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THE INTERRELATION BETWEEN COGNITIVE PROCESSES AND CHILDREN'S INTELLIGENCE

L. S. Tursunov
Associate Professor, Department of Psychology of Religion and Pedagogy
International Islamic Academy of Uzbekistan

Abstract
This article emphasizes the development of intelligence in conjunction with cognitive processes, highlighting that every child possesses an intellectual inclination toward a specific type of knowledge or activity.

Keywords: Cognition, intelligence, activity, sensation, perception, memory, thinking, imagination, receptor, thought, intellect, process, speech.

Introduction

When discussing the childhood of great thinkers, special attention is given to their exceptional intellectual abilities. It is often noted that their intelligence enabled them to comprehend both worldly and divine knowledge from an early age, earning widespread admiration.

As we approach the end of the first quarter of the 21st century, it becomes evident that the labels "intelligent" or "unintelligent" are less frequently applied to today's children. What is the reason behind this shift?

During a scholarly discussion, a musician was praised for his ability to deeply move the hearts of his listeners. However, it was mentioned that this individual struggled with all subjects in school except for music. His music teacher would often request that other teachers pass him, insisting, "One day, you'll see—this child will introduce our musical art to the entire world. His intelligence knows no limits when it comes to music." This story demonstrates that intelligence is not uniformly present in all areas for every child.

Intelligence is a distinct characteristic of thinking. It is the process of rapidly and consciously understanding knowledge and skills and drawing conclusions. It is essential to distinguish intelligence from ability and talent. With careful observation and planning, one can identify a child's intelligence in specific areas of knowledge or activity.

From a psychological standpoint, intelligence can be defined as a mental state reflecting a person's orientation toward a specific type of activity. From a functional perspective, it reflects a desire to engage in that activity—a drive or motivation to participate in the process itself, not just to achieve results. In children, intelligence is often expressed through increased interest in a particular field or through participation in additional lessons on a certain theme.

Intelligence and interests may manifest as the type of activity a child enjoys, is inclined toward, and is drawn to—for example, musical intelligence, scientific curiosity, language learning, or interest in archaeology.

If a child is drawn to an activity that is viewed negatively or with skepticism, we must evaluate their intelligence rather than mere inclination.

Unlike a favorite pastime (e.g., a girl enjoys cooking or a boy enjoys designing websites), intelligence and interests do not always lead to direct results, but they represent more serious and meaningful engagements, which may not be easily understood by others.

Thus, intelligence and interest represent a personal attitude toward a certain activity or subject. In a child's ontogenesis, intelligence indicates their orientation toward a specific domain. It is driven by a deep and stable need and the desire to develop relevant skills.

Intelligence is the selective orientation of a person toward a particular activity, encouraging active engagement. The emergence of intelligence typically requires matching abilities, although discrepancies between intelligence and ability may occur.

A person is first psychologically defined by their interests and intelligence, which indicate personal direction. Interest implies a desire to explore a subject, whereas intelligence implies a desire to engage with it. Interest is the attention paid to a topic; intelligence is a tendency toward practicing a particular activity.

Often, interest in a topic and intelligence toward a related activity coexist—for example, interest in chess often comes with the intelligence to play it. However, interest may exist without corresponding inclination. A child interested in theater may not wish to become an actor. A strong and consistent interest in history may not mean a child will pursue it professionally.

“Intelligence” refers to a person's need to engage in certain types of activities. A key indicator of intelligence is a long-term and systematic desire to work in a specific area, which may be expressed through participation in school subjects, clubs, or dedicating free time to a favorite activity.

Intelligence can be described as a specific trait expressed through notable achievements and consistent interests within a given activity.

Based on the above, we now turn to the cognitive foundations of intelligence.

Cognitive psychology emphasizes the importance of sensory processes in the development of the self ("I") during a child's ontogenesis. Each sensory receptor plays a unique role, with vision and hearing being primary in early learning. Young students often acquire most of their knowledge through these two senses. A child with strong cognitive abilities can perceive and identify nuances that others may overlook.

Sensation triggers excitement in the brain; attention directs conscious activity toward that excitement, focusing it dominantly. An intelligent student can quickly distinguish necessary information from other stimuli and focus perception accordingly.

Perception, through dominant brain activity, provides a holistic image and essence of the stimulus, answering the question: “What is this?” An intelligent child directs attention to aspects of new knowledge that peers might ignore.

If the perceived item or knowledge is not recognized, attention shifts to memory, asking: “Is this familiar?”

Memory then attempts to retrieve stored knowledge through processes such as recalling, retaining, and retrieving. If a similar source exists, intelligence seeks to generalize and derive initial conclusions. If not, attention is directed to thinking.

Thinking processes unknown subjects through synthesis and analysis, forming conclusions. An intellectually sharp student repeats these steps until the problem is solved. Even when

concluding “I don’t know,” the student evaluates the issue from multiple angles and demonstrates creativity and curiosity.

Often, imagination supports thinking by visualizing various aspects of a problem. A student's learning and problem-solving involve imagination as a critical component. Problem resolution includes both logical thinking and creative imagination.

Before performing a task, a student must first visualize the outcome, forming a complete image and engaging in creative thinking. In global psychology, imagination is viewed as an element of creative activity. In uncertain or unfamiliar situations, imagination allows for reevaluating the action plan, though it doesn't create the plan itself but rather fills or adjusts parts of it.

Imagination, as a cognitive process, anticipates results before action begins, forming mental representations. When an intelligent student faces difficulties, they think, generate mental images, and add new ideas to those images.

There are similarities and differences between intelligence, thinking, and imagination:

1. All three emerge in problem-solving situations.
2. All involve the search for solutions, methods, and tools.
3. All are directly related to a person's needs.
4. Needs are initially represented through imagined images, allowing for clearer understanding.
5. Intelligence and imagination produce vivid, symbolic representations; thinking involves abstract concepts.

The most critical role of imagination in the manifestation of intelligence is its ability to ease problem-solving when thinking alone is insufficient.

As previously stated, intelligence cannot emerge, develop, or evolve without cognitive processes—or without the influence of the social environment.

Since children learn all knowledge and behavior from adults, it is the responsibility of adults to observe and evaluate their actions. Therefore, recognizing and developing a child’s intelligence depends on adults. Identifying a child's intelligence and nurturing it in the right direction can pave the way for developing talents and abilities.

This responsibility lies heavily on primary school teachers, who must detect and guide children's intellectual tendencies early on to shape their futures.

At home, the role of parents in evaluating children's intelligence is equally important. Children in the same family may have vastly different intellectual strengths. Therefore, parents must continuously observe and support each child’s individual potential.

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