



THEORIES OF LEARNING AND THEIR IMPACT ON LEARNING

Koudraogo Aimé RAMDE

Université Norbert Zongo – Burkina Faso

ramde.aime@gmail.com

Abstract : The body and the mind, the two fundamental components of man according to Freud (1901), encompass the psyche, which governs affective, cognitive, and organic life. Learning, stemming from cognitive life, is a complex and dynamic process crucial for human development, yet its understanding and implementation vary according to underlying theories. It is within this framework that this study is articulated, titled *theories of learning and their impact on learning*. The general objective is to clarify the main theories of learning and analyze their influence on teaching methods and knowledge acquisition. To achieve this, the study employs a theoretical and analytical approach to explore three forms of learning (by action, by tutoring, by exploration) and associated learning styles. The examined theories include behaviorism, cognitivism, and constructivism, each evaluated based on their impact on teaching and learning processes. The article distinguishes learning styles from learning strategies, identifying their role in individual perception of the learning environment. Behaviorist, cognitivist, and constructivist theories are presented as essential frameworks for understanding how individuals acquire and structure their knowledge, thus providing valuable perspectives for improving educational practices in various contexts

Keywords: psyche - psychic model - neurosis - psychosis – borderline

LES THÉORIES DE L'APPRENTISSAGE ET LEUR IMPACT SUR L'APPRENTISSAGE

Résumé : Le corps et l'esprit, deux composantes fondamentales de l'homme selon Freud (1901), englobent la psyché, qui régit la vie affective, cognitive et organique. L'apprentissage, issu de la vie cognitive, est un processus complexe et dynamique crucial pour le développement humain, mais sa compréhension et sa mise en œuvre varient en fonction des théories sous-jacentes. C'est dans ce cadre que s'articule cette étude, intitulée *Théories de l'apprentissage et leur impact sur l'apprentissage*. L'objectif général est de clarifier les principales théories de l'apprentissage et d'analyser leur influence sur les méthodes d'enseignement et l'acquisition des connaissances. Pour y parvenir, l'étude utilise une approche théorique et analytique pour explorer trois formes d'apprentissage (par l'action, par le tutorat, par l'exploration) et les styles d'apprentissage associés. Les théories examinées comprennent le comportementalisme, le cognitivisme et le constructivisme, chacune évaluée en fonction de son impact sur les processus d'enseignement et d'apprentissage. L'article distingue les styles d'apprentissage de l'apprentissage L'article distingue les styles d'apprentissage des stratégies d'apprentissage, en identifiant leur rôle dans la perception individuelle de l'environnement d'apprentissage. Les théories comportementales, cognitivistes et constructivistes sont présentées comme des cadres essentiels pour comprendre comment les individus acquièrent et structurent leurs connaissances, offrant ainsi des perspectives précieuses pour améliorer les pratiques éducatives dans divers contextes

Mots-clés : psyché - modèle psychique - névrose - psychose - borderline

Introduction

Learning is a complex and dynamic process that is fundamental to human development. Theories of learning provide frameworks for understanding how individuals acquire knowledge, develop skills, and adapt to their environment. These theories offer valuable insights into the underlying mechanisms of learning and can inform educational practices and interventions. This article explores key theories of learning and their implications for practice, focusing on the interplay between cognition, behavior, and the environment. By examining these theories, we can gain a deeper understanding of how learning occurs and how it can be facilitated in various contexts. The overarching aim is to elucidate primary learning theories and assess their impact on pedagogical practices and knowledge attainment. To achieve this, the study employs a theoretical and analytical framework to investigate three modes of learning (action-based, tutoring-based, exploration-based) and their corresponding learning styles. The theories under scrutiny encompass behaviorism, cognitivism, and constructivism, each assessed for their influence on educational methodologies and learning outcomes.

1. Definition

In general, learning is the act of learning, the state of being a learner. The verb "to learn" comes from the Latin "apprehendere," which means to grasp or apprehend. A learner is someone who learns or discovers something. From this, we can define learning as a set of voluntary and conscious activities explicitly aimed at acquiring a skill, knowledge, or information (Cuq, 2003). Thus, in learning, we perceive the conscious and voluntary nature, which is typically specific to it. It is a voluntary and conscious action towards given knowledge or skills. It most often takes place in an institutional setting, referring to formal learning. It can also occur in non-institutional settings, referring to informal or non-formal learning. This is why Piaget (1970) considers it as the construction, creation, invention, and development of knowledge.

2. Forms of Learning

There are two forms of learning: learning by action and learning by tutoring or instruction (Cordier et al., 1990). Regarding learning by action, it encompasses several learning styles aimed at acquiring procedural knowledge (know-how) and declarative knowledge (know-being). Thus, the learner is presented with a problem for which they do not have an immediate solution. They proceed by testing hypotheses they have formulated initially to see if they reach the final state of the problem (Tricot, 1998). The main characteristics of this form of learning by action are repetition, which favors learning, and feedback, which allows the learner to realize if they are approaching or achieving the objective.

