The Shift in the Role of Teachers in the Learning Process

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Abstract
Numerous studies have established that active participation in the learning process is more effective in a learning environment that emulates a real-world learning environment. In a traditional teaching and learning environment, only little learning is taking place in the classroom even though there appears to be an active shift of information. Studies have also clearly established that the role of the teacher alone is able to crush or nurture a student's participation in the learning process. Hence, it is necessary to bring about a two-way transfer of knowledge between students and teachers as it requires optimum students' participation. This paper brings into discussion the shift in the role of teachers in the learning process, from the traditional teaching and learning environment to a learning environment that encourages active students' participation in the learning process. Respectively, this paper puts emphasis on the important role a teacher shoulders in shifting students from a passive role to an active role in a teaching and learning process. These characteristics of an effective teacher are grounded in the constructivism theory of learning, prior to which a brief description of the behaviorism and cognitivism theories is provided.

Keywords: Teachers' Role, Student-Centered Learning, Teacher-Centered Learning, Constructivism.

1. Introduction: Understanding the Learning Process
Roblyer, Edwards and Havriluk (1997) points out that the learning process as well as the product of the learning process is more productive in an active learning environment rather than the traditional learning environment. Roblyer et al. (1997) further defines the traditional method as an approach that obliges students to submissively grasp and regurgitate information as and when conveyed by the teacher. Indeed, the traditional approach is more teacher-centered as the teacher is viewed by the students as the only source of information.

In a traditional teaching and learning environment, only little learning is taking place in the classroom even though there appears to be an active shift of information. Thus, students thrive in an active, student-centered learning environment because it emulates a real-world learning environment.

Hence, it is necessary to bring about a two-way transfer of knowledge as it requires optimum students' participation.

Duch, Groh and Allen (2001, p. 4) also mention that in a traditional learning environment, the teaching and learning processes were usually…

> "… content-driven, emphasizing abstract concepts over concrete examples and application rarely challenge students to perform at higher cognitive levels of understanding. This didactic instruction reinforces in students a naïve view of learning in which the teacher is responsible for delivering content and the students are the passive receivers of knowledge."

From the views addressed above, it is evident that participation in a student-centered learning environment is necessary and acts as the underpinning in bringing about active learning. Ertmer and Newby (1993) establish the meaning of learning as a continuous developmental process in which one constructs an individual understanding of the environment through specific experiences and interactions with the surrounding. Savery and Duffy (1995) also indicated that learning is a process which is a result of interacting with the environment. To be more specific, Santrock (2001) defines learning as a "… relatively permanent change in behavior that occurs through experience" (p. 238). Ormrod (2000) also states that learning may be viewed as a relatively permanent change in mental associations due to experience.

Thus, theorists and educationists came to a standpoint that one will not be able to completely comprehend the learning process and value the outcome of the learning process without bringing into context the notion of the behavioral change as well as the cognitive change. Given the increasing importance of this notion in constructing a functioning learner-centered environment, hence it was suggested the cognitive theory of learning to compensate and complement for the shortfall of the behavioral approach. In context on the correlation between experience, learning and learning theories, Tan, Parsons, Hinson and Sardo-Brown (2003) assert that learning theories makes clear how one is steered towards learning, a relative yet undeviating process, through experience.

In other words, learning theories adopts a systemic account of the numerous standpoint in which theorist perceives how one is changed, or rather learn, by his or her experience. From this statement emerges a mutual understanding between educationists and educational psychologists on how a learning theory supports a particular learning process in a particular learning environment, although Tan et al. (2003) testify that there are still differing notions on the specific details of "how", "when", and "how best".

According to Tan et al. (2003), most of the times, learning takes place unintentionally and that one may not even realize it. This scenario is usually frequent when one is not engaged in a formal learning environment or a particular subject matter. Second, learning may or may not address any specific observable change in attitude although one has undergone a learning process. In the case where learning is unintentional, unobservable change may be perceived as customary.

