

Constructivist Teaching Model: Implications for Serving Teacher Educators of the Old School Generation

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Abstract

Learners are formally sent to school to be taught by teachers for learning to take place. Students learn both in and outside the school. They even learn from their peers. In the past, the teacher strives to teach in other to cover the provisions in the curriculum. The methods of teaching adopted by the teachers are characteristically teacher centered. The learner, in such situation has no voice or contribution to make. In the past, the way culture prepared young ones soothe them as well as accepts teacher centered approach to teaching. However, the world is changing and people are learning very fast in the face of ICT. Learner centered education is in vogue and it tends to align to the inquisitive and scientific minds of the learners of this up-coming generation. In view of this, the constructivist teaching model is advocated. This requires that the teachers or the younger ones or this generation should be abreast with the constructivist teaching model. For this to be, it demands that teacher educators should in the course of preparing teacher for the future know and use constructivist teaching model in teaching trainee teachers. In this wise, this paper explain the meaning of constructivist model, its goals and characteristics. The paper highlighted the benefits, nature and roles of a constructivist teacher. The implications of the method to teacher educators were not left out.

Key words: *Constructivism, Constructivist, Old School, Teaching Model.*

Introduction

Constructivism as a teaching model derives from a somewhat eclectic domain as it draws from different theoretical meanings of different theorists like Jean Piaget, Dewey etc. Brader-Araje and Jones (2002) viewed constructivism as the idea that development of understanding

requires learners to be actively engaged and involved in meaning thinking. It is a teaching model based on the idea that learners are actively engaged in their learning process where the teacher is a facilitator or guide in the learners' self directed learning journey. It is a theory based on the idea of active learning to gain meaning of real-life context setting. This teaching model is distant from the models where the learners are seen as tabular rasa, where the teacher is active and reels out knowledge to fill the "empty brains" of learners. Constructivism as a teaching model is child centered rather than curriculum based. It focuses on knowledge construction and not knowledge reproduction (Anderson, Cardinale and Mart, 2012). In constructivism, learners are expected to construct new understanding using what they already know, and that prior knowledge influences what new or modified knowledge they will construct from new learning experiences. In the constructivist teaching model, learning is active rather than passive. Learners build their own understanding of topics. Learning is not linear rather it uses prior knowledge/experiences to expand what we know and learn. In constructivism, learning is an active and engaging process (Natalie, 2012). Let us consider a situation where students who offer both home Economics and Biology as subjects were taught how to cook the traditional soup of the Owerri people (Ofe Owerri) and in the process excess salt is added into the sauce and was detected before the vegetables are put into the sauce. A challenge is posed by that and a solution would be sort, else the sauce will be a waste. To "heal" that source, a constructivist teacher could guide the learners to get a tuber of yam, peel it, cut it into small sizes, wash the slices and put into the "Ofe Owerri" sauce for the yam to be cooked. When the yam slices are cooked, ask them to bring out the yam slices from the sauce and taste if there is still excess salt in the "Ofe Owerri" sauce. The result is most likely to be that the yam slices had absorbed the excess salt earlier detected to be in the sauce. The learners, by this, would have learned about absorpsion in Biology. Although this may be incidental because the focal lesson is in Home Economics but the bottom line is that there were provisions for learners to do something from where they built new knowledge.

Goals Of Constructivist Teaching Model

The constructivist teaching model has some goals. These goals include the following:

1. Encouraging knowledge formation: here, learners learn how to learn by the teacher giving them the training to take initiative for their own learning experiences.
2. Encouraging meta-cognitive processes for judging, organizing and acquiring of information. (www4.ncsu.edu/~jliletfe/EDP304notesfile/instructionalstrategies Note pdf. retrieved on 5th November. 2012).

Characteristic Of Constructivist Classroom

Teaching including constructivist teaching model should take place in an environment. For the constructivist model such environment should be characterized by what is in Tam's (2000) list. This list contains four basic characteristics which are:

1. Knowledge will be shared between teachers and learners
2. Teacher and learners will share responsibilities
3. The teachers' role is one of a guide or facilitator
4. Learning groups should consist of small numbers of heterogeneous learners.

Apart from the above, other characteristics of a constructivist classroom could be inferred from the theory itself and they include the following:

- a. Learners are actively involved in the learning process. It is participatory and makes provision for hands-on.
- b. The environment is democratic. The learners participate in deciding on what should be taught, at what time, where and how it is to be taught.
- c. The teaching-learning activities are interactive and student centered.
- d. The teacher facilitates a process of learning in which students are encouraged to be responsible and autonomous.
(en.wikipedia.org/wiki/constructivistlearningmethods retrieved 5th November, 2012).

