



*The  
Reflective  
Teacher...*

VOLUME I

ON  
QUESTIONING  
?? ? ??



Frederick County Public Schools  
Elementary Division

# The Reflective Teacher on Questioning

**Rationale:** Questioning is the most frequent of teacher activities and the single most powerful tool in the teacher repertoire. Quality, thoughtful questions set high expectations for all learners. Further, children are naturally inquisitive and are either encouraged or stifled by teacher and peer reactions and responses to their questions. Questioning promotes critical and creative thinking and problem solving for all students. It allows the reflective teacher to differentiate instruction for the varying levels of performance and ability in the classroom while challenging every student.

Research reports the importance of teacher and student questions in developing student thinking and involvement leading to deep understanding and lifelong learning. Correlations have been identified between the quality of teacher questions and the quality of student responses. Art Costa suggests that the questions teachers pose serve "...as cues for expected (student) behavior." Higher level questions challenge students to offer higher level responses. Questions act as motivators for involvement.

No less today than in the lessons of Socrates, teacher and student skill in questioning impacts learning.



Teachers ask as many as 50,000 questions a year and students ask as few as 10 each.

*"Questioning in Mathematics Classrooms"*

Arithmetic Teacher

Edited by Nancy Nesbitt Vace

October 1993

# Planning for Quality Questioning

*Whether detailed in lesson plans to give direction to student thought and inquiry or developed as follow-ups or clarifiers as a lesson progresses, quality questions require teacher knowledge and understanding of the concepts, skills, and content being presented. It requires reflection. Attention to how a question is developed and presented impacts on how it is understood and responded to by the learners. Questions must be:*

## ***Planned-Deliberate-Directional***

Plan quality questions to elicit thinking and understanding. Design questions based on the outcomes and objectives. Backward map to the initial question(s) which sets the direction for student thought and inquiry.

Develop and pose quality questions in each lesson that promote multiple student responses, interactions, and student questions. Open-ended, divergent questions signify to students that many questions and problems have multiple solutions.

*“In what ways might challenges, risks, and rewards influence explorers?”*

*“In your group develop a minimum of three ideas to answer the question...”*

*“Would you identify at least two ways to solve this problem to get the same answer?”*

*“In what ways might we rewrite this sentence?”*

Differentiate questions to challenge students at all levels of performance and understanding. However, encourage all students to answer questions from factual, knowledge-recall questions to more conceptual, abstract, and evaluative questions.

*“Would you please recall and describe the setting for the story?”*

*“If you were to write a summary for what we have discussed, what ideas and information would you include?”*

*“Tonya, what does the word \_\_\_\_\_ mean? Please give an example of what it means.”*

*“Dillon, given the results of the three trials you conducted, what general statement could you make about...?”*



## Clear and Concise

Phrase questions to be clear, concise, and focused. Avoid rambling questions which contain multiple ideas. Avoid questions which lack a clear expectation for the learner.

*"Think about the years in which Anne lived. Identify two events which influenced her life. Explain how they influenced Anne."*

Avoid over-cueing students with answers embedded in the questions.

*"If barbed wire helped define property and control herds of cattle, how do you think ranchers felt about it?"*

Listen to your questions before you pose them to students to check for ambiguity. Filtering questions will help to develop facility in structuring meaningful questions. Thoughtful reflections might include:

*"What will students conclude I am looking for as an answer? Am I being clear about my expectations?"*

*"Will this question guide students to the desired outcome or will it confuse them?"*

*"Given their knowledge, will they know what the question means?"*

*"Do the questions reflect multiple degrees of difficulty?"*

*"Is the question concise?"*

*"Does the language of the question help or hinder student reflection?"*

Limit the number of questions posed to students to those essential to promoting thought. Eliminate verbiage. Encourage students to pose questions to you and to other students to foster understanding and clarity of meaning.