As for the second form of learning, learning by tutoring or instruction is related to the transmission of knowledge by a tutor in various forms (Cordier et al., 1990). It involves the process of processing and understanding oral or written discourse, illustrated or not with images, for example, during a lecture. The principle of this form of instructional learning is to transfer knowledge to learners and help them



appropriate the information. It mainly involves comprehension activities where the learner must develop a model of the described situation from reading or listening. The learner does not explore the problem space but follows a path determined by the teacher.

A third form of learning has been somewhat developed by Tricot, Corinne Pierre-Demarcy, and Boussarghini (1998). This is learning by exploration. This form of learning resembles preparing a presentation: from a general instruction, the learner must consult a set of information and then produce a document that will eventually be evaluated. In this case, the subjects engage in both problem-solving with document exploration and text or image comprehension. They adopt an exploration and information selection strategy while representing the goal. However, we have not found a theory of this form of learning.

3. Learning Styles

Learning styles are often confused with learning strategies, yet these are two very different concepts. Learning strategies are specific techniques or methods that learners implement in learning situations to solve problems, tackle a task, prepare for an exam, or participate in class activities. These strategies can be learned, and learners can consciously choose to apply a specific strategy in a given situation. On the other hand, learning styles are integral to an individual's personality. When an individual prefers one learning style over another, it reflects their inclination in how they learn in a particular situation. Like personality traits change over time, learning style preferences can also change; these changes in preferences often result from the individual's exposure to different learning situations.

To understand the concept of learning style, some research has focused on the individual's behavioral characteristics, while others analyze the processes or structures resulting from the individual's behavior. Others have looked at the set of characteristics defining the learner's learning profile. Finally, some have simply considered learning styles as outcomes of a typology characterizing the type of person. From this, we define a learning style as a set of cognitive, affective, and physiological factors that serve as relatively stable indicators of how the learner perceives, interacts with, and responds to their learning environment (Keefe, 1987). It's like an internal program that manages an individual's behavior in learning situations. It's the way a person is programmed to learn most effectively, i.e., to receive, understand, retain, and be able to use new information. Thus, the learning style becomes an immutable characteristic with which one must contend, whose origin is psychological or neurophysiological. It refers to the existence of a psychological structure in the individual, corresponding to a predisposition that would manifest in the learner's behavior (Chevrier, Fortin, LeBlanc, and Théberge, 2000). The learning style summarizes how each learner begins to focus on new and difficult information, processes it, and retains it.

We can appreciate learning styles according to several dimensions that have been understood under various theoretical models. Curry (1983) proposes a model that appreciates learning styles according to three levels, from the most external level to

the intermediate level to the internal level. At the most external and observable level of this model, we find the learner's preferences for teaching and learning conditions, such as room brightness or the presence of certain elements in the learning environment. At the intermediate level, there is the information processing style corresponding to the individual's approach characteristics regarding the preferred means for assimilating information, such as the most effective sensory modality for grasping knowledge (Chevrier, Fortin, LeBlanc, and Théberge, 2000). Finally, at the internal and least observable level, we encounter the individual's cognitive personality style. These are the characteristics of knowledge assimilation related to the learner's personality, such as being introverted or extroverted (Chevrier, Fortin, LeBlanc, and Théberge, 2000). For Keefe (1987), there are three types of learning styles: cognitive styles, affective styles, and physiological styles. In contrast, Grasha (1983) proposes a model based on variables such as cognitive, interpersonal, and environmental factors that can influence learning. The learning process, orientation towards study, preferences for teaching methods, and the development of cognitive skills (Riding & Rayner, 1998) also constitute a model presenting the dimensions of learning style.

Thus, several hypotheses about different learning styles are identified based on encoding and representation modalities, information processing modalities, experiential learning models, and personality theories. For example, based on experiential learning, recent work by Honey and Mumford (1992) identified four (04) learning styles: active style, reflective style, theorist style, and pragmatic style. The active style describes the behavior of a person who favors attitudes and behaviors specific to the experience phase. This implies that such a person will plunge without restraint into a new experience and will greatly enjoy what is happening in the immediate moment. This taste for new things is particularly stimulated in this active style by the presence of new challenges and the possibility for the learner to actively engage with others. Thus, they enthusiastically participate in activities with others, confront their ideas with others, and take pleasure in solving problems in a team. This is an asset for developing a creative and innovative spirit in the absence of strict guidelines. However, individuals with this style are less focused on realizing their ideas or activating them in the long term.

