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Developmental Model of Teaching: Enhancing Capacity to Think

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ABSTRACT

Jean Piaget an eminent Swiss psychologist made the study of the development of intellectual process published in the mid-1920. On the basis of his study, the famous American psychologist Irving Siogel and Lawrence Kohlberg have developed teaching methods designed to improve intellectual development in general and moral development in particular. This model of teaching is based on the model for assessing the stages of development drawn from Piaget's writing on the methods Clinique (clinical method). Piaget made the categorization of intellectual development in the forms of various stages. Each and every stage is characterized by the manner the schemas permit the organism to relate to the world. The individual perform specific types of thinking according to his or her developmental stage. The stages are sensorimotor stage,preoprational stage,operational stage.The model of teaching has its several steps such as syntax,social system,support system,principle of reaction application etc The application of the model are such as useful to cognitive and social development,diagnosing illogic or problem in thinking evaluating instructional process,ensuring that the learners could work easily in their environment,identifying the accelerating activities for the cognitive growth of the learners,useful for logico-mathematical development. This model is very important and is applicable to any developmental sche

KEYWORDS: Evaluation objective continuous comprehensive

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Sub-Stage	Age	Description
1. Sansorimotor stage 0 to 2 years		
A. Simple reflexes	0 to 6 weeks	Sucking, moving eyes, palmer grasp
B. First Habit and Primary Circular Reaction Test	6 weeks to 4 months	Passing hands before their face.
C. Secondary Circular Reactions Phase	4 to 8 months	Repetition of an action
D. Coordination of Secondary Circular Reactions Stages	8 to 12 months	Hand eye coordination
E. Tertiary Circular reactions, novelty and curiosity	12 to 18 months	Discovery of new means to meet goals
F. Internalization of schemas	18 to 24 months	Development of insight or true creativity
2. Preoperational stage 2 to 7 years		
A. Pre-operatory thought 2 to 4 years		
B. Intuitive thought 4 to 7 years		
3. Operational stage 7 to 16 years		
A. Concrete operational though 7 to 11 years		
i. Seriation ii. Transtivity iii. Classification iv. Decentery v. Reversibility Conservation		
B. Formal operational thought 11 to 16 years		
i. Logical use of symbols ii. Symbols related to abstract concept iii. Entering adolescence into adulthood		

Sensorimotor Stage – 0 to 2 years

Piaget classified the sensorimotor stage into six sub-stages from birth until the age of two. At this stage, infants have only senses such as vision, hearing and motor skills such as grasping, sucking and stepping. The knowledge of the world is limited because it is based on physical interactions and experiences. Behaviours are limited to simple motor responses caused by sensory stimuli. The development of object permanence is one of the most important accomplishments at th9e sensorimotor stage.

Pre-Operational Stage:

During this phase, the children (2 to 4 years) try to use and represent objects by images, words and drawings. Formation of stable concepts as well as magical beliefs take place during this stage. The important characteristic of the child is egocentric thinking. The intuitive thought occurs during the age of 4 to 7 years. The children are very curious and use to ask many questions.

Concrete operational stage:

Concrete operational stage follows the preoperational stage age during 7 to 1 year. He most important characteristic of this stage is an optimum use of logic. The significant process involved at this stage – age are as under:

I. Seriation:
Seriation is the capacity to categorize objects in order to size, shape or any other characteristic.

II. Transitivity:
It refers to the potentiality to recognize relationships among various things in a serial order. For instance placing the books tallest one on one end of the bookshelf and the shortest one ends up at the other end.

III. Classification:
It refers to the ability to name and identify sets of objects according to appearance, size, or other characteristics.

IV. Decentering:
The child considers different aspect of a problem for finding out its solution. For instance, the child will no longer perceive an exceptionally wide but short cup to contain less than a normally wide, taller cup.

V. Reversibility:
Here, the child would be able to understands that numbers or objects could be changed, then return to their original state. For instance of deflate favorite ball of the child could not be gone but could be filled with air again and put back into play.

VI. Conservation:
It indicates in understanding of the child that quantity, length or number of items is unrelated to the arrangement or appearance of the object or items.

Formal operational stage – Age:

During formal operational stage – age the period of adolescence puts step into adulthood. Intelligence is shown on the basis of the logical utilization of symbols related to abstract concepts. During this period, child is able to give hypothetical and deductive reasoning. Children think very concretely in comparison to earlier stages. Children start to consider possible outcomes and result of actions. The children utilize trial and error to solve problems indicates problem – solving approach. The children would be able to solve a problem in a logical and methodological way.