*"Today, we have three questions to find the answers to...."*

*"Does anyone have a question to ask someone about their answer?"*

*"Does anyone have a question to ask me to clarify something we have said?"*

Encourage multiple responses to a single question. A 'too early' affirmation of one student's answer by the teacher curbs further thought and exploration. A "What do you think...?" strategy increases the number of students actively participating. Multiple responses allow students to express their understandings while providing the teacher with information for further differentiated questions, activities, tasks, and lessons.

*"Laura has an interesting idea. Who will share a different idea?"*

*"Tina, locate someone who has a different answer than yours. What can you learn from them?"*

*"Who can show us what 6 times 4 is?"*

*"The answer is '3', what is the question?"*

Pose some questions that require one or more days to "find" or formulate an answer.

*"What dangers will colonists have to plan for when establishing a community on Mars?"*

*"If you were an archeologist and had discovered a shoe box time capsule, what items or pictures would we discover to represent the life of\_\_\_(friend, self, grandparent, etc.)?"*



# Teacher Response Strategies for Promoting Student Thinking

*Promote a classroom environment where questioning and responding are risk free and nonthreatening. Teachers' and students' verbal and visual responses serve as cues for students as they respond. Outside of the home, schools must be the safest place for students to learn from their successes, attempts, and mistakes.*

## Teacher Response Strategies

Establish ground rules with students on how they can appropriately react to classmates questions and responses.

Avoid oral or visual cues which indicate the 'correctness' of a student response while it is being delivered.

Respond using a variety of phrases to affirm responses as well as to promote additional thinking.

**Affirmation:** *"That shows good thinking."*

*"Your answer is thoughtful because..."*

**Promotion:** *"That is an interesting idea."*

*"Who has another idea to consider?"*

Probe student responses to further the thinking of the respondent as well as other students in the class. It allows students the opportunity to clarify and reflect on their answers while allowing teachers to learn more about how they arrived at a conclusion. Further explanation may reveal how students are successful or faulty in their reasoning.

Student elaborations on seemingly unclear or unusual answers can validate an unexpected response as a creative and insightful answer.

Finally, probing is an opportunity to help students identify how they arrived at an answer.

**Probing:** *"Tell me more..."*

*"Could you share an example...."*

*"How did you come up with that answer? What steps did you take: first, second, third...?"*

## Sequential

Sequence questions from the initial question(s) to follow-up questions and finally, questions which foster independence of thought and action.

*Initial questions* set the direction to guide students through the objectives of the lesson to the outcome.

*“As we study pioneers today, consider this question; In what ways are the pioneers of the American west and pioneers of space/ocean exploration similar and different?”*

*“At the conclusion of today’s lesson be prepared to answer this question....”*

*Follow-up questions* clarify and probe student thinking. They are designed to cause further reflection on the topic.

*“If you believe that the main character is the protagonist, how would you explain his reaction to...?”*

*Questioning for independence* sets expectancies for students to retrace their thinking to identify where they were successful and where faulty thinking occurred. Further, questioning for independence moves students from thought to action; providing direction to independent work.

*“Jon, tell me what you do understand about the question. Can you identify where you are unclear?”*

*“What have you tried to solve this? What has worked? What has not worked?”*

*“Try....., then I’ll get back to you on what you found.”*

*“Would a chart help you trace your thinking steps?”*

*“Marcia, please meet with Yvette and Sean. Together discuss what you know and what you need to find out.”*

# General Strategies for Promoting Effective Student Responses

*Once quality questions are planned, utilize a variety of strategies to optimize the impact of the questions on student thought, level of involvement, and quality of response.*

Utilize a variety of strategies to ensure the active involvement of all students, not only those students who advance a lesson with ‘correct’ answers.

Every Pupil Response (EPR) strategies, such as write-on response boards, charts, personal “Thumbs Up-Down-Neutral”, etc., promote increased student involvement, increased student time on task, while providing an informal assessment of student progress.

The Think-Pair-Share strategy requires individuals to “think” prior to pairing and sharing.

Collaborative response strategies require student cooperation and provide practice for methods frequently required on performance assessments.

