning up to now is the behavioristic school (Kaufman, 2018). This flow emphasizes the formation of behavior that appears as a result of learning. Behavioristic theory with a stimulus-response relationship model places people who learn as passive individuals. Certain responses or behaviors by using the drill method or mere habituation. The emergence of behavior will be stronger when given reinforcement and will disappear when subject to punishment.

The application of behavioristic theory in learning activities depends on several things, such as learning objectives, the nature of the subject matter, the characteristics of students, the media, and available learning facilities (Shepard et al., 2018). Learning that is designed and based on behavioristic theory views that knowledge is objective, certain, fixed, and unchanging. Knowledge has been structured neatly, so that learning is the acquisition of knowledge, while teaching is transferring knowledge (transfer of knowledge) to the learner or learner. The function of the mind or mind is to copy the existing knowledge structure through a thought process that can be analyzed and sorted so that the meaning resulting from this kind of thinking process is determined by the characteristics of the knowledge structure. Students are expected to have the same understanding of the knowledge being taught (Anderson, 2017). That is, what is understood by the teacher or teacher is what students must understand.

This behavioristic method is very suitable for the acquisition of abilities that require practice and habituation that contains elements such as speed, spontaneity, flexibility, reflexes, endurance, and so on, for example, foreign language conversation, typing, dancing, using computers, swimming, sports and so on. etc. This theory is also suitable to be applied to train children who still need the dominance of adult roles, like to repeat and have to be used to, like to imitate, and are happy with forms of direct rewards such as being given candy or praise.

Behavioristic theory with its stimulus-response relationship model places people who learn as passive individuals. Certain responses or behaviors by using training or habituation methods alone. The emergence of behavior will be stronger when given reinforcement and will disappear when punished. Punishment is sometimes used to eliminate or reduce wrongdoing, followed by describing the desired action. Behaviorism education is key in developing basic skills and fundamentals of understanding in all subject areas and classroom management. Some experts say that behavioristic learning theory is a change in behavior that can be observed, measured, and assessed concretely.

Another factor that is considered important by the behavioristic school is the reinforcement factor. If reinforcement is added (positive reinforcement), the response will be stronger. Likewise, if the response is reduced/eliminated (negative reinforcement), the response will also be stronger. Several principles in behavioristic learning theory include 1) Reinforcement and Punishment; 2) Primary and Secondary Reinforcement; 3) Schedules of Reinforcement; 4) Contingency Management; 5) Stimulus Control in Operant Learning; and 6) The Elimination of Responses (Lattal & Fernandez, 2022).

B. Behaviorism Theory According to experts

Ivan Petroch Pavlov

The flow of psychology in Russia was pioneered by Ivan Petrovich Pavlov and is

known as the flow of behaviorism in Russia. According to Pavlov, the activities of organisms can be divided into 1) Reflective activities, namely the activities of organisms that are not realized by the organisms concerned; and 2) Conscious activity, namely activity on the consciousness of the organism concerned. This is a response based on a well as a reaction to the stimulus it receives (Pavlov, 2022). Pavlov in his experiments used dogs as experimental animals. The dog is operated on in such a way that when saliva comes out it can be seen and can be accommodated in the provided place. According to Pavlov when a dog is hungry and sees food, then salivates, this is a natural response, a reflective response, which is called an unconditioned response.

When the dog hears the bell and then moves his ear, this is also a natural response. Bell as an unconditioned stimulus or ear motion as a conditioned stimulus. The problem that Pavlov thought about was whether a dog could form a behavior or a response when the dog heard the sound of a bell and then salivated. This is what was then investigated experimentally by Pavlov. In this experiment, the result is that the sound of a bell acts as a conditioned stimulus and salivation as a conditioned response. If the sound of the bell is given after being given food, then the conditioned response will not occur (Budiman, 2017) The same is true if the experiment is applied to the learning process. The teacher will give assignments to students to familiarize the examples of the material provided by the teacher. And if the student can apply the example and can make a habit of his behavior, the teacher will reward the student. The command is repeated several times the task until the student can get used to the example without being rewarded again.

