

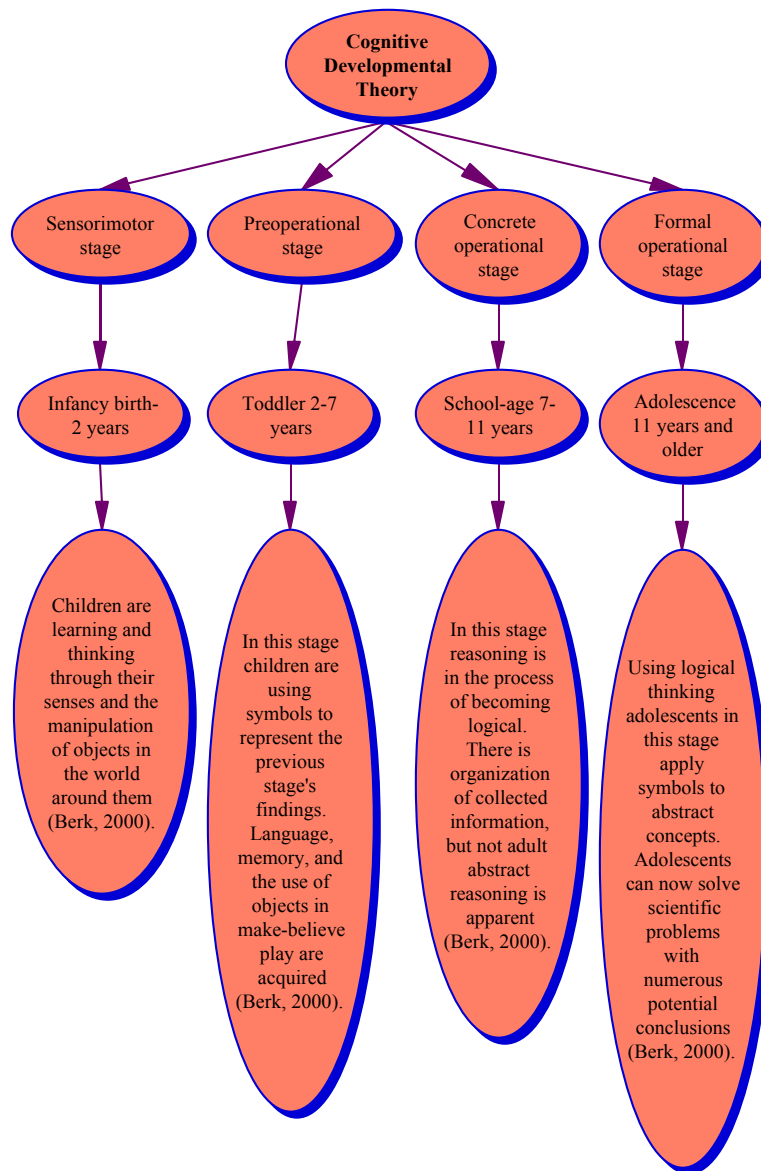
Piaget WebQuest

By

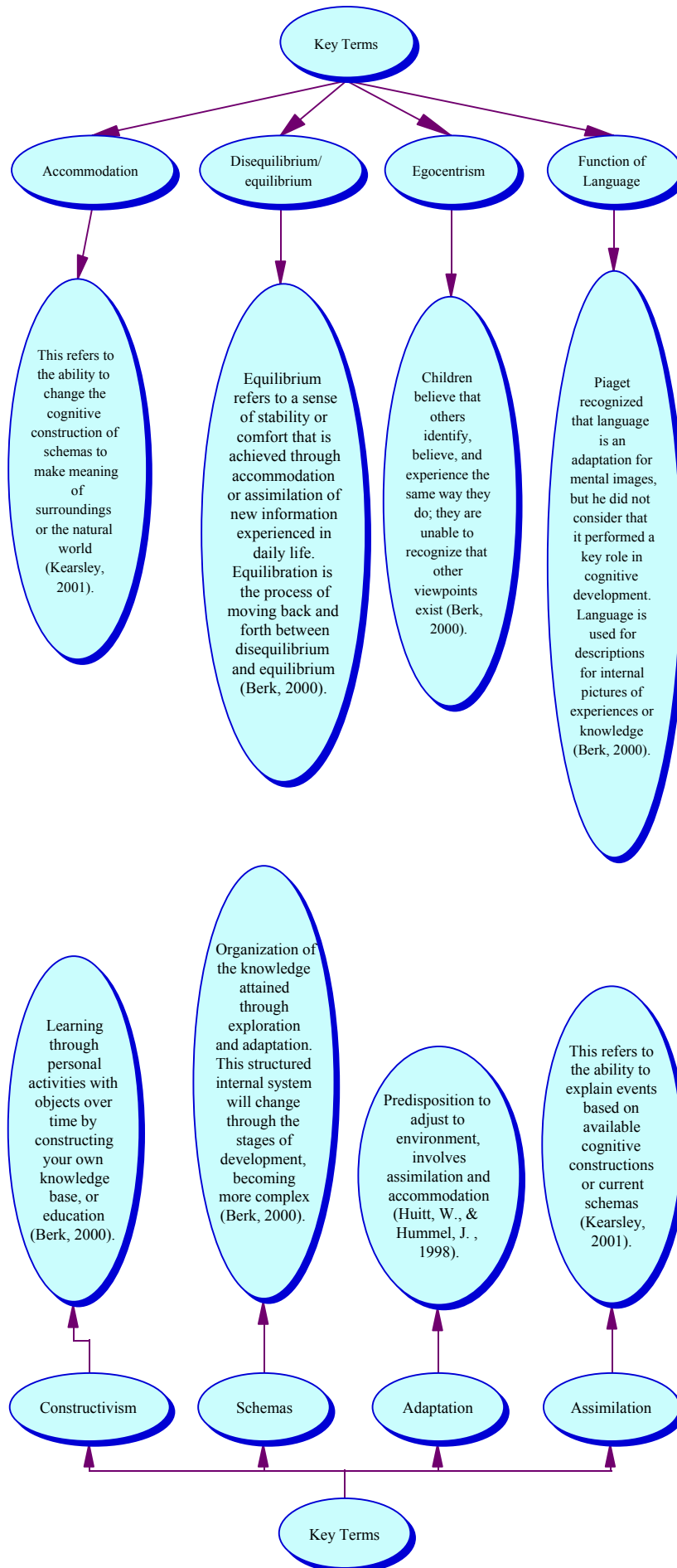
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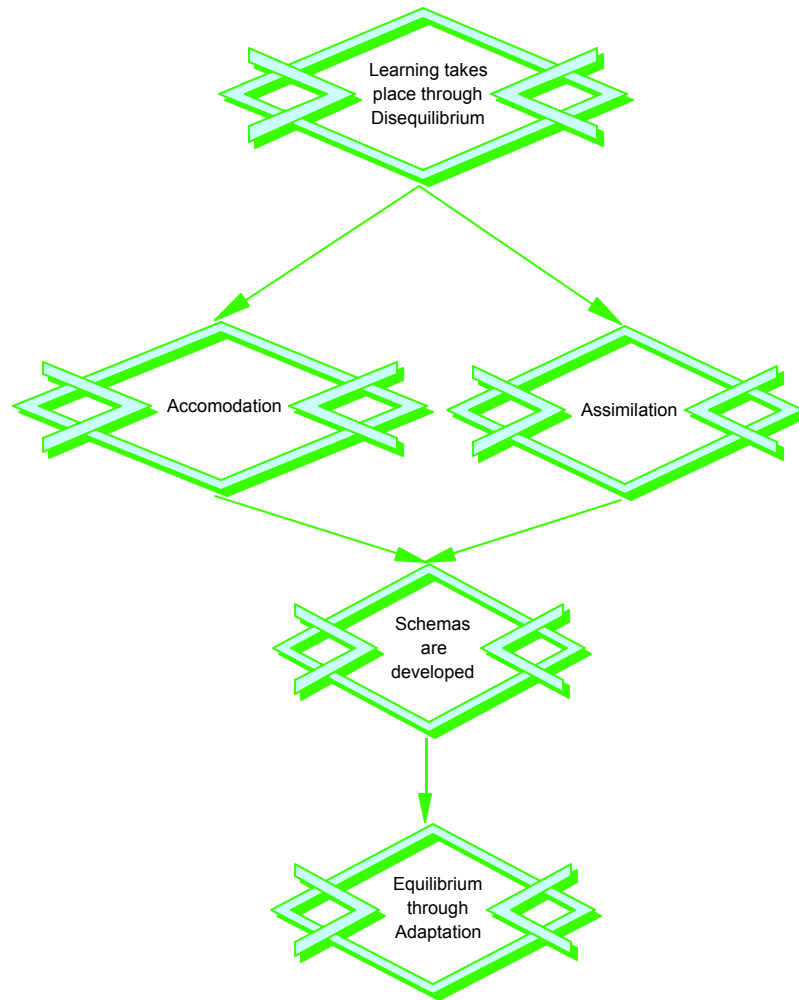
Introduction

The cognitive-developmental theory developed by Jean Piaget (1896-1980), states that children and adolescents continuously construct intelligence as they operate and discover their world. Their cognitive progress takes place in four stages illustrated below (Berk, 2000).