Target questions, tiered by levels of complexity, to appropriately challenge all students.

Time and pace questions to cause students to think before responding. Research suggests at least 5 to 7 seconds of wait time between the posing of the question and the time when students are permitted to respond.

Vary the strategies employed to identify individual respondents to increase student involvement and time on task. Strategies may include: random teacher selection, peer selection, name card rotations, name drawings, volunteers, etc.

Guide students to ‘listen’ to and ‘practice’ their answers before verbalizing them to test for appropriateness and completeness.

## **Guiding:**

*“Does my answer fit the question being asked?”*

*“Is my answer clear?”*

*“Do I need to give an example of what I mean?”*

*“Can I think of another way to express my idea?”*

*“Is there another response that answers the question?”*



Advocate another view to promote further student thought and reflection.

**Advocating:**

*"Suppose I were to say..."*

*"You say... but, what if....?"*

*"What would you say if...?"*

Refrain from providing students with the 'expected answer' should the responses not be immediate or correct. Answering requires 'think time'. Be sure students have a quiet time to reflect on the question and to develop their responses.

Clarify responses by asking students to explain how they arrived at the answer. This strategy is intended to cause more reflection on the response while assisting students in learning about how they think and solve problems.

**Clarifying and Reflecting:**

*"What steps did you follow to come to this conclusion?"*

*"What information helps you answer the question?"*

*"Where did you find the information?"*

*"Is your answer an opinion or based on factual information?"*

Redirect questions to other students to increase involvement, to promote more in-depth thinking, and to encourage student interaction.

**Redirecting:**

*"Do you agree? Why? Why not?"*

*"How does your thinking differ?"*

*"Who has a different answer?"*

*"Are there other possible answers/solutions?"*

*"Are some answers more appropriate than others? Why?"*



Restate and/or Paraphrase some student responses to assist students in clarifying their thinking and communicating. Paraphrasing allows students to check their answers for correctness while affording other students another opportunity to hear the response.

Teacher paraphrasing:

*"I heard you saying....Is that correct?"*

Request students paraphrase other students' responses to check for clarity of communication and for understanding. This strategy promotes listening skills while increasing student involvement.

Student Paraphrasing:

*"Would you put Ann's answer into your own words?"*

*"Do you agree that is what Ann said?"*

*"How would you state that? Put her ideas in your words."*



## On reflection.....

Reflective teachers tailor for themselves a repertoire of effective strategies which promote student thinking. The bank of strategies and questions they build reflects their teaching style while meeting the needs of their students. It is in reflection that our professional growth continues. Our facility with questioning grows as our successful experiences grow in number.

# Question and Task Starters

In addition to *who*, *what*, *where*, *when*, *why*, and *how*, utilize a variety of question and task starters frequently used on local and state assessments. They clarify expectancies for students as they reflect on questions or complete a task. As students develop familiarity with the words, their use fosters independence on completing centers, contracts, independent projects, and follow-up assignments as well as in questioning.

Access...	Judge...
Analyze...	Justify...
Apply...	Label...
Assess...	List...
Build...	Locate...
Calculate...	Make...
Categorize...	Map...
Chart...	Measure...
Classify...	Model...
Clarify...	Modify...
Collect...	Observe...
Combine...	Organize...
Communicate...	Outline...
Compare...	Perform...
Compose...	Predict...
Conclude...	Produce...
Contrast...	Project...
Conduct...	Prove...
Create...	Provide...
Debate...	Read...
Decide...	Recognize...
Demonstrate...	Record...
Describe...	Research...
Design...	Rethink...
Determine...	Review...
Develop...	Rework...
Diagram...	Share...
Display...	Skim...
Draft...	Solve...
Draw...	Sort...
Elaborate...	Summarize...
Evaluate...	Survey...
Explain...	Teach...
Generalize...	Think...
Generate...	Translate...
Graph...	Use...
Hypothesize...	Validate...
Identify...	Value...
Initiate...	Verify
Interview...	Work...
Invent...	



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