Edward Lee Thorndike

Learning problems in the view of behaviorism, in general, have several theories, including the theory of Connectionism, Classical Conditioning, Contiguous Conditioning, and Descriptive Behaviorism or better known as Operant Conditioning. The theory of connectionism, which was pioneered by Thorndike, views that the basis for learning is the association between the sense of impressions and the impulse to act (impulse to action) (Surur, 2021). This means that the theory of behaviorism, which is better known as contemporary behaviorist, views that learning will occur in children if children have an interest in the problems at hand. Students in this context are faced with the attitude of being able to choose the right response from various possible responses. This theory illustrates that student behavior is controlled by the possibility of receiving external rewards or reinforcements that have a relationship between behavioral responses and the influence of rewards. According to Thorndike, learning will take place in students if students are in three kinds of learning laws, namely: 1) The Law of Readiness; 2) The Law of Exercise; and 3) The Law of Effect.

The law of readiness to learn is a principle that describes a situation where the learner (student) tends to be satisfied or dissatisfied. In this context, 3 situations can occur: 1) If a conduction unit is ready to conduct, then conduction with that unit will bring satisfaction; 2) If a conduction unit is ready to conduct, but does not conduct, it will cause dissatisfaction; and 3) If a conduction unit that is not ready to conduct is forced to conduct, the conduction will cause a vacuum (Amsari, 2018).

His typical experiment is with cats, selected young ones whose habits are still not rigid, left hungry, and then put in cages. The construction of the cage door is made in such a way that if the cat touches a certain button the cage door will open and the cat can get out and reach the food placed outside the cage as a gift or attraction for the hungry cat. On the first attempt, the cat still performs various movements that are not relevant to solving the problem. The time required for this first attempt is long. The same experiment was carried out over and over again, the next attempt it turned out that the time needed was getting

shorter. It is concluded that the cat does not understand how to break free from the cage, but he learns to memorize the correct responses and eliminate or leave the wrong responses.

John B. Watson

Unlike Thorndike, according to Watson, the pioneer who came after Thorndike, the stimulus and response must be in the form of observable behavior (Malone, 2014). In other words, Clark & Watson (2019) ignore the various mental changes that may occur in learning and considers them as factors that do not need to be known. All that matters. However, these factors cannot explain whether the learning process has occurred or not. Only with such assumptions, according to Watson, can be predicted what changes will occur in students. Only then can psychology and learning science be equated with other sciences such as physics or biology which are very empirically oriented. Based on this description, behaviorists prefer not to think about things that cannot be measured, even though they still admit that they are important.

Edwin Ray Guthrie

This opinion of Thorndike and Pavlov was reaffirmed by Guthrie, where he stated his law, namely "The Law of Association", which reads: "A combination of stimuli which has accompanied a movement will on its recurrence tend to be followed by that movement" (Bandura, 2021). In simple terms, it can be interpreted that the combination or combination of a class of stimuli that accompanies or follows a certain movement, then there is a tendency that the movement will be repeated in the same situation/stimuli. Observing the statement above, it can be understood that according to Guthrie, learning requires a reward and there is a closeness between the stimulus and the response. In addition, there is a punishment (punishment) for the inability of students to carry out a task, there is a good side and also a bad side. Whether or not the punishment is effective (good side) depends on whether the punishment causes students to learn or to be lazy to learn. The concept put forward by Guthrie contains the meaning that learning in students does not have to repeat the sequence between stimulus and response relationships, and does not require a gift (Wood et al., 2005). He stated that learning will occur because of contiguity (the contact relationship between stimulus and response). It does not matter whether the response is obtained during exercise with unstimulus (US) or in other ways, as long as the stimulus and response occur together, then learning occurs.

Burrhus Frederic Skinner

According to Skinner, the description between stimulus and response to explain behavioral changes (about the environment) according to Watson's version is an incomplete description. The response given by students is not that simple, because basically, every given stimulus interacts with one another, and this interaction ultimately affects the resulting response. While the responses given also produce various consequences, which in turn will affect student behavior. Therefore, to fully understand student behavior, it is necessary to understand the response itself, and the various consequences caused by the response. Skinner also explained behavior would only make things more complicated because the tool eventually had to be explained again. For example, if it is said that a student has poor achievement because this student is frustrated, it will demand that it be explained what frustration is (Miles & Stipek, 2006).

C. Behavioristic Development Stages

An important fact about development is that the basis of development is critical. Attitudes, habits, and behavioral patterns formed during the first year determine how far individuals successfully adjust in their next life. Erikson Hurlock argues that infancy is a time when individuals learn to believe or not believe, depending on how parents satisfy their children's needs for food, attention, and affection (Guettaf & Sahed, 2022). The first patterns of development tend to be steady but that does not mean they cannot be changed 3 conditions allow change 1) Change can occur when individuals get help or guidance to make changes; 2) Change tends to occur when valued people treat individuals in new or different ways (creative and not monotonous); and 3) If there is a strong motivation on the part of the individual himself to make changes.

