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Critical Review of the Learning Theories of John Dewey and Jean Piaget

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Abstract

John Dewey and Jean Piaget are most influential theorists in the field of education then and now. Their theories explored the paradigm shift on the notion of learning detaching from structuralists /behaviourists school of thought. They challenged the pseudo learning procedures claimed by structuralism/behaviorism. In this article, the reviews are made limiting to the Dewey's Experiential Learning Theory (ELT) and Piaget's Cognitive Learning Theory (CLT). These theories are shortly discussed and evaluated critically from educational perspective.

Key Words: *Experiential Learning, Cognitive Learning, Educational Implications, Similarities and differences*

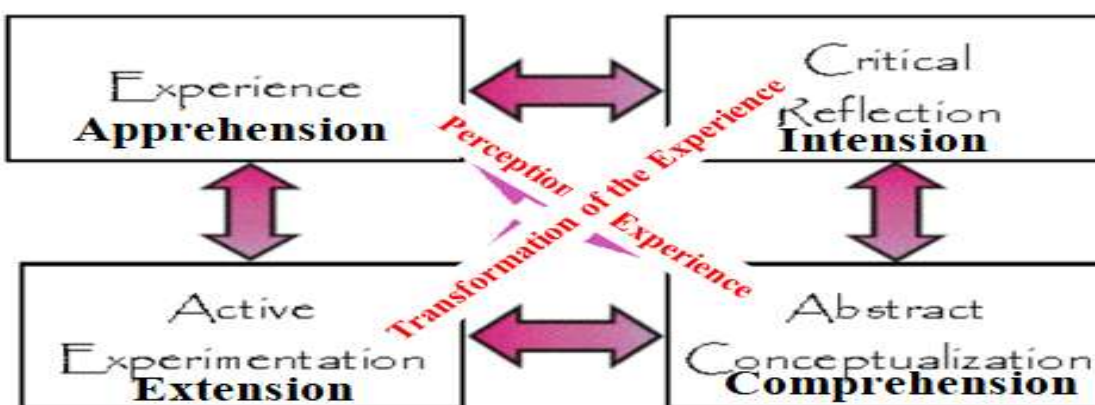
Dewey's Experiential Learning Theory (ELT)

John Dewey is the founder of Experience Learning Theory (Miettinen, 2000a). He is commonly understood to be the principal of experiential education. He is also regarded as a foundational figure not just to the theorizing and philosophy of experiential education, but also its practice (Allison & Seaman, 2017). The theory emphasizes the participants' experience for the acquisition of knowledge and adopting cyclical process. The cyclical process involves setting goals, thinking, planning, experimentation and reflection. Cognitive, emotional and physical aspects of learning are involved in all activities in the processes to construct meaning to the learners (Dimitriadis & Kamberelis, 2006). ELT "provides a holistic model of the learning

process and a multi-linear model of adult development" (Baker, Jensen, & Kolb, 2002 as cited in Dimitriadis & Kamberelis, 2006). The focus of this theory is experience, which serves as the main driving force in learning, as knowledge is constructed through the transformative reflection on one's experience (Baker, Jensen, & Kolb, 2002 as cited in Dimitriadis & Kamberelis, 2006).

Experience and reflection are interrelated. It is the experience that is reflected. If the conception of experience is problematic, so is the possibility of its reflection (Miettinen, 2000b). ELT cycle includes the components of experience, critical reflection, abstract conceptualization, active experimentation, and more critical reflection constituting two distinct apprehension-comprehension and intension-extension continuums. Apprehension-comprehension involves the perception of experience, while intension-extension involves the transformation of the experience. One without the other is not an effective means for acquiring knowledge (Dimitriadis & Kamberelis, 2006).

Dewey's ELT cycle can be shown in the following graphical presentation.



Source: (Zhou & Brown, 2015)

Education and Learning

According to this theory learning is a dynamic, action process. The learner learns best by participation using his senses. The fully functioning or self-actualizing learner engages in

experiences at a qualitatively higher level. Learning process proceeds from learning by doing. Learning takes place by mistakes, consequences, achievements, experience, fun and excitement. Self experience and self-assessment are essential for learning. Negative learning may hinders where teacher support is needed.

Education and experience are interrelated "cut from the same cloth"(Dimitriadis & Kamberelis, 2006). Education must thus be experienced-based and not externally imposed because "there is an intimate and necessary relation between the processes of actual experience and education" (Dimitriadis & Kamberelis, 2006).

