

## How to develop logical reasoning in a child

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Children are capable of reasoning; they are able to form logical connections between knowledge and interaction. Reasoning is a capability that develops when children are given the freedom to spend time on their own and build their thought process. This capability for reasoning occurs at different ages depending on a child's individual capacity. Nonetheless, it manifests in every child eventually.

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Let's consider this example; while studying, a child who is a self-learner has to explore concepts and form connections to grasp an understanding of the topic. On the other hand, a child who is brought up with coaching is unable to form those connections on his own. Therefore, a child who is used to coaching will not score as well as the self-learner, because he cannot self-study. A self-learner, who understands his preferred learning style, will consider coaching to be unnecessary and a waste of time. But the one who cannot study by himself will only find value through coaching.

Logical reasoning requires independence. As parents and teachers, if we try to trust the children and their decisions, we can aid the development of their logical reasoning. In trying to find their own answers, children begin to foster the capability to reason logically. Conversely, if we don't trust them and relentlessly shower them with our suggestions, beliefs, experiences and strategies, they will become dependent on others to do the thinking. They will not form their own conclusions and their logical side will remain underdeveloped.

When children are given the freedom to learn, they explore the what's, why's and how's.

- \* At the age of 3 or 4 years, children can reason out that they need to act, however, their actions do not adequately correlate to the task. They begin to respond immediately; acting indiscriminately to address the problem without actually analysing the circumstances behind it. Pre-schoolers are unable to comprehend the conditions of a problem, which means that they cannot critically assess the situation. This eventually leads to trial and error, a valuable form of experience. Logical reasoning starts to take shape after these practical attempts at solving problems.
- \* By the age of 5 or 6, children begin to start understanding the problems and searching for ways to solve them; they begin to use logical reasoning. This is especially apparent

as children of this age group begin to use speech as a basis for logical reasoning. Arguments form the foundation of their reasoning and their resolve to solve intellectual problems. These children learn to communicate what they feel and think; they discover a range of communication methods, along with their correlation with rationale and reaction. They begin to reason and draw conclusions. Their thinking has now evolved from when they were in preschool, having gradually shifted from acting to understanding and communicating to logical reasoning.

If the goal is to help children, then we need to go about it in a certain way. As we've come to realize, we cannot make children's school life easier by solving all of their problems and doing everything for them. To nurture their ingenuity and help them develop their logical reasoning skills, parents and teachers should teach the children to use their memory reserves. Memory and reasoning go hand-in-hand when it comes to solving problems. Additionally, logical reasoning aids one's ability to memorize; it helps develop the following types of memory:

1. Motor Memory - the ability to memorize routinely performed movement and recall muscle coordination.
2. Verbal-logical memory - the ability to store and use verbal information or information that is heard.
3. Visual-shape memory - the ability to recognize and distinguish forms, faces, colours and visual elements.
4. Emotional memory - the ability to capture feelings and connect them to related events.

Utilizing these four types of memories at the same time is essential for the development of logical reasoning in children. It also enhances a child's ability to learn new material.

Logical reasoning is essential to problem-solving, which is a stepping stone to success. Instigating the development of logical reasoning in children at an early age helps improve mental operations; resulting in higher levels of cognitive activity and an increased capability to solve intellectual problems.

It is important to understand that while children can use our guidance, they do not need us to do everything for them. While giving children the freedom to think and reason, we can also help them understand what is right and wrong. Trial and error is beneficial for learning; however, it should not come at a great cost. A nudge in the right direction, even if through setting up the potential for the development of logical reasoning, can greatly benefit children in their later years.

*(Author Sonal Ahuja is Founder of House Of learning. Views expressed here are personal.)*