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## **The ardent art of questioning enhances both learning and teaching abilities.**

Views shared by the National UN Volunteers-India

## **The ardent art of questioning enhances both learning and teaching abilities.**

### **AZEEZ**

Pause for a moment and think back to your teacher training days – perhaps you are a trainee teacher at the moment – you’ve just explained a new concept, or presented some new information.

In these instances, to ask a follow-up question is almost like a natural reflex, or instinct.

But at precisely this moment you realise how hard it is to find the right words, the right formulation, to move learning forward and to ascertain how successful your explanation has been thus far. With time, questioning becomes easier, but it remains a teaching artform that evades perfection.

Great teachers use questioning for two key purposes:

1. To promote thinking; and
2. To assess thinking.

Questioning is a tool to promote deep, connected and elaborated thinking. Good teachers use questioning as part of a dialogue in which students are engaged and stretched.

They prompt students to give explanations and justifications for their answers, or to improve an initial response, to describe their thinking processes, to elaborate on their answers, exploring implications, ‘what-if’s and connections with other ideas and knowledge.

Research shows that WHY and HOW questions can help facilitate learning; because this encourages the learner to connect new knowledge to existing knowledge.

Questioning is also an assessment tool.

It is used to elicit and check student thinking, knowledge and understanding.

Asking questions, or providing prompts, that provide clear insight into whether students have grasped the required knowledge and understanding is hard; student responses are often ambiguous or require further clarification

Questioning is an art. There is a way to get answers to your questions to impart to students the new knowledge.

Use 3C's:

1. Categorise: Consider how new information fits into existing knowledge.
2. Compare: Consider similarities with existing knowledge.
3. Contrast: Consider differences with existing knowledge.

As an example:

How you might pose a question using the 3Cs framework for imparting new knowledge to students:

"Categorize the newly introduced concept of photosynthesis in plants. How does it fit into your understanding of biological processes? Compare and contrast photosynthesis with cellular respiration, focusing on their key similarities and differences."

This structure encourages students to categorize the new information, compare it to what they already know, and highlight the distinctions between related concepts

Giving students sufficient time for curiosity is crucial for enhancing their responses and fostering deeper understanding. Research indicates two types of wait time that greatly support cognitive development and curiosity:

#### 1. Response Wait Time:

We should wait patiently for a student's response to a question, ideally within a range of 1.5 to 3.9 seconds. This time allows students to gather their thoughts and articulate meaningful responses.

#### 2. Interim Wait Time:

Equally important is the time we allow between a student's response to one question and our next question, typically ranging from 0.6 of a second to 2.2 seconds. This pause enables students to reflect on their previous response and contemplate the forthcoming question.

Research has demonstrated that consciously extending response wait time from 1 to 3 seconds yields several positive impacts on student engagement:

1. Responses tend to be more extensive and detailed.
2. The incidence of students failing to respond decreases.
3. Students' confidence in responding grows significantly.
4. More spontaneous and relevant responses are generated.

5. Speculative responses and diverse approaches to a question increase.
6. Students actively engage with and respond to their peers' contributions.
7. The likelihood of forming evidence-based inferences rises.

Students' responses improve markedly when they are aware they have ample time to process questions, organize their thoughts, and explore ideas from various angles.

Indeed, promoting critical thinking and encouraging questioning skills is a fundamental aspect of effective teaching. Utilizing a continuum of thinking skills can serve as a valuable tool for guiding both teachers and students in formulating a diverse array of questions throughout the inquiry process. Here's a breakdown of the continuum:

1. Remembering:

- What did we learn?
- Can you recall the main ideas or facts?

2. Understanding:

- Can you explain the concept in your own words?
- How would you summarize this idea?

3. Applying:

- How can this concept be used in real-life situations?
- Can you demonstrate how to apply this knowledge?

4. Analyzing:

- What are the different components or elements of this idea?
- Can you identify patterns or relationships within this information?

5. Evaluating:

- What is the value or significance of this idea?
- Can you assess the strengths and weaknesses of a given argument?

6. Creating:

- How could you generate new ideas based on this concept?
- Can you design or devise a novel approach to solve a problem related to this topic?

Encouraging students to progress along this continuum, from basic remembering and understanding to higher-order skills like evaluating and creating, empowers them to think critically and engage deeply with the subject matter. Moreover, prompting students to ask questions at each level of this continuum

helps them internalize the habit of inquiry and enhances their understanding of the material by actively involving them in the learning process.

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The art of questioning is fundamental in enhancing both learning and teaching abilities. Thought-provoking questions foster critical thinking, encouraging students to analyze, evaluate, and synthesize information for a deeper understanding. This, in turn, leads to improved learning outcomes.

Effective questioning keeps students actively engaged in the learning process, stimulating curiosity and encouraging active participation in class discussions, aiding in information retention and comprehension.

For teachers, asking questions is a powerful tool to gauge students' understanding and adjust teaching methods accordingly, addressing misconceptions and delving deeper into topics for effective teaching.

Encouraging questions from students fosters an environment of inquiry and curiosity, enhancing learning and cultivating a valuable habit of questioning, essential for lifelong learning.

Formulating and asking questions also enhance communication skills for both students and teachers, improving articulation and the ability to express ideas clearly.

Frequent questioning promotes problem-solving skills, challenging students to find solutions, make connections, and think creatively—a skill set transferable to various aspects of life.

Questioning forms a feedback loop, providing valuable insights for teachers to improve their teaching effectiveness and offering students feedback on their understanding, crucial for the continuous

improvement of the education process.

Cultivating curiosity through questioning encourages a love for learning, motivating students and teachers to explore subjects in-depth and fueling a passion for knowledge.

Therefore the art of questioning significantly contributes to effective teaching and learning. It nurtures critical thinking, active engagement, and a passion for learning. Teachers and students alike can harness the power of questioning to enhance their abilities and achieve better educational outcomes.

## T. Sujatha

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A teacher can utilize the art of questioning in diverse ways to enrich the learning experience. By asking thought-provoking questions, critical thinking is nurtured, aiding students in analyzing and problem-solving. Engaging students with open-ended questions sustains their active involvement and encourages them to share and participate.

Questions become a means to assess comprehension and identify areas of struggle, allowing teachers to offer necessary support. Additionally, questions that stimulate discussion create a collaborative learning space, enabling students to learn from their peers.

Tailoring questions to individual needs permits customized instruction, offering challenges to advanced learners and clarification for those in need. Moreover, questions can spark curiosity, motivating students to delve deeper into topics independently.

Lastly, questions serve as a formative assessment tool, providing timely feedback for both teachers and students, thus enhancing the teaching and learning process. The art of questioning ultimately empowers educators to facilitate learning, adapt teaching methods, and foster active participation, enriching the educational journey for all.

# Dr Sekar Srinivasan

The UN Educationist



Bagavad Gita says:

TAT VIDHI

PRATHIPADHENA PARIPRESNENA SEVAYA UPATHESHYANTHI TE GNANAM JANINAH TATVA DHARSHINAH:

The essence of learning could be optimized only by repeated questioning.

BarthruHari also insists on the same lines that a student acquires supreme knowledge twenty five percentage from schools twenty five percentage from peers, twenty five percentage from self intellect and another twenty five percentage from lifelong experience but in all the above four he insists rational and exhaustive questioning