However, in the case where learning is intentional, realization may hit only when one is engaged in scenario which requires the particular skills of the learning process. This particular scenario is called the principle of contiguity, and the concept of "learning via association or contiguous learning" (Tan et al., 2003, p. 202). Third, there are different types and degrees of learning. For instance, learning may consist of a simple, mechanistic task (e.g., instincts or reflexes) to a more complex and organized task (e.g., solving a quadratic equation).

As a conclusion of this topic, attention is focused on the need to create an active, student-centered learning environment in which students could actively participate in the teaching and learning process. Numerous studies have indicated that students involves enthusiastically in a learning environment that replicates a real-world learning environment. Moreover, traditional learning environment places the student in a passive role that only allows them to unreceptively absorb and regurgitate information.

2. Learning Theories

In view of these premises of learning, Tan et al. (2003) mention that it is evident that theories were, in fact, reasoned explanations, rather than absolute fact, to approach a particular phenomenon. In the discussion that follows, attention will channeled towards appreciating and discriminating the context in which the constructivist approach is justified in an active, student-centered learning environment. But prior to it, the behaviorism and cognitive theories of learning will be discussed briefly in the subsequent paragraphs for deliberate purposes of appraising the advantages of the constructivism approach in student-centered learning.

Referring to the definition of behaviorism, Santrock (2001) indicated that behavior should be explained by experiences that can be directly observed and measured. In other words, Tan et al. (2003) mention that behaviorism can be perceived as a theoretical perspective, or rather an alternative explanation, to measure experiential changes after one has been subjected to a learning process. According to Ormrod (2000), the cognitive psychology may be defined as a theoretical perspective that focuses on the mental processes underlying human behavior.

Being more specific in terms of learning, Tan et al. (2003) point out that cognitive theory of learning may also be viewed as a theory in which learning is equated with changes in the organization and use of internal framework of knowledge. As opposed to the behavioral theory, the cognitivist attempts to understand the response of the learner when the learner is subjected to a particular stimulus.

Gage and Berliner (1998) assert that this attempt to understand may be described in the manner in which the mind processes the information acquired by the learner from the stimulus-response interaction. But the cognitivist do share some similar grounds with the behaviorist with the fact that cognitivist were also concerned with the observable behavior that the learner may show before, during and after the learner is subjected to the stimulus-response interaction. This is mainly because the mind can only be understood by its explicit behavior. However, cognitivists were more likely to perceive the regulation of behavior as "internal to the learner" (Gage & Berliner, 1998).

Another prominent school of thought that appears as a complement to the behaviorism theory of learning would be the cognitive theory of learning. Wong (2002) points out that cognitive theorist use observable and measurable outcome in behavior as a means of conjecturing what goes on in a person's mind. As opposed to the behaviorism theory of learning, advocates of this discipline were more inclined to appreciate and discriminate the factors that prompt the learner to initiate the wheels of the mind.

According to Santrock (2001), there were four fundamental cognitive approaches to learning mainly the social cognitive approach, cognitive information processing, cognitive constructivist and social constructivist. The social cognitive approach gives emphasis to the interaction of behavior, environment and person (cognitive) as determinants to influence the learning process. Second, the cognitive information processing approach accentuates on the process of administering information through cognitive processes such as attention, memory and thinking. Santrock (2001) underlines the parameters of these cognitive processes as the following; attention is the ability to concentrate and focus on mental resources, memory is the retention of information over time while thinking involves manipulating and transforming information in memory by developing concepts, to reason and think critically and solve problems. The cognitive constructivist approach brings to light the learner's cognitive construction of knowledge and understanding. Finally, the social constructivist approach puts deliberate attention in the learners' collaboration with others to bring about knowledge and understanding (Santrock, 2001).

As a conclusion of this topic, attention is channeled briefly toward the types of learning theories such as behaviorism and cognitivism which emerged prior to the constructivism theory of learning was established in the teaching and learning process. The behaviorism theory points out that learning is a behavior can be observed and measured. On the other hand, the cognitivism theory perceives the regulation of behavior to be internal to the learner. The cognitivism theory is divided into four fundamental approaches, which are the social cognitive approach, cognitive information processing,

cognitive constructivist and social constructivist. The following topic continues to describe the constructivism theory of learning. The subsequent, profound progress of the marriage on the behaviorist and cognitive theory of learning yielded yet to one more significant development of the constructivism theory of learning which has successfully encapsulated the notion, vision and mission of the education discipline.