The reflective style is much marked by reflection. Individuals with this style prefer to reflect on their experiences before acquiring new ones. It is, therefore, the style of looking back on experience, marked by deep internal analyses of their various experiences. The new experience appears to them as data collected that will undergo analysis before drawing a conclusion. Thus, there seems to be a certain distance between them and others or between them and things due to the prudence conferred by this learning style. It is the style of thinking before acting. Thus, these individuals are discreet, silent, calm, and tolerant, considering all parameters in their reflection. They like to make decisions without constraints.

The theorist style is about seeking logic and coherence in organizing accumulated information. Individuals with this style use experiences to consolidate complex theories established in a way to achieve logic and coherence. They have a taste for analysis and synthesis and love perfection. This taste is stimulated when it



involves understanding and explaining by methodically exploring links between ideas or being confronted with systems, models, or theories. Following a systematic approach is crucial for them when addressing problems.

Finally, the pragmatic style is about the practical application of ideas, theories, and techniques to see if they work. Thus, in this style, there is a taste for seeking new ideas to put into practice. This style has a marked preference for realistic and practical solutions, the taste for making useful decisions, and solving concrete problems. Meeting an immediate, well-identified need, finding concrete benefits, and seeing practical advantages are considered important dimensions of learning.

4. Theories of Learning

A learning theory is a theoretical and abstract model that proposes coherent explanations of the causes, processes, and outcomes of learning. Learning theories aim to explain the phenomenon of knowledge acquisition. Additionally, they provide a conceptual framework for interpreting what we observe and offer guidelines for finding solutions to encountered problems (Hill, 1977). The direct application of a learning theory allows for the formulation of working hypotheses and research to improve learning processes.

Learning involves the transmission of knowledge by reinforcing behaviors, which is central to behaviorist theory. Learning also involves processing information through the internal mental mechanisms constitutive of thought and action, a focus of cognitive theory. Learning equally involves constructing images of reality in action situations, as developed by constructivist theory. Finally, learning involves exchanging meaning within social interactions, the focus of socioconstructivist thought.

Thus, several models of learning can be distinguished, each contributing to the construction of postulates aimed at understanding and facilitating learning. These include the behaviorist theory, cognitive theory, constructivist theory, and socioconstructivist theory.

4.1. The Behaviorist Theory

From the English "behavior," which means behavior, the term behaviorism, literally meaning behavioralism, was first used in the works of psychologist Watson (1913) at the beginning of the 20th century. Concerned with making psychology a scientific discipline in general, Watson (1972) attempted to use objective procedures to explain the learning of knowledge. Influenced by the work of Russian physiologist Ivan Pavlov on animal conditioning, he became interested in laboratory experiments to obtain exploitable statistical data. Behaviorism, or behavioralism, is thus a theory of learning that focuses on the study of observable behaviors independently of the brain's internal mechanisms or directly unobservable mental processes (Good & Brophy, 1995). This resulted in the psychological theory of stimulus-response learning or classical conditioning. According to this theory, behavior, which is equivalent to reaction or response, is determined by the stimulus. This is what is in the environment that triggers the response or reaction. This is why we speak of stimulus-response, that

is, the stimulus that triggers or initiates the response. However, this initial stage of behaviorist theory was limited to simple observable behaviors.



Figure 1 : Watson's Stimulus-Response Model

Later, with Skinner's operant conditioning (1984), psychology, which until then had been content with studying simple observable behavior, began to focus on observable behaviors that took into account internal mental life. The stimulus-response concept now became stimulus-individual-response. It is then that Fechner, in the same logic, compares the individual to a black box, of which nothing is known about what happens inside. However, we can predict certain behaviors since by proposing particular stimuli, we always obtain the same results at the output (Raynal, Rieunier, & Postic, 1997)..

