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AUTHOR	Ediger, Marlow
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ABSTRACT

The reading teacher needs to be well versed in the teaching of reading, which includes different patterns of thinking in each student. A skilled reader develops patterns of thinking pertaining to content read. Identified patterns of thinking need to be analyzed and incorporated as objectives for student attainment in reading. This paper discusses reading to achieve factual content, analyzing subject matter, creative thinking, deductive thinking, inductive thinking, and reasoning or logical thinking. (Contains 10 references.) (NKA)

Patterns of Thinking in Reading.

by Marlow Ediger

PATTERNS OF THINKING IN READING

A skilled reader is able to develop well in patterns of thinking pertaining to content read. These patterns of thinking must begin on the kindergarten level and continue with those of increased levels of difficulty. A developmental reading curriculum needs to be in evidence. Identified patterns of thinking need to be analyzed and incorporated as objectives for pupil attainment in reading. The thinking skills will always be developed at greater levels of depth. The reading teacher needs to be well versed in the teaching of reading which does include different patterns of thinking.

Reading to Achieve Factual Content

Facts are the building blocks of higher levels of thought. Facts which children learn need to be salient and in context. They should not be learned for the sake of doing so, unless the learner wishes to do so, but should be learned to develop higher levels of cognition. For example in reading expository materials in social studies, relevant facts in the unit, "The Beginning of a Nw Nation," might be the following:

1. Jamestown, founded in 1607 is considered to be the first permanent English colony in the New World.
2. Plymouth Rock, founded in 1620, is considered to be the second permanent colony in the New World, followed by Massachusetts Bay in 1630.

These facts can be learned meaningfully in context so that more complex thinking might ensue. Learning of facts should always be thought of in terms of broader understandings to be developed. There are facts the author has learned and is still learning for the sake of doing so or because it adds to the knowledge base of the perceiver. It is difficult to know what will be needed in the future in terms of ideas. But when facts are acquired, they should be as meaningful as can be determined with the possibilities of being used or applied. Regardless of what is learned cognitively, the teacher needs to follow the following principles of learning (Astleitner, et. al., 2003):

1. Instruction as systematically designed opportunity for reflexive learning
2. Multiple support for cognitive, motivational, and emotional characteristics of learning.
3. Considering the strengths of learners.
4. Supporting self regulated learning.
5. Dosed novelty and automation for efficient learning.

6. Arousing and maintaining interest.

Concepts

Concepts are useful to acquire in depth. They are usually single words or phrases. When reading about guilds and knights, as concepts, they become increasingly understandable as indepth study is encountered. For example, pertaining to "guilds," as the learner sees illustrations and discusses each of the three involved stages --- apprentice, journeyman, master --- the pupil extends ideas in attaching meaning to this concept. For each stage of progress in becoming a master in a guild the pupil understands more of its tasks duties, and work involved in moving upward, from the lowest level of thought, as he/she experiences a variety of learning activities (Ediger and Rao, 2000, Chapter Five).

Generalizations

The pupil needs to be guided to relate concepts to attain a generalization. Two or more related concepts stated in a sentence make for a generalization. These generalizations are broad ideas which can be useful to describe much information. The generalizations, however, need to be broad enough to be inclusive of what is being described. Or, it needs to include that which is being summarized. For example, the following concepts: noblemen, serfs, manor, castle, moat, land, produce grain, livestock --- may be included in one generalization: The nobleman lived on a manor containing a castle surrounded by a moat; serfs worked the land to produce grain for livestock. Basal textbooks, library books, video tapes, CD ROMS, and overlays, together with indepth discussions, can provide meaningful learnings which truly show what is included in the generalization (Ediger, Marlow, and D. Bhaskara Rao, 2003, Chapter Eight).

Main Ideas

Main ideas are broader than generalizations. They are salient for pupils to develop since inherent specifics might soon be forgotten unless they are related to each other in a main idea. When taking an undergraduate English class, the professor was very capable in teaching about main ideas. Thus in a literary selection of approximately 15 to 20 pages, a student was asked to come to the chalkboard and write the main idea for the

selection in one sentence. This was excellent! Not only did each student need to carefully read the selection but also try to relate ideas into a single sentence. If subject matter was omitted in the recorded main idea, students were asked to state the omission. If students did not challenge the omitted idea(s), then the professor would ask about selected omissions.
Thinking was truly necessary and yet it seemed like a game. If the the student for the course having read a selection being discussed on knighthood during the Middle Ages and a student had left out a key idea therein, others in class would attempt to be suggest a more inclusive main idea. The main idea needed to be broadly stated so that it would uphold that which was stated in the reading selection (See Adler, 1981).

Very frequently when the author has mentioned a novel or short story he has read, a visitor will ask, "What is the book or story about?" Generally, the visitor wants the discourse short when asking what the book or short story was about. The brevity wanted almost amounts to telling about the main idea of the selection. In the school setting, the teacher might ask pupils what an assigned story was about after its reading has been completed from the basal reader. It might even be stated by the teacher that the pupil should tell the story contents in one sentence. It is salient to be able to generalize due to the difficulties involved in remembering the many details in what was read.

