CONSTRUCTIVISM: AN ALTERNATIVE FRAMEWORK FOR ACADEMIC EXCELLENCE IN OFFICE TECHNOLOGY AND MANAGEMENT PROGRAMME IN TERTIARY INSTITUTIONS IN NIGERIA

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Abstract

The authors examined the practical ways the constructivist pedagogy could bring improved academic excellence in office technology and management programme. In Nigeria, office technology and management programme is historically rooted in the preparation of competent and skilled graduates for the work place. However, the problem of how to effectively structure the classroom to achieve this laudable goal has been a major concern to both educators and students in the programme under the behaviourist approach to learning. This paper explored the possibility of constructivist approach as a better theoretical framework for instruction in the programme. The constructivist approach to learning is proposed as a better alternative to the objectivist method, which is endemic in all behaviourists approaches to learning in office technology and management programme. The paper, therefore, discussed the concept of constructivism, the dynamics of the constructivist learning, Impacts of Piaget's Cognitive Development in office technology and management programme amongst others.

Keywords: Constructivism, Pedagogy, Behaviourism, Office Technology & Management.

Prior to 1970, behavioral psychology formed the basis of how many teachers behaved in the classroom (Conway, 1997). In the 21st century however, the traditional teaching (behaviourism) method of teacher as sole information-giver to passive students appears outdated (Hanley, 1995). Similarly, Jones and Brader-Araje (2002) opined that the behaviorist movement led to a long series of strategies for schools such as management by objective, outcome-based education and teacher performance evaluation systems and placed the responsibility for learning directly on the shoulders of teachers. They lamented that after years of implementation, behaviorism fell short of producing positive effects within the complex context of the classroom and left teachers feeling shortchanged and cheated by a system that placed the guilt for students' failure to learn in their hands.

Preparation of workers for entry into and advancement in the workplace of the next decade requires an educational programme that provides not only job skills, as career and vocational education did throughout the 1900s, but also higher order thinking, problem solving, and collaborative work skills (Doolittle and Camp, 1999). They further stated that classical behaviourist theory does not adequately address the latter kinds of learning, but constructivist theory may. In another development, Strommen and Lincoln (1992) observed that in behaviourism (traditional learning environment) "knowledge is presented to learners in linear, didactic manner that differs dramatically from children's previous experience outside the school and this strikes them as rigid, uninteresting, and ultimately alienating". Despite the numerous limitations associated with behaviourism as an instructional method, Dobbins (1999) lamented that it remains the learning theory undergirding current thinking in the educational system including office technology and management. The constructivist learning is therefore, being proposed as a better alternative to learning in office technology and management programme in tertiary institutions in Nigeria in this paper.

Constructivism as an alternative approach to learning was introduced by Jean Piaget as a way of thinking about cognition and knowledge. He was primarily interested in how knowledge developed in human organisms. The fundamental tenet is: the mind organizes the world by organizing itself (Piaget 1957). According to Brooks and Brooks (1999), cconstructivism is a philosophy of learning founded on the premise that, by reflecting on our experiences, we construct our own understanding of the world we live in. Learning, therefore, is simply the process of adjusting our mental models to accommodate new experiences. Hoover (1996) in Ojeaga (2011) stated that in constructivism, two important notions that orbit around the simple idea of constructed knowledge are: (1) that learners construct new understandings using what they already know. There is no *tabula rasa* on which new

knowledge is etched. Rather, learners come to learning situations with knowledge gained from previous experience, and that prior knowledge influences what new or modified knowledge they will construct from new learning experiences. (2) that learning is active rather than passive. Learners confront their understanding in the light of what they encounter in the new learning situation. If what learners encounter is inconsistent with their current understanding, their understanding can change to accommodate new experience. This article explored the possibility of constructivist approach as a better alternative approach framework for teaching and learning in office technology and management programme for improved academic programme.

The Constructivist Pedagogy in Vocational Teacher Education

Office technology and management programme was philosophically built on the production of graduates who would be equipped with all necessary skills and knowledge that would not only enable them fit into already existing job opportunities in the society but will also empower them with skills that would enable them establish their own and if possible create job opportunities for others (Okafor, 2008). According to Doolittle and Camp (1999) classical behaviourist theory does not adequately address the higher order thinking kinds of learning, though it has remained the implicit learning theory underlying the curriculum and pedagogy of education including office technology and management. According to Thompson (2000), because of constructivism's focus on knowledge construction, this theory is of interest to anyone concerned with learning and teaching.

Constructivism is a theory which states that learning takes place in contexts, and that learners form or construct much of what they learn and understand as a function of their experiences in situations (Schunk, 2000). Constructivism was derived mainly from the works of Piaget (1970), Vygotsky (1962, 1978), and Papert (1980) amongst notable others. According to Brooks and Brooks (1993) as people solve problems and discover the consequences of their actions through reflecting on past and immediate experiences, they construct their own understanding. In the view of Kanuka and Anderson (1998) constructivist teaching fosters critical thinking and creates motivated and independent learners.

