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Effectiveness of Constructivism Theory of Learning as 21st Century Method of Teaching

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Abstract

The paper introduced the concept of constructivism theory of learning as an effective method of teaching in 21st century. Adequate effort was made to vividly explain the meaning, two major types and principles of constructivism learning theory. Likewise, the paper examined the role and characteristics of the usage of constructivism theory as a teaching method. The nature, setting and characteristics of constructivism classroom were also discussed. Benefits to be derived when constructivism theory is used as a teaching method is explicitly explained. Few criticisms raised against the use of this theory as teaching method were expatiated and resolve. The study recommends that effective usage of this method would certainly enhance learning mastery and ownership knowledge by the learners.

Keywords: *Constructivism Theory, Method of Teaching,* Constructivist teacher, Constructivist Classroom.

Introduction

Constructivist teaching is based on constructivist learning theory, Constructivist is based on the belief that learning occurs as learners are actively involved in a process of meaning and knowledge construction as opposed to passively receiving information. Learners are the makers of learning and knowledge. Constructivist teaching fosters critical thinking, creates motivated and independent learners. This theoretical framework holds that learning always builds upon knowledge that a student already knows; this prior knowledge is called a schema, because all learning is filtered through preexisting schemata. Constructivists suggest that learning is more effective when a student is actively engaged in the learning process rather than attempting to receive knowledge passively.

Constructivism is a view of learning based on the belief that knowledge is not a thing that can be simply given by teacher in the front of the classroom to students on their desks. Rather, knowledge is constructed by learners through an active and mental process of development; learners are the builders and creators of meaning and knowledge. Constructivism draws on the developmental work of Piaget (1977) and Kenny (1991). Summarily, constructivist learning theory has three major pillars, they are students' participation, team-work and practical experimentation. Furthermore, constructivism encourages learning as an internal, active process were new knowledge is built on past knowledge (Walden University, 2024)

Fosnot (1989) defines constructivism by reference to four principles: learning, in an important way, depends on what we know; new ideas occur as we adapt and change our old ideas; learning involves inventing ideas rather than mechanically accumulating facts; meaningful learning occurs through rethinking old ideas and coming to new conclusions about new ideas which conflict with our old ideas. Therefore, a productive constructivist classroom, then, consists of learner-centered and active instruction. In such a classroom, the teacher provides students with experiences that allow them to hypothesize predict, manipulate objects, pose questions, research, investigate, imagine and invent. The teacher's role is to facilitate this process. (Daodu, 2021).

Constructivist teaching fosters critical thinking and creates active and motivated learners. Zemelman, Daniels, and Hyde (1993) pointed out that learning in all, subject areas involves inventing and constructing new ideas. They suggested that constructivist theory should be incorporated into the curriculum, and advocate that teachers should create environments in which children can construct their own understandings.

It is important to note that constructivism is not a particular pedagogy. In fact, constructivism is a theory describing how learning happens; regardless of whether learners are using their experiences to understand a lecture or following the instructions for building a model airplane. In both cases, the theory of constructivism suggests that learners construct knowledge out of their experiences.

Constructivism is often associated with pedagogic approaches that promote active learning, or learning by doing.

Two Major Types of Constructivism Theory of Learning

Formalization of the theory of constructivism' is generally attributed to Jean Piaget, who articulated mechanisms by which knowledge is internalized by learners. He suggested that through processes of accommodation and assimilation, individuals construct new knowledge from their experiences. Hence, accommodation and assimilation are the two types of constructivism theory.

Assimilation: When individuals assimilate, they incorporate the new experience into an already existing framework without changing that framework. This may occur when individuals' experiences are aligned with their internal representations of the world, hut may also occur as a failure to change a faulty understanding; In contrast, when individuals' experiences contradict their internal representations, they may change their perceptions of the experiences to fit their internal representations.

Accommodation: According to this theory, accommodation is the process of reframing one's mental representation of the external world to fit into new experiences. Accommodation can be understood as the mechanism by which failure leads to learning: when we act on the expectation that the world operates in one way and it violates, our expectations, we often fail, but by accommodating this new experience and reframing our model of the way the world works, we learn from the experience of failure or others' failure.