Knowing that the basics of early development tend to persist, allowing parents to predict their child's future development. Adherents of environmentalism (behaviorists) believe that the optimal environment results in the maximum expression of heredity. The development process takes place in stages, in the sense: 1) That the changes that occur are progressive, increasing, or deepening or expanding both qualitatively and quantitatively (progressive principles); 2) That the changes that occur between the parts and or functions of the organism there are interdependencies as a harmonious integral unit (systematic principle); and 3) That changes in the part or function of the organism take place in an orderly manner and are not coincidental and jump up and down (continuous principle).

D. Characteristics of Behavioristic Education

Broadly speaking, Toenlioe (2014) mentions the main ideas about education based on behaviorism psychology have the following characteristics: 1) Education is the process of changing behavior to achieve goals according to certain standards using stimulus-response-association-based habituation techniques; 2) The main educational techniques of behaviorism are modeling, positive reinforcement, negative reinforcement, elimination, and diversion; 3) The teacher is the executor of learning according to the standard provisions that have been previously set by parties outside of him; 4) Students are obliged to carry out the demands of the teacher without compromise as a logical implication of the existence of standard provisions that must be achieved by the teacher; 5) The purpose of learning is to change behavior in the form of increasing knowledge, skills, and attitudes in students; 6) Learning content is objective, structured, permanent, and has a single standard; 7) The main method used in the learning strategy is the lecture and drill method; 8) In structuring the learning climate, the techniques of motivation, positive reinforcement, negative reinforcement, diversion, and punishment are used; and 9) In terms of learning evaluation, the right reference is criteria or benchmarks, with an emphasis on learning outcomes.

E. Behavioristic Theory Learning Model

In the early half of the twentieth century, the theory of behaviorism dominated education in America, even today. It is evident from Skinner's position he ranks first in the list of the most famous psychologists of the twentieth century (see appendix). That's why some learning models are also very dominant in their behavioristic side. Cruickshank et al (2014) provide five examples of behavioristic learning models, namely:

📖 *Direct Instruction (DI)*: Direct Instruction is learning that directs students to learn the material and academic abilities directly in the most efficient way. Materials that are suitable for using DI are basic ones, such as reading, writing, mathematics, and so on. The characteristics of direct learning are 1) Teacher-centered, who directs and controls strongly what to learn and how; and 2) Task orientation, meaning that the primary task

is academic learning for basic materials, such as reading and writing.

- ☞ *Programmed Instruction (PI)*: Programmed Learning involves organizing subject matter or practice into small parts called frameworks. Students respond to questions or problems (stimulus) in each framework. If students' answers are correct, they receive positive reinforcement and the next outline is presented. When students respond incorrectly, they are asked to repeat or give more information to help students find answers.
- ☞ *Computer-Assisted Instruction (CAI)*: Computer Assisted Learning refers to the use of computers to display Programmed Learning. Many types of CAI programs are available and most require students to engage in a lot of practice.
- ☞ *Precision Teaching (PT)*: This precision teaching model appears when students master facts or skills, then continue to practice these skills until they reach a high level of accuracy or fluency, in other words, this learning model is referred to as "practice creates perfection". Teachers who use the PT model provide one minute of daily practice and record the number of questions answered correctly. Students are given notes on their progress. The basic principle of this model is the information processing process.
- ☞ *Applied Behavioral Analysis (ABA)*: This learning model is widely used in clinical settings (hospitals, prisons, schools) to modify client behavior towards a more normal or acceptable pattern. This ABA model always uses Skinner's operant conditioning principle and is still active in his community in the United States.

F. Strengths and Disadvantages of Behavioristic Theory

The advantages of behavioristic theory are familiarize teachers to be observant and sensitive to learning situations and conditions. The teacher does not get used to giving lectures so students are accustomed to learning independently. If students find difficulties, then ask the teacher concerned. Able to form the desired behavior by getting positive acknowledgment and behavior that is not appropriate to get negative rewards based on visible behavior. Through continuous repetition and training, it can optimize the talents and intelligence of students that have been formed previously. If the child is already proficient in a particular field, it will be strengthened even more by continuous and optimal habituation and repetition. 1) Lesson materials that have been arranged hierarchically from simple to complex with learning objectives divided into small parts marked by the achievement of a certain skill, capable of producing a consistent behavior in a particular field; 2) Can replace one stimulus with another stimulus and so on until the desired response appears; 3) This theory is suitable for acquiring abilities that require practice and habituation that contain elements of speed, spontaneity, and endurance; 4) The behavioristic theory is also suitable to be applied to children who still need to dominate the role of adults like to repeat and have to get used to it like to imitate and like direct forms of appreciation.