Using a constructivist approach in office technology and management programme may facilitate better academic excellence by encouraging active inquiry, guiding learners to question their tacit assumptions, and coaching in the construction process (Kerka, 1997a in Ojeaga, 2011). This sharply contrasts with the behaviouralist approach to learning that has dominated teaching and learning in the programme over the years, in which teacher dominates the learning activities and tasks and imposes his choice of selected knowledge which is directed to behaviour control and task completion. Becoming a constructivist office technology teacher, therefore, "requires a paradigm shift" and "requires the willing abandonment of familiar perspectives and practices and the adoption of new ones" (Brooks et. al., 1993). Through this change in functions, Witfelt (2000) outlined new competencies necessary for the teachers who wish to adopt the constructivist to include (1) supervisor (2) supporter and facilitator of students' work (3) advisor and subject-matter expert (4) inspirer and encourager (5) arbiter at group discussions (6) critic in mobilizing greater effort when objectives are not being met (7) evaluator to improve general learning capacities of students.

Different proponents have proponents presented varying views on the constructivist pedagogy which include: social constructivism, cognitive constructivism and radical constructivism. Social constructivism is mostly identified with Vygotsky and Bruner. It places emphasis on the role of language and how understanding and meanings grow out of social encounter. Teaching therefore ensures strategies of using social constructivism as a referent to include teaching in contexts that might be personally meaningful to students, negotiating taken-as-shared meanings with students, class discussion, small-group collaboration, and valuing meaningful activity over correct answers. Cognitive constructivism is mostly identified with Jean Piaget (1896-1980). Piaget places emphasis on the concept that knowledge is actively constructed by the learner, not passively received by the environment. ***Ernst Von Glasersfeld*** (1989) is a prominent proponent of radical constructivism. The main tenet of radical constructivism is: coming to know is a process of dynamic adaptation towards viable interpretations of experience. Radical Constructivism puts forward two main claims: (a) knowledge is not passively received but actively built up by the cognizing subject; (b) the function of cognition is adaptive and serves the organization of the experiential world, not the discovery of ontological reality.

Though there are varying views on constructivist learning, one central theme to all of them is that learning should be child-centred. This presupposes that learning in office technology and management should be student-centred which makes students' prior knowledge and experience of paramount importance. They emphasis that learning should be within the context of prior experiences and knowledge. All constructivist approaches agree that learning should be offered in an authentic and real-environment. In each of these, the emphasis is on having students working together while brainstorming and challenging each other's view points. This implies that students of office technology and management should learn to develop the spirit of teamwork and challenge each others view points in the course of teaching and learning.

Various Ways the Constructivist Pedagogy Impacts Teaching in Office Technology and Management Programme

The constructivist pedagogy as a proposed alternative for improved academic excellence in teaching and learning impacts in three main ways. These are in curriculum, instruction and assessment:

Curriculum*:* One of the crucial areas in which the constructivist pedagogy may influence teaching and learning in office technology and management programme is curriculum. Curriculum in *c*onstructivism unlike the traditional curriculum calls for the elimination of a standardized pattern. Instead, it promotes using curricula customized to the students' prior knowledge. In addition, it emphasizes hands-on problem solving (Brooks & Brooks, 1999). It directly challenges the traditional curriculum which plans in advance the scope and content of knowledge and skills to be impacted to students in a subject. According to Chatterjea (2007), on the other hand, in the constructivist approach, curriculum development needs to be initiated by considering the knowledge and experiences the student bring with them to the classroom. The new content should then be built around this so that the connections between the old and the new knowledge are well established. In the classroom for example, when an office technology student desires to acquire and build new knowledge in word processing or the principles of accounting strategies, there might be need to study it over a long period of time before a complete mastery is attained. As the student actively analyzes, interprets and predicts information, he/she gains new and more complex ideas which need further analyses, interpretation and prediction meaningfully. Therefore, more efforts over an extended period of time will ultimately yield improved academic excellence. This requires consistent efforts, hard work, dedication and commitment to study. Bruce and Bishop (2002) cited in Chatterjea (2007) referred to traditional curricula as the medium with emphasis on the delivery of contents, where the role of the teacher is to manage this delivery and the role of the learner is to absorb this delivered knowledge. Hence, "covering" the curriculum becomes the priority of such a system. They claimed that this prevailing system of curriculum may not be adequate for today's world and there is acute need for today's' students to become active learners, to be able to collaborate and understand the perspectives of others.