3. Constructivism Theory of Learning

Roblyer et al. (1997) accentuates on the fact that constructivists focus on what drives the students to learn, achieve and to efficiently comprehend and utilize what they learn outside the four borders of the classroom. According to Santrock (2001), learning is best achieved when the individual actively construct knowledge and understanding. That is, individuals must actively participate in the teaching and learning process, thus to discover, to reflect and to think critically on the knowledge they acquire (Richardson, 2003). Hence, the constructivist approach does not allow for rote memorization but encourages the construction of meaningful knowledge and understanding. For these reasons and more, the constructivist approach to learning is perceived as a theory of student learning rather than as a theory of teaching (Richardson, 2003). According to Richetti and Sheerin (1999, p. 58) the fundamental to the constructivist theory of learning is the acknowledgment of the learner as a thinker with capability and value. "After all, why would we need to understand the student's point of view if the teacher's view is the only one that matters?"

Hendry, Frommer and Walker (1999) accentuates the fact that one's sensations, perceptions and knowledge cannot exist outside one's mind and this is a fundamental assumption in the constructivist approach. To say, knowledge cannot be transferred from one individual to another by any process of replication, and hence, new knowledge must be constructed from within the individual and their interaction with their surroundings (Hendry et al., 1999). Also, knowledge is reinforced and amplified if the knowledge is applied effectively to a wider environment of the individual (Dougiamas, 1999). However, education allows for an individual to deliberately promote the construction of specific knowledge through the use of structured materials, time and other individuals (Hendry et al., 1999).

Thus, the reason Flavell and Piaget (1963) points out that as early as the year 1929, Alfred North Whitehead has put forward arguments that the typical approach in the teaching and learning process in which the students were subjected to in schools have only managed to produce inert knowledge. In other words, this inert knowledge is only good to be used to answer questions on a school test but is not effective in solving problems in real life (Flavell & Piaget, 1963). The social constructivism theory of learning grew from the dissatisfaction with the then current educational methods employed in the teaching and learning process which failed to yield optimum learning outcome as the educationist perceived, such as use of rote memorization, regurgitation of facts and the division of knowledge into different subjects, which ultimately led the learners to a situation where they were not able to apply what they have learned in real life (Dixon-Kraus, 1996).

Furthermore, the teaching and learning process in a traditional rationalist and behaviorist approach focuses on covering extensive subject area, which causes the students to have less amount of time to engage in thinking beyond the facts and problem-solving, and consequently minimizing independent and autonomous learning (Holt & Willard-Holt, 2000). These traditional rationalist and behaviorist approaches to learning also puts more emphasis on didactic lectures rather than addressing importance to active student learning (Holt & Willard-Holt, 2000). These students being deprived of fundamental approaches to learning due to traditional teaching and learning methods, therefore, also lack other important learning skills, for instance, problem-solving skills (Tan, 2003; McMahon, 1997), critical thinking and higher order thinking skills (Tan, 2003) and autonomous learning skills (Holt & Willard-Holt, 2000).

This new-found view of effective outcome of learning gave way to the notion that instructors should only provide the students with appropriate learning situations, such as problem-solving

approach (McMahon, 1997) that will instigate and foster their skills in developing their individual knowledge and skills that will be useful to them in their later life (Flavell & Piaget, 1963). Evidently, problem-solving context is perceived imperative and necessary for engaging students in the reflective use of knowledge in the teaching and learning process (McMahon, 1997).

In addition, constructivism theory of learning perceives that the learning process is constructed of creation of knowledge through interpretations of their experiences and their interactions with other individuals, rather than viewing learning as an internal process of knowledge transfer, in which knowledge is transferred from the individual's external environment into their memories (McMahon, 1997; Flavell & Piaget, 1963).

The social constructivism theory accentuates on the presence and the role of dynamic interaction between individuals involved in the learning environment, for instance, between one learner and another, between a learner and the instructor, and the assigned learning task (McMahon, 1997). This interaction between individuals and the learning tasks allows for an optimal learning environment in which the learner possess the opportunity to construct their individual understanding from the presence of the dynamic interaction available (McMahon, 1997).