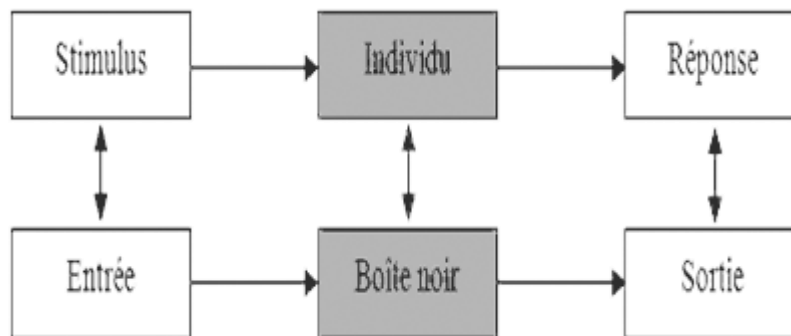


Figure 2 : Behavioral model of Fechner

In this summary of Fechner's behavioral model, we observe that the response is no longer automatic but depends on other factors related to the individual's internal mental life. It was thus established that it is at the level of the black box that the response is generated. This behaviorist theory has greatly influenced learning in many aspects. Indeed, behaviorism considers the learning process to be a lasting modification of behavior resulting from particular training, which proves to be conditioning (Chekour, Laafou, & Janati-Idrissi, 2015). Behaviorism assumes that the acquisition of knowledge occurs in successive stages, progressing from the least difficult to the most difficult. The transition from one level of knowledge to another occurs through positive reinforcement of expected responses and behaviors. With adequate stimulation, the learner is able to produce the expected result. From this initial response, the learner is encouraged to produce a second one, and so on, progressing towards the more difficult without retracting. Consequently, the teacher can repeat a concept one or more times when it is observed through behavior that the concept is not understood by the learners. Multiplying repetitions is a form of conditioning to achieve a level of assimilation among the learners. This has significantly influenced learning and has led to breaking down subjects into several



series of short elements to allow for as rapid a reinforcement as possible. The content of learning starts from the simplest level, and the level of difficulty gradually increases to promote error-free learning. Additionally, the content is presented in a linear sequence, but each individual can progress at their own pace, which aligns with individualized instruction.

In this behaviorist perspective, the trend of objective-based education seeks to define learning objectives in terms of observable behaviors. The teacher's work then consists of analyzing the learner's responses based on the objectives to be achieved and, from these responses, deducing the skills that produce them. Positive reinforcement through encouragement is favored and encouraged in teaching. Similarly, the teacher's task is to design progressive exercises, guide students in their achievements, and provide them with the necessary feedback for the next step. Thus, in this theory, the learner is a student who listens, watches, reacts, and tries to reproduce in front of a teacher who transmits information, knowledge, presents, describes, schematizes, plans, and verifies. Therefore, teaching methods based on behaviorism assume that learning occurs through teaching, which can be done by a teacher or a machine. Nowadays, with distance learning (DL), the idea of introducing digital machines into the teaching-learning process has become increasingly common and unavoidable. The behaviorist teacher will be inclined to use exercises, quizzes, educational games, and/or animations when designing and implementing DL. If this theory is comfortable with the idea of introducing digital machines into learning, it seems too limited to be sustainable (Bouhdidi, 2013). Thus, in this behaviorist theory, the learner seems to play a passive role in knowledge acquisition. However, the constructivist approach proposes the opposite. Also, behaviorists are only interested in results, not in the cognitive processes of information processing. The emphasis is on the analysis of observable behaviors. Internal cognitive processes are ignored or neglected in this behaviorist approach. This has led to the reaction of some authors who denounce it. This has led to the emergence and development of the cognitive theory or cognitivism.

4.2. The Cognitive Theory

The term cognitivism comes from the term cognition, which comes from the Latin *cognitio*, meaning "action of knowing," derived from *cognoscere*, which means "to seek to know, to inquire; to become aware, through sight or hearsay." It is a school of thought that uses cognitive processes to explain how things work, especially the phenomenon of learning. This movement, cognitivism, was born as a result of the reintroduction of the study of mental phenomena, which had been less considered by behaviorists. Even though behaviorists introduced the black box in their conception, they did not consider it a central piece of behavior. It was in response to this that the cognitivist theory was born. The first serious break with behaviorists dates back to Miller's 1956 publication of an article entitled "The Magical Number Seven, Plus or Minus Two." In this article, he demonstrates the physiological limits of human memory, showing that an individual's normal memory capacity is limited to seven isolated elements. This study broke with the behaviorist view that memory is a blank

receptacle in which knowledge accumulates. Thus, the opening to mental processes and the development of computing led to this paradigm shift from the behaviorist model to the cognitive model. Learning could no longer be limited to conditioned recording but should rather be considered as requiring complex processing of received information. Memory has its own structure, which involves organizing information and using strategies to manage this organization (Crozat, 2002). The cognitive theory is subdivided into two essential ideas in cognitive psychology. The first idea, which borrows much from the representation of operations that occur in a computer, assimilates the human mind to an information processing system. The second is based on the importance of the gradual and effective appropriation of mental strategies (cognitive and metacognitive) deemed necessary for a structured learning approach.

In cognitive psychology, there are fundamentally three (03) main categories of knowledge represented in memory. These are declarative knowledge, procedural knowledge, and conditional knowledge. Declarative knowledge answers the question WHAT? Procedural knowledge answers the question HOW? And conditional knowledge answers the questions WHEN? And WHY? These categories of knowledge contribute to producing a cognitive explanation of how learning works. This cognitivist thesis posits that the learner seems to be a kind of active information processing system, similar to a computer, perceiving information from the external world, recognizing it, storing it in memory, and then retrieving it from memory when needed to understand the environment or solve problems (Bibeau, 2007). In this logic, the teacher becomes the manager of learning, guiding, animating, directing, advising, explaining, regulating, and remedying. In doing so, knowledge becomes an external reality that the learner must integrate into their mental schemas and reuse rather than acquire observable behaviors (Bibeau, 2007). For this trend, learning must be structured to promote information processing processes in students. However, factors such as children's motivation for learning are not taken into account, as they provide the energy needed for learning.

