

The cognitive developmentalists jean piaget education essay

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Jean Piaget (1896-1980) is well known for his stage theory of cognitive development which consists of four major developmental stages that occur between birth and adulthood; sensori-motor stage, developing operations, concrete operations and formal operations. (Blake & Pope, 2008) There are many criticisms of Piaget's theory, one of which is that Piaget had set high expectations for a 12 year old and expected very low from children in the preoperational stage, (Duchesne, McMaugh, Bochner and Krause, 2013) Furthermore he stated that you must proceed step by step through all the stages to reach the final formal operations stage; however criticisms prove that not all individuals reach the formal operations stage and may jump backwards and forwards between stages. This is evident in Ann's science class as she describes a minority of students exploring the natural environment while the other students play during their 30 minutes after lunch. The students exploring the natural environment are at the preoperational stage as they are able to recall past perceptions and prior experiences that is from their science class experiments into their exploration of the environment. Although the children are in the similar age group, it is evident that they are situated on different stages. Piaget believed that if children are learning out of their self interest, the children will learn better. (Charlesworth, 2011) this is evident in the group of students who are exploring the environment by choice, not through direct instruction. Piaget believed that everyone is born with some innate schema's which assist in interaction after birth. According to Duchesne (2013), a schema is how to organise existing knowledge and interpret our new experience through a mental image. When we are faced with situations that our mental schemas

cannot naturally process it leads to disequilibrium that is, when there is discrepancy between what is known and the expected. (Duchesne, 2013) At this stage adaptation occurs, adaptation refers to the process of adjusting to new situations (Duchesne, 2013, p. 73), there are two processes involved in adaptation; assimilation and accommodation. Piaget views learning as a continuous process of adaptation. (Charlesworth, 2011, p. 50) Therefore once either of these two processes have taken place that is when learning takes place to reach equilibration that is, maintaining cognitive balance when new information is acquired. (Meggitt, 2012, p. 174) Lev Vygotsky's theory presents us with a different developmental theory compared to Piaget. Lev Vygotsky (1896-1934) is seen to stress more importance on the social context than Piaget. Piaget describes children of being 'lone scientists' whereas Vygotsky believes children learn better through social interaction with the people around them. (Blake & Pope, 2008) Therefore it can be seen that Piaget's theory focuses on learning individually whilst Vygotsky's theory focuses on learning in groups. Ann uses Vygotsky's concept of learning in groups within her year 8 science class, as she allocates students into study groups. Therefore Ann is using Vygotsky's social constructivist theory, as his concept states that children and adults are constantly adjusting to each other and learning from each other. (Meggitt, 2012, p. 154) Ann implements Piaget's theory in her class as Piaget states by placing students into groups, social interaction can occur which can assist children in modifying their egocentric point of view. Furthermore children learn to discuss and argue their opinions, thus strengthening their language skills, this is also part of Piaget's concrete operations stage. Through

participation in shared activities, Vygotsky believes it provides a setting where meaningful learning can occur. (Charlesworth, 2011) Language is viewed as mental tool by Vygotsky as he believes it essential for interacting with others, thus having a social function. (Duchesne, 2013) Mediation is used by Ann to promote interactive and effective learning within her class. Ann describes that she has different study groups for different topics. This presents us with the idea that Ann is using mediation within her year 8 science class. Mediation is when the more able students help the less able students in thinking. This technique allows for more social interaction to occur and students are able to learn effectively from one another. An American psychologist, Jerome Bruner believes that development can be accelerated through active participation of adults within children's learning, this relates to Vygotsky's concept of scaffolding. (Lindon, 2010) Piaget believed for a child to reach the concrete operations stage, they required a cooperative adult-child relationship in which all participants were encouraged to share their opinions. Through this process children are able to develop their personalities as well as develop social reciprocity. Social reciprocity refers to the give and take of social relationships. (Charlesworth, 2011, p. 507) It can be seen that both Piaget and Vygotsky put emphasis on social interaction to enhance effective learning. Direct instruction is a technique used by teachers to help guide students. Since the beginning of the term the children in Ann's class were unfamiliar with what they are doing, Ann would start her classes by giving a clear demonstration of what the children are expected to. This is called direct instruction; this is where the teacher would help guide the students in the right direction. (Weißen,

2007) Ann is implementing Piaget's principle of providing practical experiences which is part of the preoperational stage. (Duchesne, 2013) Vygotsky believed that children will learn better when they are assisted by people who are more knowledgeable than them, Ann uses this technique in her class. (Meggitt, 2012) Through a more knowledgeable person supporting children's learning Vygotsky believed that children would reach their zone of proximal development (ZPD). ZPD refers to the area of potential learning for individuals at a given time. (Meggitt, 2013, p. 181) Jerome Bruner built on Vygotsky's ideas that adults offered support to children's learning and came up with the term scaffolding. (Duchesne, 2013) Scaffolding is defined as the assistance given from an adult who aids children to solve a task, achieve a goal or to carry out a task. (Blake & Pope, 2008) Through using Vygotsky's theory of scaffolding children are given guidance which leads them onto the right track. After being guided in their learning children are able to complete the tasks by themselves in the future. This refers to the zone of actual development which simply means what a child can do by themselves without help from anyone else. (Blake & Pope, 2008) Ann uses scaffolding in her class and later leaves the children to explore and conduct activities of their own such as studying flowering plants, butterflies and bee pollination. According to Piaget's four stage theory, children who are in or past the preoperational stage are able to recall memories or past experiences and anticipate this into their future tasks. Ann provides opportunities for the students to recall their outdoor experiences and express their ideas about the topic in written form, this concept links to Piaget's formal operations stage. (Duchesne, 2013) In conclusion, it can be seen that Ann has used a

mixture of both Piagetian and Vygotskian principles to teach her Year 8 science class. Not only does Ann focus on one stage of Piaget's developmental model, but rather she combines milestones from each of the stages into her teaching styles. This proves that Ann is aware that children learn at different rates and are positioned on different stages in Piaget's four stage developmental model. Furthermore Ann is seen to implement Vygotsky's principles of scaffolding, ZPD, social interaction, mediation and zone of actual development. It can be concluded that Ann has studied both the Piagetian and Vygotskian principles in depth and seems to agree with both, hence the reason for implementing their principles into her Year 8 science class.