Principles of Constructivism Learning Theory

Daodu (2021). Highlighted nine principles that explains fundamental issues surrounding constructivism learning theory.

1. The learner uses sensory input and does something with it, ultimately making meaning of it.
2. Learning consists of both constructing meaning and constructing systems of meaning. Learning is layered
3. Learning occurs in the mind. Physical activity may be necessary, but is not sufficient alone
4. Learning involves language. Vygotsky (1978) believed that language and learning are inextricably intermeshed.
5. Learning is a social activity.
6. Learning is contextual. We do not isolate facts from the situations and environments in which they are relevant.

7. Knowledge is necessary for learning. It. is the basis of structure and meaning- making. The more we know, the more we can learn.
8. Learning takes time; it is not spontaneous. Learners go over information, ponder them, use them, practice, experiment.
9. Motivation is a necessary component, because 'it causes the learner's sensory apparatus to be activated. Relevance, curiosity, fun, accomplishment, achievement, external rewards and other motivators facilitate ease of learning.

Role of Teacher in Using Constructivism Theory as Teaching Method

In the constructivist classroom, the teacher's role is to prompt and facilitate discussion. Thus, the teacher's main focus should be on guiding students by asking questions that will lead them to develop their own conclusions on the subject. Palmer (2022) suggests 'that good teachers join self, subject and students in the fabric of life because they teach from an integral and undivided self they manifest in their own lives and evoke in their students a capacity for connectedness. Jonassen (2023) identified three major roles of teachers to support students in constructivist leaning environments namely:

Modeling: Jonassen describe Modeling as the most commonly used instructional strategy. Constructivist learning Environment Two types of modeling exist: behavioural modeling of the overt performance and cognitive modeling of the covert cognitive processes. Behavioural modeling in Constructivist Learning Environments demonstrates how to perform the activities identified in the activity structure. Cognitive modeling articulates the reasoning reflection-in-action that learners should use while engaged in the activities.

Coaching: For Jonassen the role of coach is complex and inexact. She acknowledges that a good coach motivates learners, analyzes their performance, provides feedback and advice on the performance and how to learn about how to perform, and provokes reflection and articulation of what was learned. Moreover, she posits that coaching may be solicited by the learner.

Scaffolding: Scaffolding is a more systemic approach to support the learner, focusing on the task, the environment, the teacher, and the learner. Scaffolding provides temporary frameworks to support learning and student performance beyond their capacities. The concept of scaffolding represents any kind of support for cognitive activity that is provided by an adult when the child and adult are performing the task together.

Contrary to criticisms by some (conservative/traditional) educators, constructivism does not dismiss the active role of the teacher or the value of expert knowledge Constructivism modifies that role, so that teachers help students to construct knowledge rather than to reproduce a series of facts. The constructivist teacher provides tools such as problem-solving and inquiry- based learning activities with which students formulate and test their ideas, draw conclusions, a

inferences, pool and convey their knowledge in a collaborative learning environment. Constructivism transforms the student from a passive recipient Of information to an active participant in the learning process. Always guided by the teacher, students construct their knowledge actively rather than just mechanically ingesting knowledge from the teacher or the textbook.

Summarily, characteristic of a constructivist teacher includes the following:

1. Teacher serves as one of many resources for students, not necessarily the primary source of information.
2. The teacher engages students in experiences that challenge previous conceptions of their existing knowledge.
3. The teacher uses student responses in the planning of next lessons and seeks collaboration of students' initial responses.
4. The teacher encourages questions and discussion among students by asking open- ended questions.
5. The teacher assists students to understand their own cognitive processes (metacognition) by using cognitive terminology such as classify, analyze, create, organize, hierarchy, etc. when framing tasks.
6. The teacher encourages and accepts student autonomy and initiative by being willing to let go of classroom control.
7. The teacher makes available raw data and primary resources, along with manipulative and interactive physical materials.
8. The teacher does not separate knowing from the process of finding out.
9. The teacher facilitates clear communication from students in writing and verbal responses, from the point of view that communication comes from ones deep structural understanding of the concepts being communicated. When they can communicate clearly and meaningfully, they have truly integrated the new learning.
10. Teacher plays the role of a facilitators not impostor of knowledge.