In terms of learning, the cognitiveist conception seems less straightforward. For Legendre (1993), it is not so simple to describe the contours of a cognitive conception as one could do in the behaviorist conception, where coherence and objectivity seem striking. The cognitiveist conception involves the interpretation of cognitive processes, such as reasoning, for example, in terms of calculation and information processing. It considers learning as the process by which each person's cognitive structures and abilities develop, transform, and acquire through interactions with the environment. Thus, every individual constructs their knowledge and develops it based on their existing cognitive structures. For cognitivists, the basic premise is that all learning occurs from cognitive structures that are already present. Learning will therefore consist of transforming previous cognitive structures into new structures (Lebrun, 2002).

4.3. Constructivist Theory

The term constructivism is composed of constructive and the suffix -ism. Constructive comes from the Latin *constructio*, meaning construction, structure,



conformation, derived from the verb *construere*, to construct, build, edify. The suffix -ism is used to form words corresponding to an attitude, a behavior, a doctrine, a dogma, an ideology, or a theory. Thus, from its etymology, the term constructivism refers to a doctrine, a dogma, an ideology, or a theory that advocates the aspect of construction and structuring of knowledge. In the artistic field, constructivism is an avant-garde artistic and architectural movement, of Russian origin, which appeared in 1914. It is based on a geometric conception of space, by the assembly of planes and lines. In pedagogy, constructivism is considered an ideology according to which knowledge comes from an individual's mental activity. It develops based on interaction with the environment and is built from this information. In sociology, social constructivism is a view that considers social reality and social phenomena as created and institutionalized before transforming into traditions and focuses on how this reality is constructed. In mathematics, constructivism is a philosophy of mathematics that considers that to prove the existence of a mathematical object, it is necessary for it to be "constructed." Thus, assuming that an object X does not exist and leading to a contradiction is not sufficient to deduce that it exists. In politics, constructivism is a political trend that proclaims that public choices should be guided by the desire to build a certain type of society, and not by the immediate well-being of individuals.

Here, we note that constructivism is a theory that postulates that each learner constructs reality, or at least interprets it, based on their perception of past experiences. For this theory, learning is an adaptation of thought schemes that occurs in two different ways: the process of assimilation and the process of accommodation. The theory is interested in the development of cognitive processes in learners because, from its point of view, it is the learner who constructs their knowledge (Henri & Lungren-Cayrol, 2001) by assimilating new knowledge or by accommodating it. It asserts that the acquisition of knowledge involves a reorganization of previous mental conceptions, a construction or reconstruction process that occurs in each individual. Unlike the behaviorist and cognitivist currents, which were developed outside of research on learning, constructivism is a current mainly related to learning and developed from research in learning. This school of thought gained momentum by opposing behaviorist thinking, which limited learning too much to the stimulus-response association and did not emphasize the role that the individual plays in constructing their knowledge. The constructivist approach to learning emphasizes the subject's activity in apprehending phenomena. Understanding is built on the representations that the subject already has. This theory is essentially known through Piaget (1970), for whom knowledge is not transmitted directly but is more the product of the learner. This means that every individual is responsible for constructing their knowledge through the processes of assimilation and accommodation. Both are inverse but complementary processes that precede a final process, which is equilibration.

Assimilation is the process that allows the integration and internalization of new knowledge into existing ones. Thus, in light of existing schemes, new events will be interpreted and integrated or internalized. To put it simply, existing schemes will be used to analyze new knowledge events. For example, if a child uses a particular object

in a certain way, they will try to apply this way of using the object to a new object. If successful, they will integrate the new object into the same.

This cognitive perspective focuses on two different aspects: the stages of cognitive development and the process of cognitive functioning. Piaget (1970), in reaction to associationists, developed his theory of intelligence development where he placed the individual at the center of the process, making them the main actor. He supposes that individuals construct their knowledge through continuous interactions with objects or phenomena. There would be a progressive equilibration, meaning that internal regulatory processes or self-regulation would ensure a better adaptation of the individual to their environment. In this regard, Piaget emphasizes the role of the processes of assimilation and accommodation: the former allowing the assimilation of new knowledge into existing cognitive structures and the latter allowing a transformation of cognitive activities to adapt to new situations. He thus emphasized the dual dynamics: that of cognitive development and that of cognitive functioning.

Cognitive development informs about the different stages of cognitive development. These include the sensorimotor stage, the preoperational stage, the concrete operational stage, and the formal operational stage.

