Divergent Thinking Best Practices

1. **You get what you ask for.**

   While there are many different types of questions, in productive thinking they are often classified as either divergent or convergent. Divergent questions suggest that there are many possible responses and emphasize the use of deferred or suspended judgement.

   Students are frequently asked to generate many, different, and unusual ideas or solutions to a question or a problem. Often the responses given are very elaborative and filled with details and descriptive information. The fluency, flexibility, originality, and elaboration are most commonly associates with divergent thinking.

   On the other hand, convergent questions imply one specific response and use affirmative judgement. With primary students, for example, we often use the image of red light, green light thinking (Red light=convergent, Green light=divergent) to convey this distinction; it might work just as well with other age groups.

The following questions contain both appropriate and inappropriate examples. As you look over them, see if you can detect the "trick" question in each set.

Fluency:
Name things that are sharp.
List signs of autumn.
Share all the things you can think of that would fit through a toilet paper tube.
How many different things can you eat with a fork?

Flexibility:
How might history be different if the television had not been invented?
Demonstrate different ways you could use a rubber band.
In what different ways can you describe the seashore?
How many things can be made out of plastic?

Originality:
How might an ant describe a straw?
Combine characteristics from two different animals (crockamouse).
Design a shopping mall with specialty boutiques for the year 2010.
Can you create a new dessert which uses rice as a main ingredient?

Elaboration:
Make up a new ending for the story we have just read.

Design a costume for a theme party.
Arrange or orchestrate a piece of music.
Can you think of additional items that would make a bicycle safer or more comfortable?

At first glance each of the questions above might appear to elicit appropriate levels and types of response. Upon close examination, one would discover that the last question in each set of examples is not well phrased. If the student can respond with a yeas or no, or can offer a number as the response, divergent thinking will not necessarily result. "How many different things can you eat with a fork?" The student says, "Six!" The teacher actually wanted the student to share ideas, but the wording of the question did not require the student to respond with a list of specific items. Likewise, "Can you create a new dessert that uses rice as a main ingredient?" allows a student respond with a yes or a no, instead of encouraging divergent thought.

2. Thinking takes time.

Most teachers typically allow only a few seconds for a student to respond to a question, even if it is by nature a more divergent one. If no one responds, the teacher usually begins to rephrase the question, or offers clues or examples to help the student "figure out" the anticipated response. Instead, ample time should be allowed for productive thought. A minimum of 5-10 seconds is recommended. If no one has an appropriate response to the original question, the students most likely either lack the basic background information or experience required to respond to the question, or the question has not been stated in a way that the students understand. Usually once a hand goes up, the thinking stops. Therefore with divergent questions, it may be helpful to suggest that students not raise a hand until they have two or more ideas to share. This encourages students to stretch their creative thinking and generally adds more variety and quality to the list of responses offered.

There is also a most important second waiting period, which usually occurs when the students have "run out" of that first set of more obvious, traditional responses or ideas. Some refer to this phenomenon as the "Dead Zone." At first one might think that the flow of responses has come to an end. In reality, this may actually signal the beginning of creative thinking. During the first flurry of responses, the students may have been recalling information and simply unloading previously learned materials. At this point, the teacher might wish to remind the student of one of the many strategies or techniques which have proven successful in expanding creative thought and action. Extending the activity through this second period of productive thought is important in developing the student's ability to think creatively.

3. The process is more important than the product.

Debriefing should always be included within each activity. Students need to focus on the process of how they attempted to respond to the question, rather

than simply being told that the response is right or wrong. Ask students to share what techniques they tried to use in their effort to respond to the question or task.

The metacognitive approach to thinking should be emphasized throughout every assignment. Metacognition is the ability to identify a needed strategy for gathering, interpreting, or creating original data; to be conscious of one's approaches and attempts at creative thought and action during the activity; and to reflect upon the learning and cognitive, affective or psychomotor growth that resulted from participating in the activity. This final aspect of metacognition is much like the reflective critique component currently advocated as a final portion of authentic assessment. This focus on the metacognitive will help to empower students to take the responsibility for their own learning and equip them to become life-long learners and successful contributors to society. It is also important to ask students to share other situations in which they have or could use the particular thinking process in school or at home.

4. **Praise should be used appropriately.**

The old adage "No pain, no gain!" may have new implications when it come to creative thinking. Mind stretching may be painful, figuratively speaking, for the student who has not had training and practice in thinking divergently. Many students have been given instant recognition for quickly retrieving the right response. Asking them to think of more than one answer to an open-ended question may be a somewhat threatening experience at first. The teacher should remain calm and confident and patiently offer the reluctant divergent thinker a variety of strategies and psychologically safe chances to develop creative thought and action. All students should be given the opportunity and encouragement tot respond creatively. Some students will generate many ideas. Other students may only generate one or two, but these ideas may be exceptional and worthy of recognition.

Praise should generally be reserved until the end of the activity and given for improvement in fluency, flexibility, and originality of thought. One might consider recognizing "the response or idea" as unusual rather than the student. There are occasions when a response or idea might be acknowledged during the generative phase. One such example would be when the response shifts the direction of the ideas being generated, (i.e. offers an answer that introduces a new category of thought or provides an answer that no one else has shared to that point).

5. **Introduce new thinking processes in conjunction with familiar content.**

When a new thinking process, strategy or technique is being introduced for the first time, or one seeks to focus specifically on the process, be sure to use familiar content or subject matter. When students are introduced to new information and new ways of thinking simultaneously, they often have difficulty in

distinguishing between the content and the process, and their ability to generalize or to use the process in a different, although similar situation, may be limited as a result.

6. **Positive Possibilities Accentuate Affirmative Actions**

   When students are encouraged to offer positive suggestions and responses to a question, the results can be extraordinary. Possibilities lead to improved attitudes and self-concepts, which usually result in affirmative actions on the part of students and teachers.

7. **Practice What You Preach**

   Modeling is the key to successful instruction. Students, regardless of age, respond to the instructor who demonstrates an attitude of excitement and enthusiasm for learning. Setting high expectations for self and student is an excellent approach to any course.