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# Cultivating Curiosity and Inquiry

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**Abstract**

Having a strong desire to study or understand something is being curious. Curious people frequently don't "need" the answers to their questions. They look for answers to their queries to learn more. To extend their horizons, those who are interested may also actively seek out difficulties and novel situations. Learning requires a certain level of curiosity. In addition to knowledge, it also fosters the capacity to connect disparate elements of knowledge. It's less crucial for parents of inquisitive children to have the "right" answers than it is to foster a culture of inquiry and learning. By promoting inquiries, locating material that sparks curiosity, and assisting children in accessing reliable sources to enhance their knowledge.

**Keywords:** Curious, reliable, inquisitive, knowledge

***"Curiosity is the mother of all inventions"*** – Firdaus Adib

Children are born with an eagerness to learn. They are born learners with the natural curiosity to discover how things work around them. They have an endless desire to explore, discover, and find out about things around them. They have an endless desire to learn. The people around them—their parents or caregivers—don't have to make them curious or push them to learn about things. They have their natural curiosity and imagination, leading to an individualistic learning experience. The main role of parents here is to give them ample opportunities so that they can safely explore their love of learning and develop their critical thinking skills.

You cannot keep a child from touching, grabbing, hitting, and gnawing on anything or everything they can reach. This is their way of trying to gain an understanding of the world around them. This quest stays with them from newborn to adulthood, as they always have something new to learn and absorb from their surroundings. As they become toddlers, their curiosity increases with each experience and social interaction they have with their peers in a playschool.

The horizon of curiosity keeps changing with a child's age. Let us understand it better.

- Newborns are always inquisitive about touching things around them, grabbing them whenever they get a chance, making a new sound occasionally, or experiencing different shades of light.
- For toddlers, the idea of being in a preschool class where they are exposed to new people and new concepts every day makes them curious about what the next day of school holds for them. At this age, they have an active imagination and enjoy exploring their feelings using their curiosity. Describing the inputs, they receive using their senses helps them expand their vocabulary and experience.

- For children: Curiosity helps school-going children be more observant and think about different ways of solving things from a new perspective every time they approach them. As parents, we help children in their growth by supporting their curiosity in approaching things.

Free or unstructured play is one of the best ways to cultivate curiosity in children. By providing a child with free time to play and explore, we are letting them practice and use their imagination. One should set them free and make sure not to interrupt their self-play unless it is necessary. Many times, one observes that the kind of play the children are practicing does not make any sense and that they make their own rules and regulations for playing the game. This is also one of the most important points in a child's development.

There is no secret that level of curiosity in one's mind makes learning more enjoyable and effective. Children will ask questions only if they are curious. They will not only ask questions but also seek their answers. If there had been no curiosity, then Sir Isaac Newton would have never formulated physics laws, penicillin would never have been discovered by Alexander Fleming, or radioactivity might not have existed.

A teacher lives to inculcate passion to know or learn something new almost every day. There is much research that has backed the idea that curiosity among children is equally important to intelligence when it comes to performance in school.

***Our Brain Likes Curiosity.***

In recent research at the University of California, a series of experiments were conducted to discover what is absorbed by the brain when curiosity is around in the human mind. For this study, the researcher let the participants rate 100 trivia questions to gauge their level of curiosity about learning new things. The researcher even carried out fMRI scans at various points throughout the study to observe changes happening in the brain when the participant showed any kind of curiosity toward a particular question. These experiments gave the following two findings:

1. ***Curiosity prepares the brain for learning***: Curiosity not only helps us to remember what we have learned, but it also helps us to learn information that is not so important or that doesn't interest us much.

   The investigator discovered that once the right question aroused an individual's curiosity, they became more adept at learning and remembering unrelated topics. According to Dr. Matthias Gruber, one of the study's co-authors, this is because curiosity puts the brain in a state that allows it to acquire and recall any form of information, like a vortex that sucks in what you are compelled to learn as well as everything around it.

   As a result, if a teacher can pique a student's interest in a subject, they already feel motivated to learn. They will be better prepared to understand issues they might typically find boring or difficult. For example, tailoring problems in mathematics to a student's level of interest rather than employing generic textbook questions may assist them in remembering how to handle similar arithmetic problems in the future if they have trouble with math.

2. ***Curiosity enhances subsequent learning***: Curiosity prepares the brain for learning and enhances the experience for pupils.
   The researchers observed that when people's curiosity peaked, the hippocampus, the part of the brain responsible for memory formation, and the neural networks associated with pleasure and reward showed increased activity. Dopamine, a "feel-good" hormone that interacts between neurons and provides us with a high, is used in this circuit. It's the very same one that gets activated when we get something we want, like sugar or money.

Engaging students' interests can thus make learning as fun as a dessert or pocket money but also assist them in recalling information that could have otherwise gone in one ear and then out the other. Of course, most instructors intuitively recognize the need to cultivate inquisitiveness, but having data to support this is undeniably satisfying.

3. **Asking the right questions**: Naturally, a few elements concerning curiosity's function in learning are still up for debate. For one thing, its long-term effects are still unknown to scientists. For instance, will a pupil learn more effectively throughout the day if their curiosity is piqued early in school? The researchers are also interested in learning why some people are more naturally curious than others and what influences our curiosity the most.

***"We keep moving forward, opening new doors, and doing things because we're curious and curiosity keeps leading us down new paths."*** – Walt Disney.