The disadvantages of Behavioristic Theory are: 1) A consequence of compiling lesson materials in a ready-made form; 2) Not every lesson can use this method; 3) Students act as listeners in the learning process to memorize what they hear and are seen as an effective way of learning; 4) The use of punishment which is highly avoided by behavioral figures is considered the most effective method to discipline students; 5) Students are seen as passive, need external motivation, and are greatly influenced by the reinforcement provided by the teacher; 6) Students only listen in an orderly manner to the teacher's explanation and listen to what is heard and is seen as an effective way of learning so that the student's initiative towards a problem that arises temporarily cannot be resolved by the student; and 7) Tend to direct students to think linearly, convergently, not creatively,

unproductively, and subdue students as passive individuals.

3.2 Discussion

The behavioristic flow of learning psychology to date has had a significant impact on the development of theory and practice in education and learning (Alias et al., 2014). This stream focuses on how learning outcomes in the development of behavior. In Indonesia, this theory still dominates the field of education (Zamroni et al., 2022). This can be seen from the way the learning was carried out from the start. In playgroups, kindergartens, elementary schools, junior high schools, and even universities, behavior is often shaped through practice (habituation) plus reinforcement or punishment.

The application of behavioristic theory in educational settings depends on several factors, including learning objectives, course content, student characteristics, media, and learning resources (Ertmer & Newby, 2013). Behaviorism in schools is based on ideas such as those put forward by its founders, such as Thorndike, regarding the need for teacher support to shape student behavior, the need for skills to be acquired, and the need for mental discipline. In addition, Guthrie's theory of the need for reinforcement in learning has so far been accepted as an important component of educational activities (Seidel & Shavelson, 2007).

Moreover, Skinner's theory of the need for a teacher-led learning environment, student involvement, feedback after the engagement, and the freedom of students to learn the material at their own pace became the foundation of curriculum development in Indonesia. Because the behaviorist idea holds that knowledge has been organized neatly and systematically, students or people who learn must first be presented with well-defined rules. Because discipline is more closely related to learning than habit formation, both are important components of learning.

Teacher approval to shape student behavior, skill requirements to be taught, and the need for mental discipline is the foundation for the growth of behaviorism in schools. Failure or inability to increase knowledge is characterized as a fault that must be punished. In addition, Guthrie's theory of the need for reinforcement in learning has so far been accepted as an important component of educational activities. Moreover, Skinner's theory of the need for a teacher-led learning environment, student involvement, feedback after the engagement, and the freedom of students to learn the material at their own pace became the foundation of curriculum development in Indonesia.

Because the behaviorist idea holds that knowledge has been organized neatly and systematically, students or people who learn must first be presented with well-defined rules. Because discipline is more closely related to learning than habit formation, both are important components of learning. Success or learning ability is characterized as a kind of behavior that deserves a reward while failure or inability to increase knowledge is categorized as a mistake that needs to be punished. Similarly, following the rules is seen as a success factor for learning. Because students or students are objects that follow rules, systems outside of students must maintain control over learning (Degeng, 1989).

CONCLUSIONS

Behaviorism theory describes learning as a shift in behavior that results from the interaction of a stimulus and response, which is then enhanced by the reward that follows (reinforcement). Behaviorism theory ignores issues related to mental activity that occurs

between stimulus and reaction because it views it as subjective (cannot be observed and measured). Consequently, the behavioristic point of view compares student learning to machine or animal (mechanistic) learning. The machine learning approach sees knowledge as something fixed and objective, and behavioristic learning activities only see learning as the transmission of knowledge from teacher to student. While students only absorb it passively, the teacher is more active. Therefore, the curriculum is designed to apply to all students, regardless of interests, skills, learning preferences, or other differences. The application of behaviorist learning is not perfect. Some materials and circumstances still allow the use of this method. Children, for example, still need role models, reinforcement in the form of praise and rewards, and in some circumstances, the consequences of punishment.

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