Benefits Of Constructivist Teaching Model

Constructivism as a way of teaching and learning has tremendous benefit. These benefits include the following:

1. This teaching model adopts a more holistic approach to education for sustainability which requires that consideration be given to the environment in which learners engage in the learning process (Heriman, 2007). Besides, Natalie (2012) argues that the establishment of an environment that promotes a holistic approach to learning sets the stage for further constructivist teaching methods to unfold.
2. This teaching model has respect and consideration for learners' interest. This is because it provides learners with opportunities to question materials being presented. Learners are not straight jacketed into a fixed curriculum where learners' interests are not visibly considered. According to Natalie (2012) the difference results from the learner being an engaged learner as against one who simply compiles with what is prescribed for him/her.
3. Constructivist method of teaching emphasizes big ideas beginning with the whole and expanding to include the parts. This is contrary to the traditional teaching methods in the classroom that begins what is to be taught by explaining individual lessons that are part of a big idea
4. Furthermore, another benefit of the constructivist teaching method is that the method makes learners to be active and engaged.
5. Similarly, using constructivist teaching model provide learners with the opportunity to construct their own knowledge and fulfill their individual learning needs and interests.
6. In addition, other benefits of the constructivist teaching model as extracted from www.thirtccn.org/edonline/concept2-classroom/constructivism/indexwubld.html (retrieved on 6th November, 2012) are as follows:
 - Children learn more and enjoy learning more when they are actively involved rather than when they are passive listeners
 - Education works best when it concentrates on thinking and understanding rather than on rote memorization. Constructivism concentrates on learning how to think and understand.
 - Constructivist learning is transferable. This is because students create organizing principles that they can take to another learning setting.
 - Constructivism grounds learning activities in an authentic, real-world context and thus stimulates and engaged students
 - It promotes social and communication skills by creating a classroom environment that emphasizes collaboration and exchange of ideas.

- It gives students the ownership of what they learn, since learning is based on students' questions and exploration. The students, many a time, have hand in designing the way assessment will be done.

Besides the above benefits, constructivist teaching methods have been criticized as

- a. being elitist, and,
- b. that the collaborative aspects of constructivist classroom tend to produce a tyranny of the majority in which few students voices dominate group conclusion.

Constructivists Activities In The Classroom

In the traditional classroom, the teacher is the authority, director and encyclopedia. The student in the classroom usually works alone, learns through oral repetition and subjects contents are strictly adhered to and are guided by textbooks used in the classroom for each subject. In a constructivist's classroom, emphasis is on social and communication skills as well as collaboration and exchange of ideas. Here, learners learn in groups and learning and knowledge are characteristically interactive and dynamic. These are done through some activities which include but not restricted to the following:

- a. **Experimentation:** here students are given or assigned experiment which they perform individually and then come together in the class to discuss their findings
- b. **Research projects:** learners conduct assigned researches individually after which they present their findings to other members of the class.
- c. **Field trips:** planning and execution of field trips is one of the activities constructivists carry out in their classrooms. It should be planned, organized and followed through. At the end of the field trip, learners are expected to write their reports and later share their experiences in class with other learners.
- d. **Films:** these are used to provide visual context of what is being learnt as well as bringing another sense into the learning experience.
- e. **Class discussion:** This is a technique that runs like a thread through all other techniques given above. It is one of the most important distinctions of constructivist teaching model.

Teachers' Roles In A Constructivist Classroom

A constructivist teacher has roles to play in the classroom in order to harvest the benefits and achieve the goals of constructivist teaching model. The roles of a constructivist teacher are to prompt and facilitate meaningful discussion in the teaching-learning encounter. This, the teacher could do by asking learners questions that will lead them to developing their own conclusion on the subject matter. In addition, Jonassen (1999) identified modeling, coaching and scaffolding as major roles of a constructivist teacher to support learners in their learning. Modeling, according to Jonassen (1999) has two types, namely behavioural modeling of the overt performance and cognitive modeling of the covert cognitive processes. In cognitive modeling, there is the articulation of the reasoning learners should use while engaged in an activity while in behavioural modeling there is a demonstration of how to perform the activities identified in the activity structure.

