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Lev Vygotsky's Concepts of Cognitive Development

Lev Vygotsky (1898-1934)

- Development can only be understood within a social framework
- Vygotsky (1962, 1978) proposed that the study of cognitive development must take as its unit of analysis the person in activity in a setting.
- Children should have many opportunities for social interaction to develop intellectuality
- The person and the culture are intricately interwoven through the process of social interaction

Comparison of Vygotsky's and Piaget's Theories

- Vygotsky's theory is a social constructivist approach, which emphasizes the social contexts of learning and that knowledge is mutually built/constructed
- Piaget's theory is a cognitive constructivist approach which doesn't have this social emphasis
- Piaget believed children construct knowledge by transforming, organizing, and reorganizing previous knowledge.
- Vygotsky believed children construct knowledge through social interaction

The work of Lev Vygotsky (1934) has become the foundation of much research and theory in cognitive development over the past several decades, particularly of what has become known as socio-cultural theory.

Socio-cultural theory views human development as a socially mediated process in which children acquire their cultural values, beliefs, and

problem-solving strategies through collaborative dialogues with more knowledgeable members of society.

Vygotsky's theories stress the fundamental role of social interaction in the development of cognition (Vygotsky, 1978), as he believed strongly that community plays a central role in the process of "making meaning."

Unlike Piaget's notion that childrens' development must necessarily precede their learning, Vygotsky argued, "learning is a necessary and universal aspect of the process of developing culturally organized, specifically human psychological function". In other words, social learning tends to precede (i.e., come before) development.

Vygotsky has developed a socio-cultural approach to cognitive development. He developed his theories at around the same time as Jean Piaget was starting to develop his ideas (1920's and 30's), but he died at the age of 38, and so his theories are incomplete - although some of his writings are still being translated from Russian.

No single principle (such as Piaget's equilibration) can account for development. Individual development cannot be understood without reference to the social and cultural context within which it is embedded. Higher mental processes in the individual have their origin in social processes.

Effects of Culture: - Tools of intellectual adaptation

Vygotsky claimed that infants are born with the basic abilities for intellectual development called 'elementary mental functions' (Piaget focuses on motor reflexes and sensory abilities).

Elementary mental functions include –

Attention

Sensation

Perception

Memory

Eventually, through interaction within the socio-cultural environment, these are developed into more sophisticated and effective mental processes which Vygotsky refers to as 'higher mental functions.'

Each culture provides its children tools of intellectual adaptation that allow them to use the basic mental functions more effectively/adaptively.

Tools of intellectual adaptation are Vygotsky's term for methods of thinking and problem-solving strategies that children internalize through social interactions with the more knowledgeable members of society.

For example, memory in young children this is limited by biological factors. However, culture determines the type of memory strategy we develop. For example, in western culture, children learn note-taking to aid memory, but in pre-literate societies, other strategies must be developed, such as tying knots in a string to remember, or carrying pebbles, or repetition of the names of ancestors until large numbers can be repeated.

Vygotsky, therefore, sees cognitive functions, even those carried out alone, as affected by the beliefs, values, and tools of intellectual adaptation of the culture in which a person develops and therefore socio-culturally determined. The tools of intellectual adaptation, therefore, vary from culture to culture - as in the memory example.

Social Influences on Cognitive Development

Like Piaget, Vygotsky believes that young children are curious and actively involved in their own learning and the discovery and development of new understandings/schema. However, Vygotsky placed more emphasis on social contributions to the process of development, whereas Piaget emphasized self-initiated discovery.

According to Vygotsky (1978), much important learning by the child occurs through social interaction with a skillful tutor. The tutor may model behaviors and/or provide verbal instructions for the child. Vygotsky refers to this as cooperative or collaborative dialogue. The child seeks to understand the actions or instructions provided by the tutor (often the parent or teacher) then internalizes the information, using it to guide or regulate their own performance.

Shaffer (1996) gives the example of a young girl who is given her first jigsaw. Alone, she performs poorly in attempting to solve the puzzle. The father then sits with her and describes or demonstrates some basic strategies, such as finding all the corner/edge pieces and provides a couple of pieces for the child to put together herself and offers encouragement when she does so.

As the child becomes more competent, the father allows the child to work more independently. According to Vygotsky, this type of social interaction involving cooperative or collaborative dialogue promotes cognitive development.

In order to gain an understanding of Vygotsky's theories on cognitive development, one must understand two of the main principles of Vygotsky's work: the More Knowledgeable Other (MKO) and the Zone of Proximal Development (ZPD).

More Knowledgeable Other

The more knowledgeable other (MKO) is somewhat self-explanatory; it refers to someone who has a better understanding or a higher ability level than the learner, with respect to a particular task, process, or concept.

Although the implication is that the MKO is a teacher or an older adult, this is not necessarily the case. Many times, a child's peers or an adult's children may be the individuals with more knowledge or experience.

For example, who is more likely to know more about the newest teenage music groups, how to win at the most recent PlayStation game, or how to correctly perform the newest dance craze - a child or their parents?

In fact, the MKO need not be a person at all. Some companies, to support employees in their learning process, are now using electronic performance support systems.

Electronic tutors have also been used in educational settings to facilitate and guide students through the learning process. The key to MKOs is that they must have (or be programmed with) more knowledge about the topic being learned than the learner does.

Zone of Proximal Development

The concept of the More Knowledgeable Other is integrally related to the second important principle of Vygotsky's work, the Zone of Proximal Development.

This is an important concept that relates to the difference between what a child can achieve independently and what a child can achieve with guidance and encouragement from a skilled partner.

For example, the child could not solve the jigsaw puzzle (in the example above) by itself and would have taken a long time to do so (if at all), but was able to solve it following interaction with the father, and has developed competence at this skill that will be applied to future jigsaws.

Vygotsky (1978) sees the Zone of Proximal Development as the area where the most sensitive instruction or guidance should be given - allowing the child to develop skills they will then use on their own - developing higher mental functions.

Vygotsky also views interaction with peers as an effective way of developing skills and strategies. He suggests that teachers use cooperative learning

exercises where less competent children develop with help from more skillful peers - within the zone of proximal development.

Evidence for Vygotsky and the ZPD

Freund (1990) conducted a study in which children had to decide which items of furniture should be placed in particular areas of a dolls house.

Some children were allowed to play with their mother in a similar situation before they attempted it alone (zone of proximal development) while others were allowed to work on this by themselves (Piaget's discovery learning).

Freund found that those who had previously worked with their mother (ZPD) showed the greatest improvement compared with their first attempt at the task. The conclusion being that guided learning within the ZPD led to greater understanding/performance than working alone (discovery learning).

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