Key Terms





Nature vs. Nurture

One major area of contention among theorists has to do with heredity and the environment. It is referred to as the nature/nurture controversy. Nature refers to genetics, or what ever the child has inherited from his/her parents. Nurture refers to the environmental factors, including physical and social that influence behavior.

The cognitive developmental theory of Piaget states that both heredity and the environment are important in determining the underlying causes of child development (Berk, 2000, p.32). However, Piaget states that it is the push from within the child, depending on the stage of the cognitive structure that leads the process of development. The environment affects how and what the child will learn.

Piaget's initial studies began with biology. This study remained a lifelong passion. He felt that all living organisms were alike in their capacity to adapt. To Piaget, this concept of adaptation is the most important principle of human functioning. Included in this process is assimilation and accommodation. Assimilation is the process of taking in new information and fitting it in to prior knowledge about objects or the world. For example, if a baby has learned that sucking a bottle will bring milk, she will do the same to a rattle or a stuffed animal. Both toys have now become a part of her experience and she will recognize them in the future. Accommodation means being able to adjust to new experiences by revising the old plan to fit the new. The baby who tries to drink milk from the rattle (assimilation) soon learns that the toy only makes noise. The rattle is no longer a substitute for food (accommodation).

As children progress through each stage, they continue to use this process. Another example deals with Johnny who is in first grade. Johnny has been learning the alphabet and knows that when letters are put together they spell words. He takes the letters he has learned, and tries to put

them together in any kind of order, but they don't always spell a word. After repeated attempts, Johnny realizes that the letters must be in certain order to spell a word. He must change his former way of thinking about the alphabet letters and develop a new schema concerning the order of letters in words (accommodation). He adds this information to his world of knowledge and when confronted with new letters, he knows that they must be in a specific order to spell the words correctly (Singer and Revenson, 1996,p.16).

By using this process the child is able to form patterns or "schemas". These patterns help the child make sense out of the world, and help regain equilibrium in their immediate world. Piaget felt that heredity played a role in determining the innate mental ability of the child. All children have the capacity to learn – but follow definite stages of development as they mature. He explains this maturation process in his four stages of development. Every aspect of learning is influenced by experiences in the environment. Piaget believed that children are active participants and should be given every opportunity to discover and learn through experimentation.

Piaget's research has played an important role in the current field of educational philosophy and cognitive psychology. His theory has converted many in the field to the belief that children are not passive, but active learners. Piaget's theory, clinical interviews, research, and developmental stages have sparked others to develop their own theories and philosophies and generated continued research in this area.

