

A still from the animated film 'Finding Nemo' showing the characters Nemo (a red clownfish) and Dory (a blue tang) swimming together in an underwater environment with coral and bubbles. The text 'Using Questioning to Promote Critical Thinking' is overlaid in the center in a white, sans-serif font.

Using Questioning to Promote Critical Thinking





Questions do such great things!

- Help us notice new things
- Help us **wonder** at the world
- Help us learn from each other
- Allow us to reflect
- Give us a framework for exploration



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Teachers already use questions

In fact, they use them a *lot* – much classroom time is spent asking students questions

(Seymour Sarason, 1971)

Frequency of teacher questions is even
a bad sign



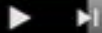


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How can questions be bad?

- In classrooms where teachers are asking a lot of questions, most are *recall* questions
- Meredith Gall (1970) estimates that only about 20% of teacher questions are high-level questions



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Why is asking low-level questions bad?

Cognitive level of teacher questions
appears to predict the cognitive level of
student responses

Low-level questions → low-level responses

(Sandra Edwards & Mary Ann Bowman, 1996)



Questions in the Classroom

- Also, nearly all questions are teacher → student
- Very few are student → teacher (Gall, 1970)
- And not student → student → student

“Teachers tend to monopolize the right to question”
- Dennis Palmer Wolf, 1987



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Questions in the Classroom

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“Consequently, students come to believe that their role is only to listen, rather than to become active participants in learning.”

- Kenneth Chuska, 2003

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Effective Questioning Techniques

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What are the characteristics of a good question?

A good question should be

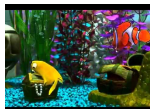
- Short
- Thought Provoking
- unambiguous
- Relevant
- Related to the objectives
- Clearly stated
- Straight forward
- Comprehensive
- Common Vocabulary
- Properly Directed

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Effective Questioning Techniques

B L O O M O N O M Y

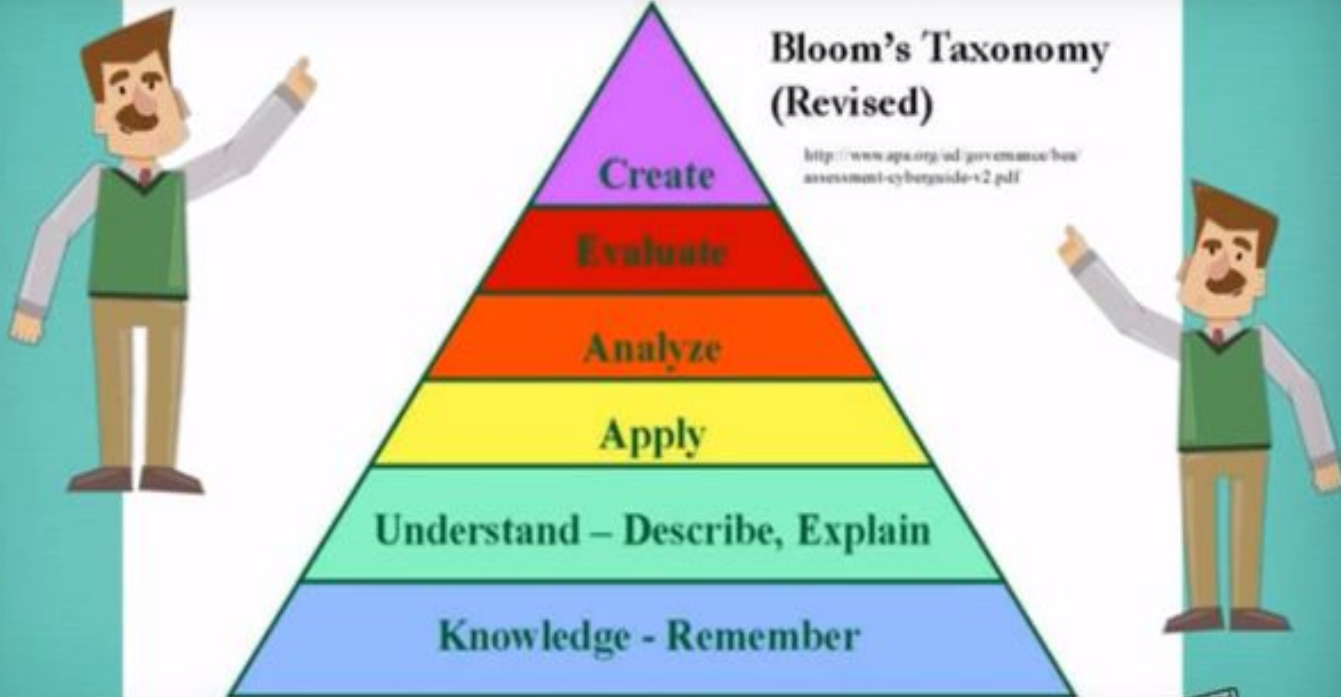
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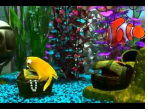
Bloom's Taxonomy (Revised)

<http://www.apa.org/ed/governance/bwa/assessment-cyberguide-v2.pdf>



Based on an APA adaptation of Anderson, L.W. & Krathwohl, D.R. (Eds.) (2001)



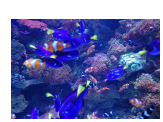


Bloom's Taxonomy Reference

<http://farr-integratingit.net/Theory/CriticalThinking/revisedcog.htm>







Group discussion regarding before and after questions





Plan for Questions

1. Questions should be integrated into lesson plan
2. Specific questions for specific students should be labeled as such
3. Know at what level of questions your students are and what the next level of questioning is/where you want the student to be.
4. Think “outside of the box” with how students of varying abilities will demonstrate higher order thinking skills. List the accommodations and materials needed for students to be successful.