Experiential Learning in the Classroom

Dewey thought that schools and classrooms should be representative of real life situations, allowing children to participate in learning activities interchangeably and flexibly in a variety of social settings (Williams, M. K., 2017). It needs set up the experience by introducing learners to the topic and covering basic material that the learner must know beforehand (the video scenario as well as discussion). Engage the learner in a realistic experience that provides trickery as well as depth of involvement (mock trial). Allow for discussion of the experience including the happenings that occurred and how the individuals involved felt (discussion afterwards). The learner will then begin to formulate concepts and hypotheses concerning the experience through discussion as well as individual reflection (discussion afterwards, but also could be done with journaling). Allow the learners to experiment with their newly formed concepts and experiences (interpreting current conflict and conflict resolution scenario). Further reflection on experimentation (discussion, but could also be done through journaling). ELT can be applied best in Cooperative Education, Internships, Service Learning, Field work scenario, Role play scenario, Simulations and gaming, Field of e-learning etc. (Zhou & Brown, 2015)

Criticism on ELT

The concrete experience part of the learning cycle is not appropriately explained in the theory and remains largely unexplored. The idea of immediate and concrete experience is problematic and unrealistic. ELT learning model remains separate and do not connect to each other in any manner. Another weakness of this model is that experience is regarded as the starting point of knowledge acquisition and disregards the observations concerning the subjective reality of the learner. The experiential learning theory does not adequately address the role that non-reflective experience plays in the learning process. It lacks discussion concerning the social aspect of experience on how a social group may gain knowledge through a common experience (Miettinen, 2000a).

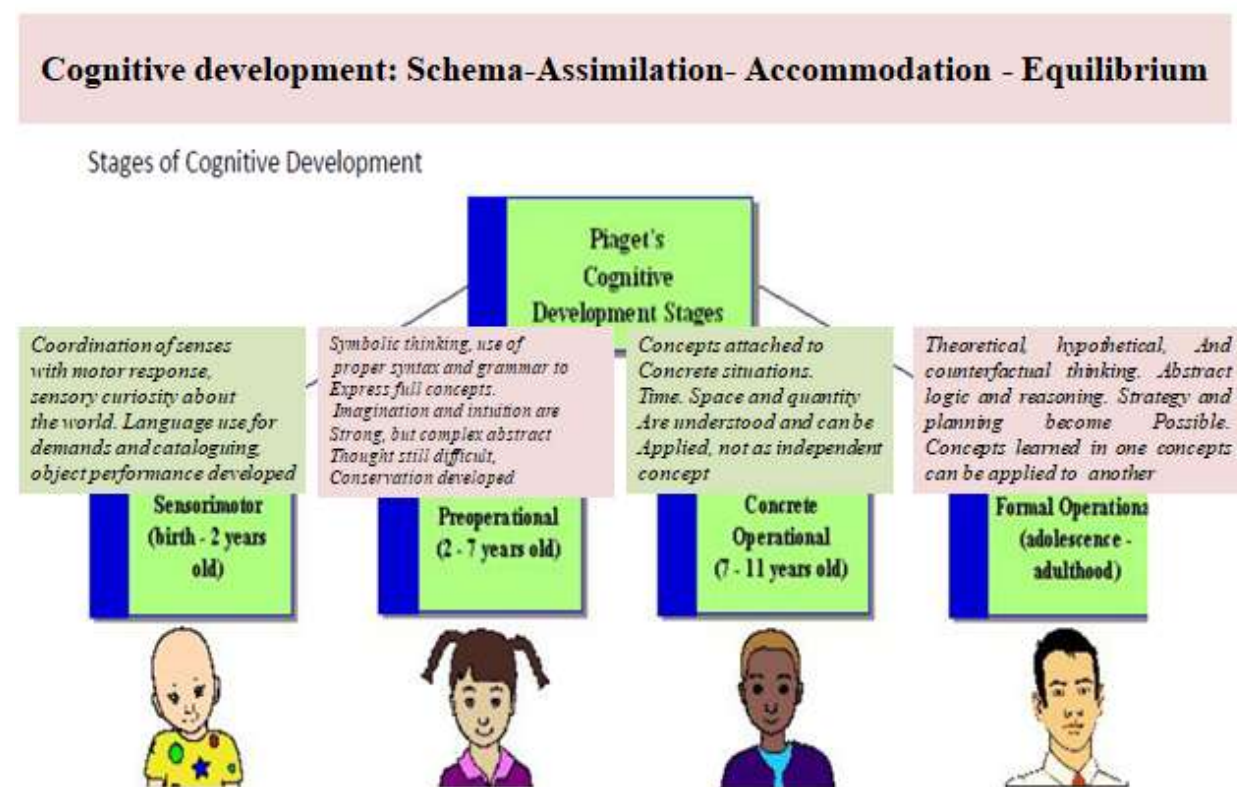
Piaget's Cognitive Learning Theory (CLT)

Piaget's cognitive developmental theories are continue to make significant and powerful contributions to the work of educational researchers, teachers, and developmental psychologists than those of any other theorist (Dimitriadis & Kamberelis, 2006).

In CLT Piaget identified the child's four stages of mental growth which correlates with his physical development. In the Sensorimotor stage that confines from birth to two years concerned with gaining motor control and learning about physical objects. In the preoperational stage that goes for two to seven years is preoccupied with verbal skills. During this stage the child can name objects and reason intuitively. Seven to twelve years is concrete operational stage where the child begins to deal with abstract concepts such as numbers and relationships. And in the formal operational stage, the child begins to reason logically and systematically (Zhou & Brown, 2015). Piaget explored that children were creators of ideas and they were not limited to receiving knowledge from parents or teachers; they actively constructed their own knowledge

(Zhou & Brown, 2015). In the early stages of development, thought and language are not related. Piaget argued that language does not facilitate cognitive development. Cognition can develop normally without language acting as a mediational means (Dimitriadis & Kamberelis, 2006).