The Nature of Constructivist Classroom

A constructivist teacher and a constructivist classroom exhibit a number of discernable qualities markedly different from a traditional or direct instruction classroom. A constructivist teacher is able to flexibly and creatively incorporate ongoing experiences in the classroom into the negotiation and construction of lessons with small groups and individuals, the environment is

democratic, the activities are interactive, student centered, and the students are empowered by a teacher who operates as a facilitator/consultant.

Characteristics of Constructivism Classroom

Following points below illustrates the nature, setting and how learning should be in the classroom where constructivism method is being used:

Learning is Constructed

Students are not blank slates upon which knowledge is etched. They come to learning situations with already formulated knowledge, ideas, and understandings. This previous knowledge is the raw material for the new knowledge they will create.

Learning is Active

The student is the person who creates new understanding for him/herself. The teacher coach, moderates, suggests, but allows the students to experiment, ask questions, try things that don't work. Learning activities require the students' full participation (like hands-on experiments). An important part of the learning process is that students reflect on, and talk about, their activities. Students also help set their own goals and means of assessment:

Learning is Reflective

Students control their own learning process, and they lead the way by reflecting on their experiences. This process makes them experts of their on learning. The teacher helps create situations where the students feel safe questioning and reflecting On their own processes, either privately or in group discussions.

Learning is Collaborative

The constructivist classroom relies heavily on collaboration among students. There are many reasons why collaboration contributes to learning. The main reason it is used so much in constructivism is that students learn all learning not only from themselves, but also from their peers. When students review and reflect on their learning processes together, they can pH up strategies and methods from one another.

Learning is Inquiry-Based

The main activity in a constructivist classroom is solving problems. Student use inquiry methods to ask questions, investigate a topic, and use a variety resource to find solutions and answers. As students explore the topic they draw conclusions, and, as exploration continues, they revise those conclusions. Exploration bf questions lead to more questions.

Learning is Evolving

Students have ideas that they may later see were invalid, incorrect or insufficient to explain new experiences. These ideas are temporary steps in the integration of knowledge. For instance, a child may believe that all trees lose their leaves in the fall, until she visits an evergreen forest. Constructivist teaching takes into account students' current conceptions and wilds from there.

What happens when a student gets a new piece of information? The constructivist model says that the student compares the information to the knowledge and understanding he/she already has, and one of three things can occur:

* The new information matches up with his previous knowledge pretty well (it's consonant with the previous knowledge), so the student adds it to his understanding. It may take some work, but it's just a matter of finding the right fit, as with a puzzle piece.
* The information doesn't match previous knowledge (it's dissonant). The student p has to change her previous understanding to find a fit for the information. This can be harder work.
* The information doesn't match previous knowledge and it is ignored. Rejected bits of information may just not be absorbed by the student. Or they may float around, waiting for the day when the student's understanding has developed and permits a fit.

Comparison of Traditional and Constructivism Classroom

The chart below compares the traditional classroom to the constructivist one. The significant differences in the two approaches are highlighted:

Traditional Classroom	Constructivist Classroom
Curriculum begins with the parts of the whole. Emphasizes basic skills,	Curriculum emphasizes big concepts, beginning with the whole and expanding to include the parts.
Strict adherence to fixed curriculum is valued	Pursuit of student questions arni interests is valued.
Materials are primarily textbooks and workbooks	Materials include primary sources of material and manipulative materials.
Learning is based on repetition.	Learning is interactive, building on'what the student already knows.
Teachers disseminate information to Teachers have a dialogue with students, students; students are recipients of knowledge.	helping students construct their own knowledge.
Teacher's role is directive, rooted in Authority	Teacher's role is interactive, rooted in. negotiation.
Assessment is through testing, correct answers.	Assessment includes student works, observations, and points of view, as well as tests. Process is as important as product.
Knowledge is seen as inert.	Knowledge is seen as dynamic, ever changing with our experiences.

Benefits of constructivist Theory as Teaching Method

The importance and gain to be derived when constructivism theory of learning is adopted as teaching method in current dispensation are numerous especially to learners.