Teach Questioning to Students


- Teach the revised Bloom's Taxonomy
- Teach what each type of question looks like
- Utilize game and other formats to model and reinforce each type of question
- When students ask a question, ask them what type of question it is
- Have a type of question highlighted and ask the student to state that type of question.

Use visuals to
support
comprehension of the
target



Sustainable Earth
By [unclear]

© I can ask questions
about the book Grandfather
Twilight



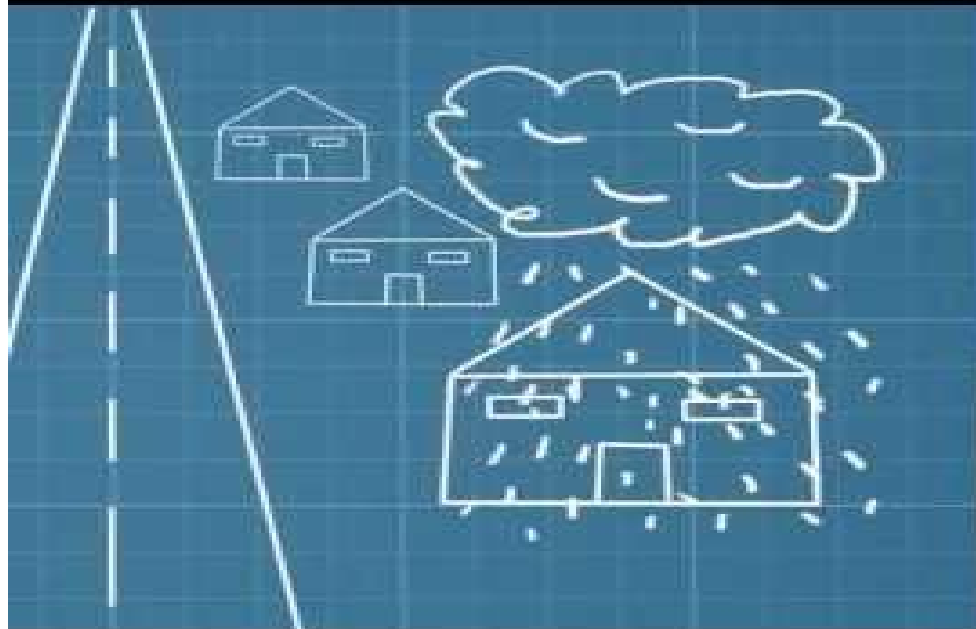
I wonder _____? ?

HOW
WHY
WHAT



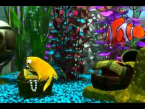
When the chameleon was born,
It sat still and waited.
Only its eyes moved - up, down, sideways,
until it spotted a fly.
Then the chameleon's long and sticky tongue
shot out and caught the fly.
That was its life.
It was not very exciting,
But one day...







What's your favorite season?



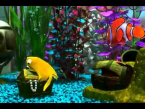
Strategies for Questioning





Conquering Verbal Output Challenges

1. Student's limited communication skills (both receptive and expressive) should not prevent the use of higher order questions
2. Student's limited communication skills (both receptive and expressive) should not prevent the output of nor expectation that the student will answer the higher order questions
3. If never exposed to models of and practice with higher order questions, the students will never be able to answer these types of questions.



Conquering Verbal Output Challenges

Use Technology-Rich Instruction

- Promotes students' comprehension in content areas
- Connects learning in the classroom to real-life situations (multimedia)
- Creates a meaningful context for teaching and learning
- Facilitates auditory skill development (integrating visual with sound)
- Accelerates language development



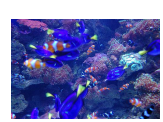


Conquering Verbal Output Challenges

Examples of using technology:

1. Model answers to varying levels of questions with use of Assistive Technology (ie: Go Talks with overlays of answers for the questions, Sequencers, Spinners, Big Macs)
2. Active participation through students accessing pre-programmed AT

Work closely with the SLP assigned to your classroom to determine ways to facilitate active participation in and understanding of a variety of types of questions.

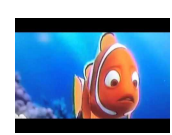


Conquering Verbal Output Challenges

1. Set up a classroom environment which is conducive to high-level thinking:
 - A. Multi-level materials
 - B. Flexible grouping
 - C. Accept and celebrate diversity
 - D. Print-rich environment
 - E. High expectations
 - F. Teacher as co-learner
 - G. Nurture risk-taking

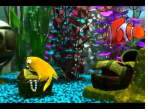
2. Engage students in activities which foster high-level thinking





Summary and Questions

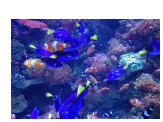




Lower Order Thinking (LOT) Questions to Reflect on My Technique

1. Have I asked questions which are at an appropriate level for the materials being covered?
2. Did the questions I asked serve the intended teaching objectives?
3. Have I asked question which required students to think at different intellectual levels?
4. Have I allowed adequate, appropriate wait time after posing questions in class?
5. Have I reinforced students' responses positively and effectively?
6. Have I given students effective feedback which helps/guides them to reflect on their learning?





Higher Order Thinking (HOT) Questions to Reflect on My Technique

1. What specific problems have I encountered when asking questions or giving feedback during lessons?
2. What are the strengths and weaknesses of my techniques for questioning and giving feedback?
3. How can I improve my questioning and feedback techniques?



Think H.O.T., H.O.T., H.O.T!!!!!!