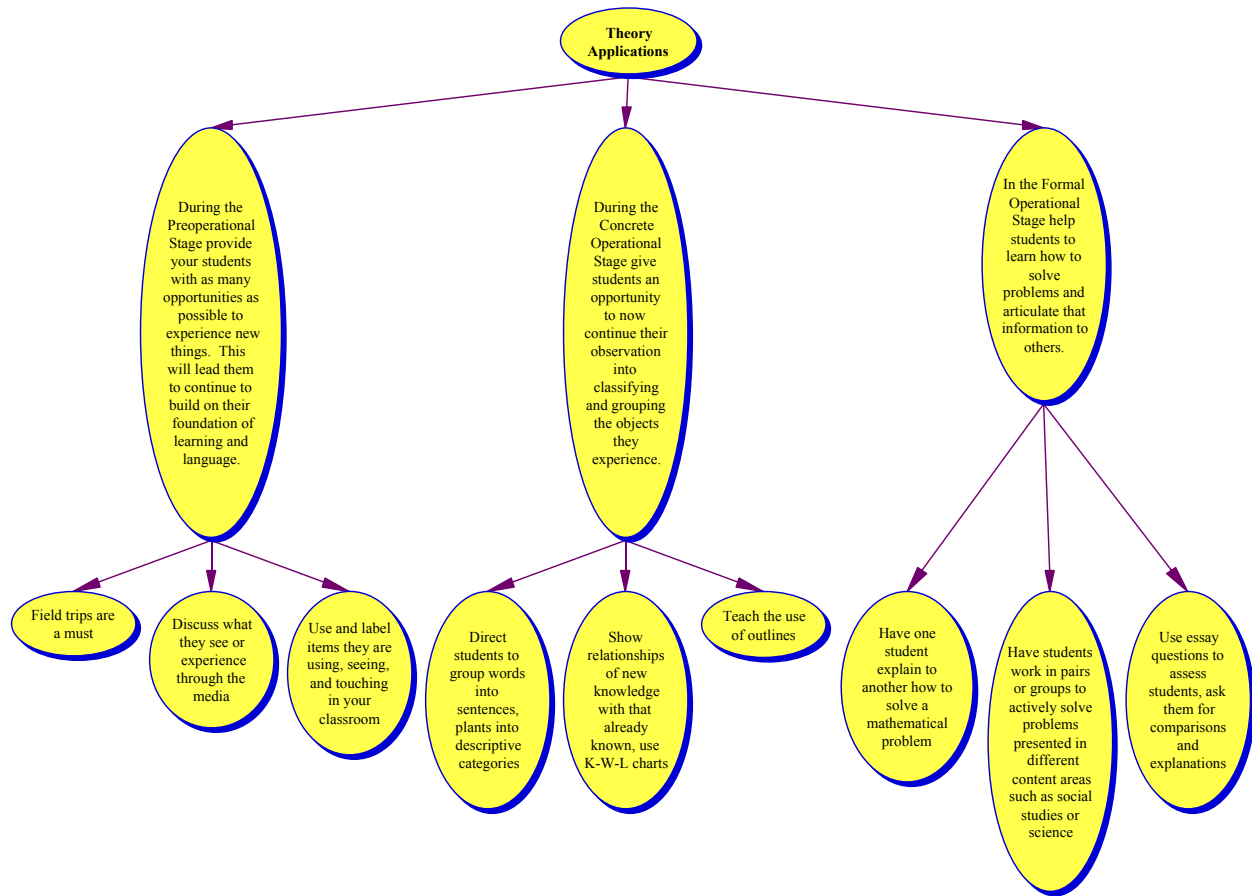
Implications for Practice

There are many implications of this theory for teaching children and working with parents. You must first remember that learning takes place by the student constructing schemas through knowledge discovered in hands-on environments. So we must first make sure we have a hands-on classroom with a variety of discovery areas. Our lesson plans should include tons of activities, field trips, and learning games. Don't forget about art, music, and reading in your classroom. Try to avoid oodles of workbook assignments and lessons that go beyond the scope of the child's personal experience. Encourage parents to talk to their children about experiences, or even television shows. Explain to parents and administrators that drawing, exploring, and game playing are active ways of learning.

Piaget encourages teachers and parents to become child watchers. Observing your children or students is the best way to make sure your current lessons are appropriate for the child's present level of development without imposing standardized learning, such as facts and rules committed to memory (artificial) before it can be discovered through hands-on experimentation (constructivism). During the concrete operational stage make sure to use scientific experiments, story problems, open-ended questions, and even riddles which would communicate to the students prior knowledge or developed schemas.

The stage sequences described by Piaget are defined as universal. As a teacher you must remember that students may or may not reach each stage at the predetermined age assigned by Piaget. You must be aware that each child develops individually. When applying the theory to your classroom you may wish to stress group projects where all children can participate in an activity at their own pace and yet be a productive members of your classroom and their groups. You must be flexible with your lesson plans and activities. Remind parents, colleagues and administrators to view learning as a lifelong process. This process may not be best measured by practices and tests that compare children with each other. Learning would be measured with authentic assessments, which allow children to explain their learning process. Examples of this assessment would include portfolios, demonstrations, and group presentations of finished projects.

Applications for the Classroom



Resources

For additional applications of the cognitive development theory including video clips of Piaget’s own work, benefits of constructivism and it’s implementation, as well as, lesson plans and demonstrations for your classroom please see the following resources:

Educational Psychology Interactive: Cognitive Development/Applications

<http://chiron.valdosta.edu/whuitt/col/cogsys/piagtuse.html>

TIP:Theories/Genetic Epistemology

<http://www.gwu.edu/~tip/piaget.html>

Ideas for the Constructivist Classroom

<http://disted.tamu.edu/chapter4.htm>

Sources

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