Instruction*:* Under the constructivist learning method, teachers need to focus on making connections between facts and fostering new understanding in students. Instructors tailor their teaching strategies to students' responses and encourage students to analyze, interpret, and predict information (Brooks et. al., 1999) and rely heavily on open-ended questions and promote extensive dialogue among students. Techniques that may be employed in this kind of instruction mode include: scaffolding, fading, cognitive apprenticeship, and collaborative learning (Seitz, 1999). The role of the teacher therefore, is to organize information around conceptual clusters of problems, questions and discrepant situations in order to engage the students' interest (Hanley, 1995). This is contrary to the objectivist instruction mode. An objectivist framework drives what Apple (1982) cited in Gallagher (2004) referred to as "teacher deskilling," a term that means teachers focus on a small set of isolated skills such that they lose the connection between their practices and ideas that inform them. Hence, a lack of theoretical or conceptual understanding limits the possibility of actually developing an elaborated and theoretically informed range of skills. More to the point, it means that teachers come to abandon any conviction that teaching involves the construction of meaning.

Assessment. Method of assessment plays an integral role in a constructivist office technology and management classroom. According to Shepard (2000), assessment reformers today emphasize the need for a closer substantive connection between assessment and meaningful instruction. They are reacting against documented distortions in recent decades where teachers in the contexts of high-stakes accountability testing have reshaped instruction activities to conform to both the content and format of external standardized tests, thereby lowering the complexity and demands of the curriculum and at the same time reducing the credibility of test scores. ***The_Gale Group, Inc*** (2002) noted that assessment of students' learning in constructivist learning actively involves two types: formative and summative. Formative assessment occurs during learning and provides immediate feedbacks to the students. It includes evaluations of ongoing practical activities in the class and demonstrations of work in progress and assessment occurs regularly in classrooms while summative assessment occurs through tests and essays at the end of a unit of study. This implies that a constructivist office technology and management teacher should always involve the students in active learning. According to Shepard (2000), the gathering and use of assessment information and insights much become a part of the ongoing learning process. He clearly advocated assessment in which teachers consider continuous assessment of students' understandings, feedbacks from peers, and students' self-assessment as part of the social processes that mediate the development of intellectual abilities, construction of knowledge, and formation of students' identities.

Dynamics of the Constructivist Learning in the Context of Office Technology and Management

1. It takes time to learn: The tenet of constructivist learning is on knowledge construction, not reproduction, the composition of information rather than the imposition of knowledge; multiple outlooks rather than multiple workbooks (Thelma, 2001). Therefore, there is emphasis on the fact that it takes time to learn meaningfully and gain complete mastery of contents of learning especially in office technology and management classroom because it is theory-practical based. For the constructivist, in a learning process, knowledge is actively built. Learners go over information several times, ponder them, use them, practice, experiment them before they can make meaning out of the content. Doolittle et. al. (1999) noted that this may not happen overnight. In the case of book keeping, for example, it may take some time for a student to learn how to balance an account before he/she will be able to perform the task independently and excellently. Students should therefore, be provided with enough time to construct their own meaning when learning something new (Brooks et. al, 1993).

2. Content should be made relevant to the learner within the context of prior knowledge: All types of constructivism emphasize the concept that knowledge serves an adaptive function. John Dewey (1916) was an American psychologist and philosopher who promoted the value of personal experience in learning. According to him, *prior knowledge* acts as a lens through which we view and absorb new information. Consequently, office technology and management teachers should always try to link new ideas to what the students already know and when this happens, the students are motivated and become curious to learn. A student, who systematically solves a series of similar data, analyzes problems with similar errors, has probably built an inappropriate mental structure of the processes involved (Doolittle et. al., 1995). The teacher should help the students to relate new concepts to previous knowledge and skills to enable them make informed meanings out of new concepts.

3. Learning should be authentic and real: Constructivist advocates authentic learning. Authentic learning in office technology and management environment provides students with rich experiences and opportunities to construct knowledge in context, and in ways that make sense to their existing knowledge which is based on prior experiences (Cox-Petersen & Olson, 2000). They listed examples of authentic learning to include problem-based, project-based, inquiry-based, role-playing/simulation based, case study-based, and critical incident-based learning experiences. On the other, Kerka (1997a) noted that the role of the vocational teacher is not to set tasks, but to organize experiences that allow learners to develop their own knowledge and understanding. Using the methods of cognitive apprentice-ship, the teacher is a coach who provides guidance that gradually decreases as learners become more proficient, and who models, mediates, diagnoses and scaffolds. The learning

environment should reproduce the key aspects of communities of practice: authentic activities sequences in complexity, multiple experiences and examples of knowledge application, access to experts, and a social context in which learners collaborate on knowledge construction.