The sensorimotor stage occurs between birth and 2 years old. It is subdivided into six sub-stages: the period from 0 to 1 month marked by the use of innate reflexes, the period from 1 to 4 months marked by simple and repetitive actions, the period from 4 to 8 months marked by actions on objects and people, the period from 8 to 12 months marked by the understanding of causality links, the period from 12 to 18 months marked by the exploration of the environment, and the period from 18 to 24 months marked by problem-solving through mental representation. In the sensorimotor stage, the child uses their senses and movements to discover the world around them - they crawl, touch everything, taste everything.

The preoperational stage ranges from 2 to 6 years old. It is divided into two stages: symbolic thought from 2 to 4 years old, and intuitive thought from 4 to 6 years old. Symbolic thought is characterized by egocentrism, artificialism, contradiction, and irreversibility. For intuitive thought, it is characterized by concentration, conservation, and precategories. At the preoperational stage, the child begins to experiment and then master oral and written language. They also begin to imitate and perform fictitious acts.

The concrete operational stage, from 6 to 10 years old, marks the child's operational intelligence. This stage is characterized by physical conservation and mental conservation. At this stage, the child is capable of reasoning to classify or group elements. They also begin to socialize with empathy and take into account the words of others.

The formal operational stage, from 10 to 16 years old, marks the child's transition to more complex reflections by combining ideas, making hypotheses, and making deductions. It characterizes the transition from the concrete to the abstract, from the real to the possible, deductive logic, systematic problem-solving, and long-term consequence prediction.



As for the analysis of cognitive functioning, it is governed by two central elements: organization and adaptation.

The organizational component is explained by the tendency of living beings to integrate their experiences and activities into systems or structures. It is a tendency to categorize events based on relationships of resemblance, proximity, identity of functions. In the constructivist perspective, teaching strategies are based on the notion of "prior conceptions" which are considered as the welcoming system, the anchoring from which the work of transformation, integration of elements of new knowledge operates. Prior conceptions are not a starting point but instruments serving the construction of new knowledge. The learner is therefore led to transform their conceptual structures by integrating new information or by reorganizing existing knowledge. This construction of knowledge is a dynamic process that is optimized by taking into account the cognitive profiles of each learner. Here we see that the constructivist position joins cognitivism in that both constructivism and cognitivism emphasize the active and structuring role of the learner and their representations in the constitution of knowledge.

The adaptive component is the ability of these structures to evolve, to transform based on lived experiences. Piaget (1970) identifies several principles for the development of cognitive structures and their functioning, including the principle of assimilation and the principle of accommodation. In the first case, the "new" learning corresponds to a past experience. It is actually a repetition, a re-anchoring of an already existing cognitive structure. In the second case, the learning situation is new and produces no echo within the cognitive structures. A mechanism then starts to integrate this new learning, to restore balance. For Piaget, it is in this latter situation that one can truly speak of learning. The contributions of Piaget's theories to our understanding of learning are numerous.

For Piaget, knowledge does not simply accumulate cumulatively but organizes into structures. It is through a progressive equilibration that cognitive structures allowing the acquisition of language will be established thanks to "assimilative schemes". And in this, the action of the individual on the environment will continually cause re-equilibrations, as new elements will come to endanger the homeostasis of the previous structuring. This difficulty due to adaptation will provoke a "cognitive conflict", requiring the integration of new elements into the existing cognitive structure and then performing a "major equilibration". It is in this way that new knowledge, such as a new language, is learned.

4.4.Socioconstructivism

Socioconstructivism, derived from cognitivism, is a learning theory considered an evolution of constructivism. There are two approaches in this theory, including the approach of cultural psychology and the interactionist approach. The approach of cultural psychology is inspired by the work of Vygotsky and is developed by authors such as Perkins, Brown, and Campione. The interactionist approach, on the other hand, is based on the ideas of Piaget's work and is developed by authors such as Pierret-Clemont, Gilly, Doise, and Mugny. Like constructivism, socioconstructivism

argues that individuals construct their knowledge through experimentation and discovery, except that at its core, socioconstructivism shows that this cannot be done without the intervention of the social and cultural environment. It emphasizes the role of multiple social interactions in the construction of knowledge. Indeed, even though the construction of knowledge is personal, it takes place in a social environment. In this sense, the child's knowledge construction will be influenced by it. Their intellectual development will take place in this interaction with the social and cultural environment.

For socioconstructivists, talking about knowledge construction is actually talking about a mental activity of reorganizing the system of thought and existing knowledge.

The approach of cultural psychology, which is based on the ideas of the sociocultural psychologist Vygotsky, and the interactionist approach, with iconic figures like (Doise & Mugny, 1981), building on the work of Vygotsky and Piaget, have sought to explain the role that the social plays in the construction of knowledge in an individual.