Kim (2001) points out the three basic assumptions, or perspectives, that underlie the premises of the social constructivism theory of learning; that is, reality, knowledge and learning. In the social constructivist approach, reality cannot be discovered: it does not exist prior to its social creation. Advocates of the social constructivism approach asserts that reality is constructed through human activity (Kim, 2001), hence, the perception that members of a society work mutually to invent the properties of the world (Kukla, 2000). In the knowledge perspective of the social constructivism, knowledge is established as a human product, and is constructed socially and culturally (Ernest, 1999; Gredler, 1997, Prawat & Floden, 1994).

That is, the creation of knowledge is derived from interaction between individuals and their respective environments, and resides within cultures (Schunk, 2000; McMahon, 1997). In other words, individuals create the meaning of learning through their individual interaction with each other and with the environment that they live in (Kim, 2001). Ultimately, in the learning perspective, the learning is viewed by social constructivist as a social process, by which individuals who were actively engaged in social activities brings about meaningful learning (Kim, 2001). In addition, McMahon (1997) asserts that the learning process is not a passive development of behaviors that are shaped by external forces, to take place only within an individual (McMahon, 1997).

As a conclusion, this topic on the constructivism theory of learning brings into discussion the many advantages of this learning theory in encouraging optimal students' participation in the teaching and learning process. The constructivism theory of learning is supported by numerous review of literature that highlights the role of the student as an active participant and the teacher as a facilitator in moderating the knowledge in a teaching and learning process.

4. Teachers as Facilitators in the Teaching and Learning Process

A teacher plays an important role in providing an engaging teaching and learning environment. Dolmans, Wolfhagen, Schmidt and Van der Vleuten (1994) argues that a teacher's performance towards his or her teaching assumes an important influence on the quality of an educational program, and eventually on the competence of graduates. In a similar point of argument, Albanese (2004) asserts that the function of the teacher alone is able to flourish or crush the outcome of students' participation in the teaching and learning process. In the traditional teaching and learning environment, teacher normally dominated the classroom instruction while students passively receive the knowledge conveyed by the teacher.

Boud and Feletti (1991) also points out to the lack of students' participation in a traditional teaching and learning environment. Boud and Feletti (1991) asserts that conventional teaching and learning process was criticized for the inadequate awareness in encouraging teamwork and

development of skills of enquiry. Normala Othman and Maimunah Abdul Kadir (2004) also points out that in the traditional teaching and learning environment, students are spoon-fed with information from textbook materials.

Hence, it was an absolute necessity for students to take the dominant role in the teaching and learning process. Ng (2005) argues that optimal students' participation in the teaching and learning process is imperative to ensure the students are able to effectively practice self-regulated learning strategies. In order to achieve these skills and qualities, it is imperative for the students to have more time for reflection of what they have studied, for deliberate reflective reading, for assimilating the best of the original literature in each field. Given these circumstances, teachers should encourage student-centered learning rather than teacher-centered teaching.

The shift in the teacher's role from a dominant information feeder to a facilitator offers, as Normala Othman and Maimunah Abdul Kadir (2004, p.4) puts it, create "many unique opportunities for teachers to build relationships with students as teachers may fill the varied roles of coach, facilitator, and co-learner". Moreover, a healthy student-teacher interaction weighs profoundly in a learning process, and is seen as a major scaffolding of knowledge for the learner. Hendry, Ryan and Harris (2003) further argue that some teachers were too dominant in their teaching. A teacher being too dominant in his or her teaching may trigger tension and conflict in a group which may eventually lead to lack of commitment, cynicism and/ or student truancy. On the other hand, if the teacher is too submissive, then the students as well as the learning process might also come to a halt.

As Charlin, Mann and Hansen (1998, p. 324) establishes,
"Learning that occurs in a meaningful context will also be more easily retrieved than that which is acquired in isolation. The similarity between the context for learning and the context of future application facilitates the transfer of knowledge. However, many different contexts must be experienced in learning to build a fund of connected, usable knowledge."