4. Learning is a social activity: Individual learning is closely associated with his/her connection with others, the teachers, peers, family or neighbours. According to Doolittle and Camp (1995) social interactions provide for the development of socially relevant skills and knowledge, as well as providing a mechanism for perturbations that may require individual adaptation. Dewey (1938) emphasized that human beings understand the world through interaction with their environment and, thus, knowledge is constructed by the individual.

5. Learning is an Active Process. Knowledge cannot be the result of a passive receiving but originates as the product of an active subject's activity. This implies that the students of office technology programme should be active in the learning process by doing what will promote critical analyses of problems. According to Thelma (2001), active learning implies "doing". Learners cannot construct knowledge by passively receiving, acquiring, or accepting it, nor by inertly listening nor heeding. Wilson (1997) listed methods to help develop active construction of meanings to include simulations, role-playing games, toolkits and phenomenaria, multimedia learning environments, intentional learning environments, case studies, collaborative learning.

6. The crucial action of constructing meaning is mental: Learning takes place in the mind. Therefore there is need to indulge in series of activities which can engage the mind as well as the hands. According to Piaget, the first aspect of his theory starts with the fact that individuals are born with reflexes that allow them to interact with the environment. These reflexes are quickly replaced by constructed mental schemes or structures that allow them to interact with, and adapt to, the environment. According to Brooks et. al (1999), educators must understand students' mental models or representations of the world in order to help them learn and integrate new understandings.

7. Learning involves language: learning in constructivist classroom involves the use of language. As the use of language is also important to all positions, all views on constructivism agreed that educators need to incorporate learning activities that facilitate learners to acquire good communication skills (**Kanuka and Anderson, 1999)**. Consequently, learning in vocational education needs to include activities and tasks that enhance interpersonal communication, conflict resolution and problem-solving skills as well as help them to develop languages and expression in line with their career. A marketing student for example, needs to acquire the language of that profession in order to function efficiently and effectively upon transition to work.

8. Motivation and Encouragement are key components in learning. Another crucial component of constructivist approach to learning has to do with motivating students. This means encouraging students to use active techniques (experiments, real-world problem solving) to create more knowledge and then to reflect on and talk about what they are doing and how their understanding is changing (Brooks et. al., 1999). When an office technology student is motivated and encouraged to successfully complete a task, he/she gains confidence and is further motivated to embark on more complex tasks and challenges.

Impacts of Piaget's Cognitive Development on Office Technology and Management

Constructivism as an alternative approach to learning was introduced by Jean Piaget as a way of thinking about cognition and knowledge. It also derived from other works like Vygotsky (1962, 1978), and Papert (1980) amongst others. Piaget was particularly interested in how knowledge developed in human organisms. His fundamental tenet is: the mind organizes the world by organizing itself (Piaget 1937). According to Piaget, there are four major stages of cognitive development which present different implications when it comes to pedagogical concerns (Ishii, 2003) even though there are some commonalities amongst them. According to Paul Ernest (1996) these forms of constructivism lead to the following pedagogical implications:

1. **Sensitivity toward and attentiveness to the learner's previous constructions**. This includes using students' previous conceptions, informal knowledge, and previous knowledge to build upon.
2. **Using cognitive conflict techniques to remedy misconceptions**. Engaging in practices like this allow students to trouble their own thinking, and it is through this conflict that they will develop their own meanings, or at least seek to rectify the conflict.
3. **Attention to metacognition and strategic self-regulation**. This follows from the previous suggestion when students think about their thinking, and become responsible for their learning.
4. **Use of multiple representations**. In theory-practical based subject like office technology and management, multiple representations offer more avenues with which to connect to students' previous conceptions.
5. **Awareness of the importance of goals for the learner**. This awareness of goals refers to the difference between teacher and learner goals, and the need for learners to understand and value the intended goals.
6. **Awareness of the importance of social contexts**. Various types of knowledge occur in various social settings for instance informal (street) knowledge versus formal (school) knowledge.

Conclusion

Office technology and management as a part of vocational and technical education programme in Nigeria is dedicated to the production of competent and skilled manpower for the work place in the use of different office technologies and entrepreneurship. How best to structure the kind of learning to meet this challenge has been a major problem to both educators and students in the programme under the behaviourist's approach to learning. Constructivism as a theory of learning is fast becoming dominant in the structuring and organization of classrooms and curricula in schools and could be a suitable alternative in office technology and management programme for improved academic performance. The paper therefore, explored the constructivist pedagogical framework as a suitable alternative in the programme in Nigeria.

Recommendations

1. Teachers in office technology and management should seek to make learning to be transformational rather than transactional.
2. Learning in office technology and management should adopt a variety of styles so that students can have the opportunity to learn in a way that is best suited for them.
3. Assessment of learners in office technology and management should be both formative and cumulative.
4. Students should be actively engaged in the classroom.

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