Big6 #1: Task Definition or Super3 Planning Step

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"Questions and questioning may be the most powerful technologies of all."
—Jamie McKenzie in *Beyond Technology*

Activity 1
Define the task

Elementary social studies example (primary):
Present the problem to the class (see Information Problem-solving in previous section). Example: (Geography—map skills) Let's say that your mom said that you could have your new friend over to your house after school. Her mom needs directions from school to your house so she can drive her. What is your task?

1. As a class, the students should brainstorm solutions to the problem with you recording the solutions (overhead, chart paper, chalk board, etc.). They may suggest telling her mom, having one mom call the other, following in the car, or making a map.
2. Summarize their solutions by saying something like this:
   "What you are saying is this… to solve this problem, we first need to find out how to get from our school to your house. Then we need to somehow let our friend's mom know the directions. Let's make a map for her to follow this time."
3. Then tell students that they will use the Big6 (or Super3) to solve the problem and have already completed the first part of the process.
4. For Big6 #1.1, write "Learn about _____." In this case it would be: "Learn about the varied regions in Texas."

   Or for Super3, "First we need to PLAN how to get from school to your house."

Activity 2
Identify information needed to do the task:
Background information on questioning

No matter the approach, much student behavior can be predicted from the question itself—whether students will be able to just copy and paste information they find to satisfy the assignment, how much students will have to "think" about the information they find, and what type of product they are likely to prepare. Good questions are more likely to produce better learning (Loertscher & Woolls 8).

Consider research suggesting that the learning of technical information can be achieved by learning to ask good questions (Allison & Shrigley 79). Knowing how to ask good questions enhances students' comprehension by focusing on main ideas and making connections among ideas. Very few students ask thought-provoking or higher-level questions about content they are learning in class or through independent projects. Asking questions will increase their comprehension of the subject matter.
The following categories of questions are easy to implement. Begin by asking these of your students so that the research process is not merely a game of Trivial Pursuit™.

Asking questions from these four types, categorized by Angelo Ciardiello, will aid in increasing students' comprehension of the subject matter. Students will find answers to the memory level questions from traditional resources, with the help of the teacher, librarian, or Big6 Buddies. Memory level questions can be brainstormed by the class and then revised by the teacher/librarian. Responses to convergent, divergent, and evaluative level questions (typically developed ahead of time by the teacher/librarian) can be included in the final product or talked about as a whole class activity toward the end of the instructional sequence.

1. Memory level questions are those to which you will most likely find answers in sources such as books, web sites, and other reference materials. Asking this type of question provides background for the subject. These are the questions that students will "look up" in the library or elsewhere. These questions bring forth simple reproduction of facts, formulae, or other items of remembered content.

Thought processes involved while asking and answering these questions are naming, defining, identifying, designating, or giving yes/no responses.

Memory questions begin with these words:
Who...
What...
Where...
When...

Examples of memory questions:

Which streets do you use from school to home?
Which directions do we go on the streets from school to home?
When do we celebrate Christmas?
What traditions does your family have during Easter?
When were most fossils formed in this area?
Who are community helpers in our school?

2. Convergent thinking questions are those representing the analysis and integration of given or remembered information. They lead you to an expected end result or answer.

Thought processes involved while asking and answering these questions are explaining, stating relationships, and comparing and contrasting .

Convergent thinking questions begin with these words or phrases:
Why
How
In what ways...

Examples of convergent thinking questions:
Why do you need to know how to get from school to your house?
Why do you to learn to use a map?
How do insects differ from reptiles?
How do plants use the sun?
Why should you eat from the food pyramid?
In what ways does do scientists think dinosaurs became extinct?
In what ways are life cycles of the chicken and frog similar?

3. Divergent thinking questions are those representing intellectual operations wherein you are free to generate independently your own ideas, or to take a new direction or perspective on a given topic.

Thought processes involved while asking and answering these questions are predicting, hypothesizing, inferring, or reconstructing.

Divergent thinking questions begin with these words or phrases:
Imagine...
Suppose...
Predict...
If..., then...
How might...
Can you create...
What are some possible consequences...

Examples of divergent thinking questions:

If your friend's mom turns in the wrong direction on your map, what will happen? How might she correct her mistake?
Imagine that you could travel to another planet. Tell about that planet and why you would like to go.
Suppose that you lived in Mexico. Tell about which holiday you would enjoy the most.
What would the cafeteria be like at lunch if children don't follow the rules?

4. **Evaluative** thinking questions are those dealing with matters of judgment, value, and choice. They are characterized by their judgemental quality.

Thought processes involved while asking and answering these questions are valuing, judging, defending, or justifying choices.

Evaluative thinking questions begin with these words or phrases:
Defend...
Judge...
Justify...
What do you think about...
What is your opinion about...

Examples of evaluative thinking questions:

Tell why it is OK to give directions to your house o your friend's mom but not to a stranger.
How do you feel about the different styles of music we have studied?
Why do you think it is important to be a good sport in physical education?

Works Cited:

Allison, A.W. & Shrigley, R.B. (1986). "Teaching children to ask operational questions in science". *Science Education*. 70, 73-80.

Ciardiello, Angelo. (1998). Did you ask a good question today? "Alternative cognitive and metacognitive strategies." *Journal of Adolescent & Adult Literacy*. 42, 210-219.

Loertscher, David and Woolls, Blanche. *Information Literacy: A Review of the Research*. San Jose, CA: Hi Willow Research and Publishing, 1999.