The psychocultural approach emphasizes the importance of the environment in a child's intellectual development. According to this approach, without social interactions between the child and their environment, it would be impossible for the child to achieve a certain level of intellectual development. This is why Vygotsky introduced the concept of the Zone of Proximal Development (ZPD) in this approach, which he believed to be more important than a static measure of intelligence. The ZPD is defined as the difference between a person's potential development level and their current development level. It measures the gap between what a person can learn on their own and what they can learn with the assistance of a more capable peer or adult.

In contrast, static measures of intelligence are assessments of an individual's intellectual achievements. The psychocultural approach suggests that it is better to determine what an individual is capable of achieving on their own and with the assistance of a more competent person (ZPD), rather than evaluating their intellectual achievements to determine their Intelligence Quotient (IQ). The ZPD helps boost learning by providing specific assistance to facilitate learning, unlike IQ, which is simply an evaluation. The Zone of Proximal Development distinguishes between two types of learning: normal learning and social learning. Normal learning refers to what an individual can succeed in learning alone, which will be developed anyway, but the assistance of a third party can facilitate the process. Social learning, on the other hand, is linked to what is learned through collaboration with others and cannot be achieved alone. These types of learning lead to the construction of cognitive and social knowledge in an individual.

From this psychocultural approach, it is preferable to encourage teamwork and supervision to acquire new knowledge and facilitate learning. This approach also allows for the evaluation of close developments to facilitate them based on the individual's achievements. Thus, one could assess a child based on their potential as well as their achievements.



In the logic of the interactionist approach, knowledge is constructed through interactions with peers (Mead, 1934). Interactions among peers lead to the confrontation of viewpoints. Proponents of this approach argue that sociocognitive conflict is essential for knowledge construction. Such conflict arises from the confrontation of divergent conceptions, as each learner has their own point of view. An individual learner cannot discover the viewpoints expressed by others on their own. Becoming aware that their thoughts differ from those of others creates an interindividual imbalance, as the learner also realizes that others' thoughts conflict with their own knowledge. This leads to an intra-individual imbalance, prompting the learner to reconsider their own viewpoints and those of others in order to reconstruct their knowledge. Through deep internal reflection, the learner gains an understanding of their own thoughts and those of others, leading to the construction or reconstruction of new knowledge. Bruner (1995) uses the term "thinking about thinking" to describe this process. This is how new knowledge is constructed in the interactionist approach. In this approach, it is essential for the learner to analyze their own intellectual functioning to reach an inevitable sociocognitive conflict necessary for knowledge construction. This analysis of one's own intellectual functioning is known as metacognition. Thus, it is through metacognition that the learner, through sociocognitive conflict, constructs new knowledge according to this interactionist approach. Metacognition can be defined as the ability to ask oneself questions to plan, evaluate oneself before, during, and after a task, and to readjust as needed. It is the learner's ability to reorganize their own knowledge, improve their cognitive skills through analysis, planning, and self-evaluation of their own learning. This metacognition, through interactions between the learner and others, allows for the construction of new knowledge. This new knowledge is social and cannot be constructed without the help of others, who can be peers or a more competent third party. In the case of peers, this leads to a sociocognitive conflict, which, according to this interactionist approach, is essential for constructing new knowledge.

Additionally, the theory of distributed cognition pushes this socioconstructivist conception to the extreme. These two socioconstructivist approaches focus on the cognitive processes that occur within the learner with the support of the environment and independently of this environment. However, for the theory of situated and distributed cognition, the emphasis is on the environment in which learning takes place. Talking about the environment brings out two contexts: the social context, which characterizes the place, the environment; and the physical context, which characterizes the interaction between individuals. The psychocultural and interactionist approaches only emphasize the physical context in the learning process. However, it is the process of cooperation and collaboration between the individual and their physical and social environment that interests the distributed or situated cognition approach. It studies the group composed of the learner and the teacher as a single complex cognitive system. For example, the teacher and the student's notebook used to take notes during the teacher's class constitute a single cognitive system called "person-plus". The student will learn the new knowledge that the "person-plus" develops, which another

person may not be able to develop. Thus, the notebook and the teacher represent a single cognitive system from which the student will learn new knowledge.

5. Discussion

Freud (1901) laid a solid foundation by conceptualizing humans as entities composed of body and mind, governed by the psyche that regulates the affective, cognitive, and organic aspects of the individual. This holistic vision is crucial for understanding the complex processes of learning, which primarily emanate from the cognitive sphere but are deeply influenced by the emotional and organic components of the individual. By integrating this Freudian perspective, our study of learning theories aims to explore how these different dimensions interact and influence pedagogical methods and knowledge acquisition.

