

# Constructivism, Productive Struggle, and Piaget's Stages: Effective or Not?

## Storyline

The movie *Brave* follows Merida, a young princess expected to enter into an arranged marriage that will unite the clans in her kingdom. With the goal of changing her mother's stance on this marriage, allowing Merida to make her own choice, our princess consults a witch for a magic spell. Unfortunately, the spell turns her mother into a bear.

Through the guidance of a riddle left by the witch, Merida must mend the bond she once tore. Throughout the movie, she progressively understands the riddle differently, moving from the concrete idea of sewing up a tapestry, to the more abstract, and true solution of repairing the relationship she has with her mother. As she matures, Merida experiences each of Piaget's stages of cognitive development.



## Merida's Progression:

**Sensorimotor Stage:** Because this stage covers the period in a child's life when they use solely their five senses to understand the world, Merida goes through this stage at a very young age before the beginning of the movie.

**Preoperational Stage:** After her mother turns full bear, Merida recognizes the severity of her situation. Finding herself in the ruins of the former home to a prince, who traded his human soul for the strength of ten men, she comes across a large slab of broken stone with bust of the bear prince and his brothers. Therefore, she decides to mend her mother's newly torn tapestry in order to reverse the witch's spell. At this point, her thought process has become more comprehensive, but she is still not to the point that she can reason past the concrete representations in her world.

**Concrete Operational Stage:** In the movie, this stage of Merida's development relates to the expectation held over her head to marry a boy from another clan. She uses her experiences and her mother's pantomimed guidance to reason with the clan leaders, explaining the marriage from her point of view. Through this speech, she demonstrates her ability to reason logically and organize her thoughts using real life experiences, and the aid of other concrete representations of concepts (the pantomiming).

**Formal Operational Stage:** Merida begins to transcend the barrier between concrete and abstract reasoning at the end of the movie, realizing the bond in the witch's story is not tangible, but the invisible tie between her and her mother. She is now ready to rule the kingdom without the support of a husband because her thought process is more advanced than many adults, and she is able to prepare for the future, for which she has no concrete representation.

## Application:

Although Piaget's theory has been critiqued for implying that children's cognitive growth occurs in distinct and rigid stages, it is helpful in determining if a student's development is typical, particularly in familiar situations. For example, if a student is in High School and is still putting novel objects in their mouth, a teacher may need to determine if intervention is needed, after more close observation. On the other hand, if one takes into account the age ranges for each stage, Merida should have been well past the Formal Operational stage by the time the witch cast the spell. However, the situation she was in was entirely unfamiliar to her. For this reason, she regressed back to the earlier stages. It was only through the constructivist style instruction Merida received from the witch, pushing her to reach an understanding with little guidance, that she managed to reassess her life and, once again, attain a more abstract sense of the world. Constructivism is a technique used by teachers to aid students in taking responsibility for their education. Because students work through problems with minimal aid from their teacher, they form unique strategies that are retained much longer than those explicitly taught. Overall, constructivism and Piaget's stages are both successful in promoting high quality education and predicting developmental delays respectively.

**Success rate:** This theory has a high success rate in promoting child centered and developmentally appropriate curricula. Piaget's stages have led to a decrease in the amount of explicit instruction present in modern constructivist classrooms, devaluing rote memorization and drills. While these are testaments to the progress this theory has attained, it does receive criticism for a lack of consideration for the effect of cultural differences on cognitive development. Ergo, it is not the sole theory utilized in the assessment of young children.



Piaget	Monopoly Game
<b>Sensorimotor Stage (0-2 Years)</b> The stage during which sensory input and motor responses become coordinated.	The child put houses hotels and dice in his mouth and plays with "Chance" card.
<b>Preoperational Stage (2-7 Years)</b> The period of cognitive development when children begin to use language and think symbolically, yet remain intuitive and egocentric.	The child plays Monopoly, but make up his own rules and cannot understand instructions.
<b>Concrete Operational (7-11 years)</b> The period of cognitive development during which children begin to use concepts of time, space, volume, and number, but in ways that remain simplified and concrete.	The child understands basic instructions and will play by the rules but is not capable of hypothetical transactions dealing with mortgages, loans, and special, pacts with other players.
<b>Formal Operations Stage (11 Years and Up)</b> The period of intellectual development marked by a capacity for abstract, theoretical, and hypothetical thinking.	The child no longer plays the game mechanically; complex and hypothetical transactions unique to each game are now possible.

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