Psychological researchers have been interested in curiosity for more than a century. However, our understanding of its nature, complexity, and causes is shockingly lacking. While there is widespread agreement that curiosity is a need for new information, the specifics of that desire and the behaviors it may inspire are still the subjects of substantial debate. In this chapter, I review theories and research on curiosity as a psychological construct from both the past and the present. I distinguish between two types of curiosity, the D-type and the I-type. It is believed that D-type curiosity reflects an uneasy "need to know" that doesn't go away until the sought-after, specific bits of missing knowledge are found. I-type curiosity is thought to be a more laid-back "take it or leave it" approach toward learning new things, with the main goal being to simply enjoy oneself. The extent to which each form of curiosity energizes behavior varies dramatically based on qualitative variations across I-type and D-type curiosity situations, which are motivated to either raise situational curiosity or decrease situational uncertainty. D-type curiosity is thought to be connected to both higher levels of state curiosity and more perseverance in subsequent information-seeking behavior when compared to I-type curiosity.

## *Curiosity and Learning*

Curiosity—the internal desire to attain new information—is one of the most important factors for learning and memory in day-to-day life. There has been much research on natural curiosity among people, especially children, and, therefore, we have a fair idea of how curiosity cultivates learning. In this chapter, we give an overview of curiosity among young children and talk about some of the research and how the researchers focused on curiosity as a specific personality characteristic (i.e., trait curiosity). Rather than only examining the trait of curiosity, we have explored how curiosity affects cognition in children. Recent findings suggest that curiosity enhances activity in the brain's circuit, enhancing one's ability to learn and grasp.

## *Curiosity and Boredom*

The powerful motivators of learning and motivation that help pupils learn more efficiently include curiosity and situational interest. Short-lived and unpleasant, curiosity yearns for the acquisition of a particular piece of knowledge. Its characteristics differ from those of situational interest, which is a broad preference for a subject and an overall good effect. While situational interest and curiosity are sparked by similar contextual elements (such as collative variables), curiosity must be sparked by the perception of an information gap between what is known and what is desired. Despite these variations, a wealth of evidence suggests that once sparked, both curiosity and situational interest have a favorable impact on students' learning, motivation, creativity, and well-being. So, as a conclusion, integrative and specific pedagogical suggestions are offered to foster students' natural curiosity and situational interest in educational practice.

***Boredom-driven curiosity***

***"The cure for boredom is curiosity. There is no cure for curiosity."*** – Dorothy Parker

Boredom, according to psychological studies, plays an active part in generating information-seeking behaviors. Higher autonomic stimulation, such as cardiovascular activity and galvanic skin response, is associated with a greater degree of reported boredom in children. Boredom along with curiosity are both closely related to the concept of intrinsic motivation. Boredom and curiosity, in particular, can be related to autonomic and heterotactic motives, respectively. Homeostatic and heterotactic motivations, two important classes of intrinsic motivation, have been extensively reviewed by Oudeyer and Kaplan (2009).

We're all impacted by boredom. It's simpler than ever in today's always-connected environment to turn around and experience what might be boredom. It is not only another term for indifference or despair. People seem to experience unpleasant mental states, such as a lack of stimulation that makes them crave stimulation and has a variety of behavioral, physiological, and social repercussions.

**Encouragement: A Key Ingredient**

**"We keep moving forward, opening new doors, and doing things because we're curious, and curiosity keeps leading us down new paths."** – Walt Disney

What could account for the discrepancy between young children's strong curiosity and older children's seeming lack of curiosity? I suppose many adults unconsciously assume that children naturally lose their curiosity as they grow older. This opinion isn't entirely irrational. Data do indicate that curiosity declines with age (Coie, 1974). Youngsters may experience fewer unexpected things and experiences as more of their daily lives become familiar to them. This is assuming that curiosity is, as psychologists claim, the urge to explain the unexpected. Perhaps the 7-year-old's decreased curiosity is just a result of their growing understanding.

However, adult influence is also one of the main factors. Children are particularly receptive to the comments of adults when researchers bring them into a room with a novel object. When researchers put children in a room with a novel object, they find that they are especially attentive to the opinions of adults. Studies conducted thus far reveal that children are far more interested in a subject when an adult displays a visibly piqued interest in it. In other words, the individuals a child spends time with can either encourage or stifle their curiosity.

While it is difficult to stop a 2-year-old from conducting research, it is far too simple to do so with a 7-, 11-, or 15-year-old. A 9th grader in one of the classrooms I watched raised her hand to inquire as to whether there were any regions of the world where no one created art. "Zoe, no questions now, please; it's time for learning," the teacher interrupted her in the middle of her statement.

Frequently, teachers unintentionally hinder curiosity in much more subtle ways. In a similar vein, educators can subtly promote curiosity. Let's see what happens is a common way for one instructor I've noticed to start her conversations with her students. She is demonstrating to them the importance of doing research.

***"I have no special talents. I am only passionately curious.*** –Albert Einstein

Natural curiosity and inventiveness in children contribute to wonderful learning experiences. Students develop critical thinking abilities and a love of learning by providing a safe atmosphere in which they may investigate their interests and ideas. The following factors can help children develop their curiosity:

1. Connections with other kids and adults help youngsters understand themselves and their role in the world. Encourage youngsters to interact together where all kids are equally valued to help them develop their social skills.

2. Encourage children to utilize their words when talking about their experiences. Respectfully listen to their questions and observations, and recognize that they represent a chance for learning and discovery.
3. Children are inspired by their surroundings. Provide adequate study space, natural lighting, and tools that foster curiosity and creativity. Natural curiosity and inventiveness in children contribute to wonderful learning experiences. By providing a safe atmosphere for children to explore unique interests and ideas, you can help them develop abilities to think critically and an appreciation of learning. Some basic principles can help children develop their curiosity:

An adult's responsibility is to guide and mentor youngsters, pay attention to what they have to say, discover what excites them, and give opportunities for them to pursue their interests further. Projects are not planned; rather, they evolve as a result of a child's interests.

***"The important thing is not to stop questioning. Curiosity has its reason for existing."*** – Albert Einstein

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