Behaviorist, cognitivist, and constructivist theories represent distinct theoretical frameworks that offer varied perspectives on how individuals learn and develop their understanding of the world around them. Behaviorism, focused on observable behaviors and external stimuli, has historically influenced teaching methods centered on conditioning and reward. To critique behaviorism, authors like Bruner (1961) have denounced its simplistic view of learning, focusing solely on observable behaviors. Bruner emphasized the importance of understanding the internal cognitive processes that influence learning, which behaviorism overlooks. In contrast, cognitivism emphasizes internal mental processes such as memory, attention, and problem-solving, thus favoring learning strategies that stimulate critical thinking and deep understanding. Constructivism, on the other hand, encourages an approach where learners actively build their knowledge through interaction with their environment, promoting personal exploration and collaboration (Piaget, 1970). Socio-constructivism, promoted by researchers like Vygotsky (1978), emphasizes the active role of the learner in constructing their own knowledge. It underscores the importance of social interaction and the zone of proximal development in learning.

Our analysis has revealed that each learning theory influences not only teaching processes but also how knowledge is acquired and integrated by learners. For example, applying behaviorist principles in classrooms may limit conceptual understanding in favor of conditioned behavior, while the cognitivist approach supports methods that actively encourage learners to solve problems and build complex mental frameworks. Similarly, constructivism underscores the importance of social interactions and personal exploration for meaningful and lasting comprehension of concepts.

Understanding the impact of learning theories on pedagogical methods provides valuable perspectives for continuous improvement in education. By adapting our pedagogical approaches to reflect a nuanced understanding of learning processes, we can create more inclusive and effective educational environments. Future research could further explore the complex interactions between different learning styles and strategies, as well as the comparative effectiveness of educational approaches based on various theories. Additionally, increased attention to cultural and social contexts



could enrich our understanding of the diversity of educational practices and their effects on student learning.

Conclusion

In conclusion, theories of learning offer valuable insights into the complex process of acquiring knowledge and skills. From behaviorism to constructivism and socioconstructivism, these theories provide frameworks for understanding how individuals learn and develop. By recognizing the interplay between cognition, behavior, and the environment, educators and practitioners can design more effective learning experiences and interventions. Understanding these theories can help us create learning environments that support and enhance the learning process, ultimately leading to improved learning outcomes

References

- Bibeau, R. (2007). Information and communication technologies can contribute to improving students' academic performance. *Revue de l'EPI*, 94.
- Bouhdidi, J. E. (2013). An Intelligent Architecture Oriented Objectives based on Ontologies and Multi-Agent Systems for the Generation of Personalized Learning Paths. PhD thesis, Abdelmalek Essaadi University.
- Chekour, M., Laafou, M., & Janati-Idrissi, R. (2015). The evolution of learning theories in the digital age. EPI Association.
- Cordier, F., Denhière, G., George, C., Crépault, J., Hoc, J.-M., & Richard, J.-F. (1990). *Knowledge and Representations*. Paris: Bordas.
- Crozat, S. (2002). Elements for the industrialized design of digital educational materials. Doctoral thesis, University of Technology of Compiègne.
- Cuq, J.-P. (2003). *Dictionary of French as a Foreign Language and Second Language Didactics*. Paris: Clé International.
- Doise, W., & Mugny, G. (1981). *The social development of intelligence (Vol. 1)*. Paris: InterEditions.
- Freud, S. (1901). *Psychopathologie de la vie quotidienne*. Quebec: Les classiques des sciences sociales.
- Good, T., & Brophy, J. (1995). *Educational Psychology: A Realistic Approach*. New York: Longman.
- Henri, F., & Lungren-Cayrol, K. (2001). *Collaborative distance learning. Understanding and designing virtual learning environments*. Quebec: Presses de l'Université du Québec.
- Hill, F. W. (1977). *Learning: A survey of psychological interpretations*.
- Keefe, J. W. (1987). *Learning Style Theory and Practice*. National Association of Secondary School Principals.
- Lebrun, M. (2002). *Technologies for teaching and learning*. De Boeck.
- Marchand, L. (1992). Design of learning for adult learners taking distance courses. Doctoral thesis, Paris VIII.
- Marlowe, B. A., & Page, M. L. (2005). *Creating and sustaining the constructivist classroom*. California: Corwin Press.
- Martinez, M.-L. (1989). Socio-constructivism and innovation in French. *Practices: linguistics, literature, didactics*, n°63, pp. 37-62.
- Raynal, F., Rieunier, A., & Postic, M. (1997). *Pedagogy: Dictionary of key concepts: Learning, training, cognitive psychology*. ESF.
- Riding, R., & Rayner, S. (1998). *Cognitive Styles and Learning Strategies*. London: David Fulton.
- Tricot, A. (1998). "Definitions of specific aids according to learning situations in hypermedia environments". Seminar on mathematics didactics, p. Accessed on December 10, 2019: http://perso.wanadoo.fr/andre.tricot/Tricot_IREM.pdf.