The ages at which children progress through the stages are averages-they vary with the environment and background of individual children. At any given time a child may exhibit behaviors characteristic of more than one stage (Zhou & Brown, 2015).



Source: Zhou & Brown, 2015 & Cherry, K. 2022

Jean Piaget's theory of cognitive development suggests that children move through four different stages of learning. His theory focuses not only on understanding how children acquire knowledge, but also on understanding the nature of intelligence (Cherry, K. 2022). Piaget suggested several factors that influence how children learn and grow. He discussed such factors

schema, assimilation, accommodation and equilibrium as development of cognitive process. Jean Piaget claimed that children categorize their information from their interactions and experiences into schemas. Whenever new data can be collected, it is immersed into current schemas, adapted by changing an existing schema, or created as a whole new data category.

Piaget's theory of cognitive development uncovered our understanding of children's intellectual growth. It also stressed that children were not merely passive recipients of knowledge. Instead, kids are constantly investigating and experimenting as they build their understanding of how the world works (Blake & Pope, 2008).

Educational Implication

The four stages developmental model presented by Jean Piaget is very much crucial to educational field. It stresses the curriculum to be based on the developmental level of children and their educational experience. Classroom activities that encourage and assist self-learning must be incorporated. Practical learning situations must be included in the class. Co-curricular activities that enhance children's cognitive development must be given equal importance as curricular activities. The teaching method must be simple to complex and the inclusion of the project teaching method is recommended. Children learn and think differently from adults therefore, they should be taught accordingly. The discovery approach to learning must be emphasized. Piaget wanted to study the errors children made, and the possibility that the errors were not random. His theory supports the process of coming to know, and the stages we move through as we gradually acquire this ability (Blake & Pope, 2008).

Criticism on CLT

Piaget does not offer a specific operationalised definition that would guide researchers to a link between observed behavioral changes and posited changes in the mind. The lack of

operational definitions provides a further difficulty. It becomes impossible for any other researcher to establish a cause-and-effect relationship among Piaget's variables. Furthermore, individual differences may mean that children of similar ages may vary widely across the stages. In fact some children may never achieve the level of formal operations. If children can show a mixture of different stages in their cognitive make-up, what is the point in attempting to differentiate between different stages at all? Piaget offers no substantial evidence for a qualitative difference in cognitive capacity between two children of different stages. The most important aspect of Piaget's theory is that each cognitive stage is different, not just as a matter of degree, but rather a child's *type* of thinking is quite different depending on the stage it is in. Providing evidence for a qualitative difference between stages has not been comprehensively achieved (Lourenço & Machado, 1996).

Piaget believes that physical manipulation of external objects is essential for normal cognitive development. Theorists have argued that children born without the physical capability of outward action (consider, for example, paralyzed children born without the ability to move either arms or legs) are still capable of normal cognitive development. Piaget largely ignored this influence and attributed each child's intellectual growth to the individual's cognitive reaction to the environment. Having said all of this, Piaget's theory is still greatly respected in the psychological community. His theory has stimulated other developmental psychologists into new areas of research and has heavily influenced research into education (Lourenço & Machado, 1996).

Similarities between the Theories of Dewey and Piaget

"Piaget never gave recognition to Dewey's seminal work" (Tanner, D. 2016). But both theorists essentially hold the similar positions on knowledge, intelligence, and development as

the aim of education. Teaching strategies and curriculum must be developed by developmental notions of cognitive development. Subject matters need to be increasingly thought of in terms of the kinds of logical thinking it involves, or evokes, while teacher intervention should emphasize questioning strategies to stimulate and extend thinking, and the growth of understanding (Mai, 1974). Both theorists emphasize the construction of knowledge through by the awaking of intelligence. They both hold the views on whole to part learning model. Human intelligence plays the vital role in making meaning and development of cognition. They are in the positions that behaviorists are failing to address the true nature of human intelligence.

Differences between the Theories of Dewey and Piaget

Both theories demonstrate the development of human cognition that resembles to learning through experience- schemata. But there are fundamental differences between the theories. Dewey's perception of experience is the combination of apprehension to comprehension patterning resulted from abstract conceptualization to concrete experience. The transformation of experience is the result of critical reflection and active experimentation that move from intension to extension. To Dewey, experience and reflection is the core of learning (Miettinen, 2000b).

.On the other hand, Piaget explored double folded (cognitive development along with physical maturation) developmental process to contribute learning. For physical development he uncovered the four stages patterning that starts from sensorimotor and ends with formal operations and for cognitive development from schema to equilibrium (Zhou & Brown, 2015 & Cherry, K. 2022).

To conclude the differences lying on the theories, Dewey limits his study on experience and reflection whereas Piaget discloses that the physical maturation is inevitable component for mental development.

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