Principles of Learning and Teaching:
Principles of learning and teaching are as under based on the work of Piaget.
1. Teaching is the creation of environments where students' cognitive structure can emerge and change.
2. Learning is an adaptive process.
3. The demands of the learning situation are different for the three types of knowledge, physical, social and logical.
4. Especially logical and social knowledge are best learned from other children.

According to wadsworth, the teacher plays three roles as under:
1. Organizer of the learning environment.
2. Assessor of children's thinking.
3. Initiator of group activities especially play, games, and discussion.

Model of Teaching:
The model of teaching consists of stages such as syntax, social system, principles of reactions support system, application, nurturant and instructional effect.

Syntax:
This model of teaching has three phases as under:
Phase-I: Confrontation with stage – relevant tasks.
Phase-II: Inquiry
Phase-III: Transfer

Phase-I: Confrontation with stage – relevant task
In this phase, the teachers put the learners in a situation that confronts them with the logic of their thinking or that is difficult to them. The problematic situation should be familiar which permit assimilation, but there should be some newness to require accommodation.

Phase-II Inquiry:
In this phase, the teacher asks the questions and get responses of his students to probe to ascertain their level of reasoning. Probing involves asking questions for justifications. The teacher encourage the students to provide suggestions and counter suggestions. Some of the initial questions could be asked as under:
1. What do you think?
2. What do you see?

The main reason of asking probing question, the teacher tries to get positive response. Then the teacher asks the learners to justify the given positive response with the help of providing their suitable reasoning. The question could be asked from the students such as under:
1. How do you know?

After providing reasoning. The students should be encouraged to provide one or more counter suggestions. Each time the teacher tries to probable the reasoning of the students.

Phase-III Transfer:
tThe objective of this phase is to know the transfer to ability of the students. The teacher must see that the students are able to provide right reason similarly on a related learning task or in related confronting situation. The teacher provides further problematic situation. The teacher asks the students to provide a good judgments on that particular problem. The teacher influences the students to find out the correct reason and provide important counter suggestions.

The social system should be affective for creating conducive environment of the learning platform. The teacher may structure the social system starting from minimum level to the highest level. At this stage, the teacher creates congenial environment of activities and provides resources which help to induce student-guided inquiry. Here the teacher tries to maintain a free intellectual and social atmosphere. The teacher applies a highly structured approach suitable a particular stage level of the development of the learner for a specific problem areas.

Learning Kohlberg gives due importance to an environment where open and searching discussion could take place for the moral development. The student must feel free to interact and make the best possible discussion with each other for searching a solution of a problem with reason having its justification. Here one thing should be kept in mind that home and school are equally responsible for moral development of the students.

Principles of Reactions:
In this model of teaching under the principles of reaction the teacher plays significant role as environmental creator as under:
1. Creating facilities environment.
2. Imposing no restruction on students.
3. Encouraging students for free discussion
4. Encouraging students to provide natural and positive responses.
5. Avoiding leading or cuing questions.
6. Selecting activities for dynamic learning according to the stage age level of the students.Inquiring into students' reasoning.
7. Encouraging students to provide counter suggestions
8. Continuing until the required level of reasoning justified and satisfied.

Support System:
For carrying on effective learning at the time of using this model of teaching the teacher should be well aware about the developmental theory. They should also be fully aware about an environment consisting of structured and unstructured stage appropriate tasks. The teacher must have an indepth knowledge of relevant counter suggestions. A resourceful environment is required for confronting the problem. A free social environment helps the learners to deal with the cognitive problems developed in the confrontation. Here the teacher may become a useful resource person offering appropriate stimulating comments at the right time.

Application:
The application of the model are as under:
1. Useful to cognitive and social development.
2. Diagnosing illogic or problem in thinking.
3. Evaluating instructional process
4. Ensuring that the learners could work easily in their environment.
5. Identifying the accelerating activities for the cognitive growth of the learners.
6. Useful for logico-mathematical development.

This model is very important and is applicable to any developmental schema.

Instructional and Nurturant Effect:
The most important outcome of this model of teaching is cognitive and socio-emotional development of the learners at any developmental stage – age.



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