Coaching, on its own, involves responses situated in the learner task performance. It can be initiated by the learner or teacher (Laffey, Tupper, Musser, and Wedman, 1997)

Scaffolding is a systematic way of giving support to learners focusing on the task at hand, the environment, the teacher and learner. It is any kind of support for cognitive activity provided by the teacher to the learner in the face of performing a task with the teacher (Wood and Middleton. 1975). This is referred to as instructional scaffolding. It is a learning process designed to promote deeper learning (en.wikipedia.org/wiki/Instructionalscaffolding retrieved 6th November. 2012). It is the assistance given by the teacher during the learning process which is tailored to the needs of the subject with the intention of helping a learner achieve his/her learning goals (Sawyer, 2006). In instructional scaffolding, the teacher provides assistance in the form of resources, a compelling task, templates and guides as well as guidance on the development of cognitive and social skills. These assistance should be relevant to content and sufficient to promote learning when concepts and skills are being first introduced to learners.

Implications Of Constructivist Teaching Model For Old School Serving Teacher Educators

The provisions and tenets in the constructivist teaching method have implications for old school teacher educator. The old school serving teacher educators are those lecturers that have adhered tenaciously to old teaching methods/models without provision to accommodating new emerging and better teaching methods/models. These set of teacher educators are therefore not in anyway equipped to trained teachers for this century. Asking them to adapt or use constructivist teaching model is a far cry and it has implications for its adaption. The implications in the views of Brooks and Brooks (1993) include the following and are presented below:

- a. The constructivist teaching model requires that the teacher should encourage and accept learners' autonomy and initiative. This implication further has educational implication for the old school teacher educator. The old school teacher educator needs re-orientation that will change his/her mindset and equip him/her to adopt teaching model that will accept and accommodate students' autonomy and initiatives.
- b. Lessons should be prepared and a wide variety of materials, including raw data from primary sources and integrative materials should be assembled and learners should be encouraged to use them. This implication suggests that old school teacher educators should depart from their traditional use of lecture method of teaching. It requires them to be research oriented, update their notes, adopt and try-out constructivist teaching model. Old school teacher educator should acquire and use ICT materials that can launch them into newness in terms of adopting constructivist teaching model. This is suggested because the crop of teachers they tend to produce to teach in our schools are aligned to the use of ICT.
- c. Old school teacher educators should inquire about students' understanding of concepts before sharing his/her own understanding of those concepts. This is like a pre-test. The old school teacher educator should have a good art of asking questions of all types as they present themselves relevant in bringing out what the learners know prior to the lesson to be taught. The old school teacher educator should determine where the majority of the learners are in relation to the subject matters to be taught. As the teacher educators use this model to teach trainee teachers, the likelihood is that the trainees will also learn to use those aspect of the constructivist teaching model.
- d. Closely related to the above and extending from it is that old school teacher educators who want to use the constructivist teaching model should encourage learners inquiry

- by asking thoughtful, open-ended questions as well as being encouraged to ask each other questions in class and seek elaboration of learners initial responses.
- e. In addition, old school teacher educator should encourage learners to dialogue with them and with one another. This is a communication of respect to learners and practice of some degree of democracy.
 - f. Furthermore, old school teacher educators should engage their students in experiences that show contradictions to initial understanding of learners on a subject matter and thereafter encourage class discussion. The discussion should be moderated properly by the teacher. This require that the old school teacher educator should be articulate.
 - g. Teachers should assess learners understanding through applications and performances of open-structured tasks. He/she should also provide time for learners to construct relationships in what is being taught as well as create metaphors

Conclusion

Constructivist model of teaching is a radical departure from the traditional methods of teaching yet sharing some commonalities. These methods have their merits and should be viewed from that perspective as it can be used in our democratic society where presently learners are more ICT complaint than a good number of their teachers. The constructivist teaching model should be used in teaching subjects and contents that can allow its use. This teaching model is tasking on any teacher that wants to use it as well as bringing out the resourcefulness in the teacher. This paper views the merits of the constructivist teaching model and wishes that it be used in teaching in Nigeria primary and secondary schools. In doing this, it posits that teacher educators should know what it is, how to use it and use it in their teachings. The idea extends and hinges on an adage that says “when a mother goat eats grasses, the new born goat watches and learns the same via observatory learning principles”. This follows that when teacher educators apply constructivist teaching model in teaching trainee teachers, they will learn the same.

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