

The Internal Mechanism of Children's Question¹

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Abstract: Asking questions is a type of activity in verbal communication. Children's asking questions shows their nature and reflects the characteristics of active learning. This paper reveals the intrinsic characteristics of children's questioning by expounding the relationship between questioning and curiosity, between questioning and creative thinking, between questioning and the development of speech ability, and between questioning and cognitive mechanism.

Keywords: Early childhood education; Young children's questions; Active learning; Cognitive development

1. Introduction

Asking questions is a type of verbal communication activities. Childrens ask questions are manifestations of their nature and active learning. Children's questioning reflects children's thinking, understanding and explaining the world around them. Children's discovery, posing and solving problems have become an important research direction. It is necessary to explore the vivid evolution of children's questioning, enter the "problem world" of children, and listen to the most authentic voice of children.

2. Representing curiosity

Case: Yang Yang is a lively and active 4-year-old child. She has numerous "why". As a child, she has become a famous "question mark". She can't help asking her mother various questions in her life:

"Mom, why can't I catch the wind?"

"Mom, why can't my feet reach my head?"

"Mom, why does the car run?"

"Mom, where did the first person in the world come from?"

"Mom, why do I go to kindergarten?"

"Mom, why are cats' eyes different from ours?"

Yang Yang's various strange "why" makes her mother often "nervous". Her mother doesn't know how to answer the "various" questions. Her mother thinks to herself, "Did the child add the wrong skills at birth? What are these strange questions?" To cover up their embarrassment, mothers will use the "magic trick": "Go aside, where do children come from so many questions."

Philosophers have been struggling to define curiosity. They view curiosity from different perspectives. Aristotle and Cicero believe that curiosity is an intrinsically motivated desire for information. St. Augustine and David Hume regarded curiosity as a passion and used terms such as "thirst for knowledge". Kant believes that curiosity is a desire, which is similar to the view of Feuerbach that curiosity is driven by an unsatisfied knowledge. Later philosophers reached the "pre-modern consensus" that Rovinstein said, that is, curiosity is "a strong, internal, desire for information".

It is undeniable that curiosity is a psychological instinct for human beings to adapt to survival, an important driving force for individuals to carry out life activities, and can encourage human beings to explore and question.

Piaget believes that curiosity is part of the assimilation process and the result of cognitive imbalance. Piaget's cognitive development theory believes that children are full of curiosity from birth. With the development of cognitive schema, they will

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have new opportunities to experience and amazing experiences they believe.

Dewey pointed out that the free development of children's intelligence is inseparable from curiosity, which is a powerful driving force to promote the development of intelligence. Through the interaction of giving and obtaining with the environment, children form the experience frame of impression and stimulation. Children strive to seek contact, seek new things, try to change old things, and constantly actively expand the range of experience.

3. Reflect creative thinking

Creative thinking is a complex and advanced cognitive activity, and its concept has not been uniformly defined. The new round of PISA test adds a new evaluation field - "creative thinking". Organization for Economic Cooperation and Development (OECD) put forward the operational definition of creative thinking in PISA2021 Framework for Creative Thinking (Third Edition): effectively participate in the generation, evaluation and improvement of ideas, thus forming original and effective solutions, promoting knowledge enhancement and imaginative expression. The philosophy proposed by the French philosopher Gil Deleuze supports the human desire for new, extraordinary and interesting things. He calls this desire a kind of persistent creative thinking. It is not difficult to find that creative thinking has novel and unique characteristics, and this way of thinking can produce unusual ideas.

Many innovative inventions in the history of human invention come from rejecting the constructed questions and the conventional answers, actively using creative thinking to explore the unknown world and finding a way to break through in the process of trial and error. According to the experience of the history of human invention, before unmanned flight, children asked: "I want to learn how to fly, how can we fly?" It may be considered by adults to be lovely, interesting, and full of fantasy, or it may be considered unreasonable, unrealistic, or even ridiculous by adults, but it is actually the germination of creative thinking. When this problem is taken seriously by everyone, and based on it, we begin to explore the unknown, thus realizing the dream of free flight with the help of aircraft, aircraft and other tools.

4. Reflect speech ability

Children use language to connect with society. Children rely on language to acquire the ability of two-way development of external inquiry and internal thinking. Children use questioning as a way of verbal communication to effectively develop their speech ability. Questioning is an important way of children's language communication. Piaget is considered to be one of the early researchers who paid attention to the development of children's problems. After observing children's questions, he put forward a set of five semantic categories for analyzing children's "why" problems: causal relationship, reality and history, human behavior and intention, reason, and social relationship. As children grow older, they will ask fewer and fewer questions about causation, and more and more questions about human behavior, reason and social relations.

As a way to improve human social relations, children realize the interaction between self and social information in questioning, and promote the development of children's language ability. Rather than focusing on what types of questions children ask, we should pay more attention to the syntactic rules of children's questions. Children have experienced a clear stage in the development of syntactic rules of questioning. Their earliest questions are usually conventional or stereotyped questions, such as "what is that?" and "why". Next, children start to master the rules of question conversion when they ask questions. Children will form a complete set of rules of question conversion and ask questions similar to adults, such as "What is that long thing?" "Why can't you give me your water?" and so on.

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5. Reflect cognitive mechanism

Children's questioning reflects the internal contradictions of individuals and is an important manifestation of cognitive development. When children have conflicts between their cognition and existing knowledge reserves under the current state of knowledge, and the existing knowledge is not enough to enable children to solve practical difficulties, raising questions can

enable children to accurately obtain targeted information when needed. Questioning methods include voice questioning and other information recruitment behaviors (such as accompanying gestures, expressions, etc.). Questioning can enable children to obtain the information they need, and make the knowledge structure closer to the adult state. The ability to ask questions to collect information constitutes an effective cognitive development mechanism. If the development stages of children's questioning are connected by time lines, the evolution process of children's questioning can be seen through examination, This is the dynamic development process of cognition.

Questioning is a child's thinking clue. From the first question to the hundredth question, the question renewal is also accompanied by the cognitive renewal, through various "why" to understand the world. The appearance of questioning is to ask questions, and the connotation is to represent the questioner's own thinking state. Children's questioning originates from the limited boundary of existing cognition. The information-seeking mechanism for children to understand the world is divided into two parts. The first part is "why", and the second part is "why? Because..."

Xiao Ming is a 3-year-old boy. One day, Xiao Ming and his father went to the park together. A Chihuahua came across. Xiao Ming asked his father, "Dad, is it a dog?"

Xiaoming's father: "Yes, it's a little dog."

Xiao Ming: "Dad, why does it look different from the dog we met last time?"

Xiaoming's father: "The reason for this is that the breeds of dogs are different. Although the dogs we met last time are like sausages and the ones we met this time are like dolls, they all have four legs and are hairy. They will wag their tails at you and bark at you! So they are all dogs."

Xiao Ming: "Dad, so dogs bark, right?"

Xiaoming's father: "Yes, you are so smart. Dogs bark!"

We should not refuse children's questions, nor deal with them by answering questions. We should use questions to implement our ideal education! Educators should not only be sensitive and kind to children's questions, but also learn from children's questions.

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