Therefore, the teacher should play the role of a mediator conveying and digesting information from one situation to another. Steinert (2004) stresses that student appreciates a teacher that is able to relate, expand and digest the present situation into other situations. Therefore, it is evident that a teacher who fails to be equipped with the appropriate skills in delivering information might actually disrupt the entire teaching and learning process. Thus, as Margetson (1994) suggests, the chief task the teacher is to assume is to make certain that the students make progress towards digesting the aim of the subject content as they identify what is needed to be learned, and establish how they will organize themselves to pursue the learning in preparation for the next lesson.

In a student-centered learning environment, teachers were encouraged to question, probe, encourage critical reflection (Margetson, 1994), provide necessary and adequate information, abstain from harsh feedback, and become fellow learners (Aspy, Aspy & Quinby, 1993). Moreover, teachers should also establish an environment that puts students at ease to voice his or her opinion and not get penalize for the 'wrong answer' or succumb to ridicule by their peers. For instance, the trainer should create an environment where students may make mistakes or to simply admit not knowing the answer (Mierson & Freiert, 2004).

Review of literature also strongly suggests for teachers to advance practices of peer learning in a student-centered learning environment. Peer learning were often the preferred choice as it is normally perceived as a complement to the repertoire of instructional activities. Peer learning is also an essential strategy in effectively practicing self-regulated learning strategies (Pintrich, Smith, Garcia & McKeachie, 1991). Boud (2001) characterizes peer learning as a reciprocal learning activity that benefits both the participants and acquiring shared knowledge, ideas and experience. Sampson and Cohen (2001a, b) asserts that individual instructors believe that peer learning frequents the students' occurrence of learning as it allows them to share information and experiences with their peers as well as developing the skills to acquiring information. Boud (2001) further stated that mutual learning assumes much weight in the learning process given that the vital skills of effectively learning from

each other were needed in life and work. In the following, Boud (2001) brings to attention some of the potential learning outcomes of peer learning: (i) working with others, (ii) critical enquiry and reflection, (iii) communication and articulation of knowledge, understanding and skills, (iv) managing learning and how to learn, (v) self and peer assessment, and (vi) self-directed learning.

Santrock (2001) also managed to bring into discussion some, though not limited to, of the characteristics and role of teachers in an active learning environment. First, teachers should adapt their instruction as accordingly to the developmental levels of the students. Teachers were suggested to monitor students' learning cautiously as each student receives, analyze, assess and reflect information at various levels. For instance, the Bloom's Taxonomy provides for an excellent alternative to manage and monitor students' learning. For instance, teachers are encouraged construct learning objectives based on the six levels of knowledge, understanding, application, analysis, synthesis and evaluation.

Second, teachers should pay attention to individual differences in learning. This is especially true when each student is unique and he or she comprehends information at different pace and ease. Taking into account these individual differences, teachers must take the initiative to engage them in active learning. Santrock (2001) further mentioned that teachers play various roles in bridging the students and the learning process. Evidently, meaningful learning does not only takes place in the classroom but more importantly includes and reflects on the students' experiences. Third, teachers must constantly assess their students as an integral dimension of the teaching and learning process. For instance, teachers must analyze the students' perception of their expected learning outcome and compare it to the learning objectives outlined in the course structure.

As a conclusion, this topic highlights on the important role a teacher shoulders in shifting students from a passive role to an active role in a teaching and learning process. Specifically, some characteristics of a teacher as grounded in the constructivism theory of learning are established. For instance, teachers are encouraged to guide students to critically reflect on knowledge they acquire and to encourage teamwork among students.

5. Conclusion

This paper has put emphasis on the role of teachers as facilitators in encouraging students' active participation in the teaching and learning process. These characteristics of teachers outlined in this paper are sustained by strong arguments based on the constructivism theory of learning. Moreover, this shift in the role of teachers is absolutely necessary, and respectively inevitable, in progressing from teacher-centered teaching to student-centered learning.

In a tangential argument on having recognized the important role a teacher plays in a student-centered learning environment, future studies that gauge characteristics of a teacher and a student in an effective student-centered learning environment is very much needed.

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