1. Children learn more, and enjoy learning more when thy are actively involved, rather than passive listeners.
2. Education works best when it concentrates on understanding, rather than on rote memorization -concentrates on learning, how to think and understand.
3. Constructivist learning is transferable. In constructivist classrooms, students create organizing principles that they can take with them to other learning settings.
4. Constructivism gives students ownership of what they learn, since learning is based on students' questions and explorations, and often the students have a hand in designing the assessments as well. Engaging the creative instincts develops students abilities to express knowledge through a variety of ways. The students are also more likely to retain and transfer the new knowledge to real life.
5. By grounding learning activities in an authentic, real world context, constructivism stimulates and engages students. Students in constructivist classrooms learn to question things and to apply their natural curiosity to the world.
6. Constructivism promotes social and communication skills by creating a classroom environment that emphasizes collaboration and exchange of ideas. Students must learn how to articulate their ideas clearly as well as to collaborate on tasks effectively by sharing in group projects. Students must therefore exchange ideas and so must learnto "negotiate" with others and to evaluate their contributions in a socially acceptable manner.

Criticism against the Use of Constructivism Theory As a Teaching Method

Constructivism theory has been criticized on various grounds. Daodu (2010) itemized some of these criticisms as follow:

I. **It's elicit oriented:** Critics were of the opinion that constructivism and bother "progressive" educational theories have been most successful with children from privileged backgrounds who arc fortunate in having outstanding teachers, committed parents, and rich home environments. They argue disadvantaged, children lacking such resources, benefit more from the explicit instruction.

2. Social constructivism leads to "Group Think": Critics emphasized that the collaborative aspects of constructivist classrooms tend to produce a "tyranny of the majority", in which a few students' voices or interpretations dominate the group's conclusions and dissenting students are forced to conform to the emerging consensus.

3. There is little hard evidence that constructivist methods work: Critics pointed out that constructivists by rejecting evaluation through testing and other external criteria, have made themselves unaccountable for their students' progress. Critics also opined that studies

Of various kinds of instruction — in particular Project Follow Through a big term government initiative have found that students in constructivist classrooms lag behind those in more traditional classrooms in basic skills.

Conclusion

We are in a dynamic society, likewise teaching methods for meaningful learning must be dynamic fully involved, participate and play an active role in the learning process. Constructivism theory or learning process all these above features, hence, it is suitable for 21st century teaching method.

Recommendations

1. Constructivism theory of leaning should be made permanent as a major theory of learning in the curriculum of pre-service training teachers.

2. Regular Seminar and workshop should be organized to in-service/ practicing teachers to educate and give them more enlightment on the usage of constructivism theory as one of the modern day teaching methods.

3. Government and school owners should make adequate provision in the school environment to make it constructivism method of teaching friendly.

4. Teachers should make regular effort to involve the leaners in the teaching and learning activities. Student should be active not passive during leaning process in the classroom.

5. School Managers and teachers should provide adequate instructional materials that will enhance student's motivation to participate in the learning process.

REFERENCES

Daodu, M.A (2021). *Essentials of Educational Psychology.* Ibadan. Joytal Printing Pres.

Fosnot, C. (1996). *Constructivism: A Psychological theory of learning*. Inc Fosnot (Ed). Constructivism: theory, perspective and practice. New York: Teachers college press.

Jonassen, D (2023). *Evaluation constructivist learning. Educational Technology*. 36, (9)28-33

Kenny, D.A (1991). A General Model of consensus and Accuracy in Interpersonal Perception *Psychological Review*. 98, 155-163.

Mayer, Di. (2014). *The Poverty of Constructivism. Educational Philosophy and theory* 41, (3) 3 32-341

Palmer, C.O (2022). *Cognition, construction of knowledge and teaching.* Syntheses 80, (1) 121-140.

Piaget, J. (1997). *The construction of reality in the child.* New York: Free Press.

Vygotsky, L (1978). *Mind Society: The Development of higher psychological processes.* MA: Harvard University Press.

Walden University, (2024). *6 Principles of Constructivist Learning*

Zemelman, E.A, DanielsA.P, and Hype, O.S (1996). Constructivism: A Psychological theory of learning. Inc Fosnot (Ed). *Constructivism: theory, perspective and practice*. New York: Teachers college press.