Analyzing Subject Matter

With the abundance of available printed materials, it behooves the teacher to have pupils learn to separate the important from the lesser or unimportant content. Thus, ideas are sorted into component parts. The teacher might also have pupils separated what tis factual from what is opinion, or the accurate from the inaccurate. These analyzing skills can indeed be quite complex for pupils to develop. The teacher needs to begin with what is on the understanding level of individual pupils and sequentially emphasize that which is or more complex (See Harris and Sipay, 1985).

Subject matter read should also stress the reader separating facts from fiction, as well as the relevant from the irrelevant. Thus, critical reading stresses analyzing parts from the whole in order to make comparisons and judgments about the parts. Higher levels of cognition are necessary. The author supervised student teachers in the public school for many years and problems faced by the latter included

1. being unable to separate what is salient from that which is of lesser value. In other words, the student teacher tried to teach everything about a nation written in a social studies text. The amount of material for pupils to learn then became excessive. Some of the content was very irrelevant. Pupils can be lead to ascertain which ideas are relevant and which lack importance. Why an idea is relevant and why another is not needs adequate emphasis.

2. lacking skills to help pupils think critically as to the accuracy of selected content read. Here, the student teacher needs to assist pupils to compare sources of information. One pupil made comparisons by using internet sources of the nations being studied in social studies.

3. presenting information as factual, rather than something to assess, compare, and contrast. It truly is difficult to present ideas in social studies accurately when so many different perceptions are in the offing. The author when serving as a teacher on the West Bank of the Jordan was amazed at what was observed as compared to what was studied from textbooks and library books before he arrived in the land of Palestine. One learning which needed to be changed then by the author was that not all people in the Middle East are bedouins or nomads.

Pertaining to critical thought, Marker (2003) wrote the following:

An honest open classroom discussion regarding social issues such as the war in Iraq should involve many divergent points of view that include interrogating both the teachers and the student's opinions. To simply cast aside social issues as having only one or two simplistic perspectives -- often belonging to the teacher -- is to encourage students to engage in reductionist, fragmented judgments that deny the value of critical thinking. Students need to be challenged by the teacher not simply to repeat the teacher's point of view -- even when overtly presented. In order to do this effectively, the teacher needs to provide information that represents multiple points of view on the war in Iraq. More importantly, when students seem to be set on a single point of view, the teacher needs to argue an opposing viewpoint...

Creative Thinking

Creative thinking involves pupils coming up with unique ideas. Progress has come about due to individuals being creative in ideas, inventions, and ways of doing things. The author observed a cooperating teacher in the public school who

motivated pupils in the writing of poetry by brain storming the many uses of a brick. There were many responses in this enjoyable activity with several truly creative responses from young learners including the following:

1. to use in making a leaping truck. Later on, the early primary grade pupil described in detail what he had in mind.
2. to build a twenty- first century castle. This pupil later said how this castle would differ from those in the Middle Ages.

... In brainstorming for ideas and suggestions to problems, it is important not to evaluate each idea at the time it is offered. If each is discussed, the list will not be be very long. The objective of brainstorming is to get as many ideas to the surface as possible, no matter how outlandish they may seem. After the complete list has been generated, time can be taken to evaluate each one and select the best ones by consensus. It is usually best for the group have a designated leader and recorder Parker (2001).

Creative ideas and products can be developed individually or in groups. Unique, novel ideas then need to be forthcoming.

Deductive Thinking

Deductive thinking is based upon using subject matter which was learned and is applied to a new situation. Thus if a pupil sees a new word in print on the chalkboard and understands explanations pertaining to the meaning of that vocabulary term to be met up with in print, the pupil can apply what has been learned when reading. The identification of the printed word and its meaning is then applied to a new situation, by the pupil. The teacher receives feedback if the pupil is able to make application of previous learnings. What was learned can also be extended to a broader context such as if the original new word began with an "m" letter, all new words will have that same initial sound. Or if a pupil has learned that a guild member went through three stages to get to the top in the profession such as apprentice, journeyman, and master, he/she might also clearly notice, on his/her own, three stages in becoming a warrior during the Middle Ages --- page, valet, knight. From the general to the specific emphasizes what is involved in deduction or deductive thinking (Ediger and Rao, 2001, Chapter Ten).

Inductive Thinking

Inductive thinking stresses somewhat of the opposite as compared to deduction. With inductive thinking, the pupil learns many specifics and then arranges these mentally into a generalized statement. Problem solving stresses initially inductive thinking. If a pupil, for example, identifies the following problem: Why did the Middle Ages come to a close? To solve this identified problem, the teacher may assist the pupil to gather information from a variety of reference sources. From the specific items, the learner secures information in answer to the problem, resulting in a tentative hypothesis, such as, "The development of trade, building of new cities, workers leaving the manor, people becoming interested in 'new' ideas from the advanced previous Greek and Roman civilizations, brought the Middle Ages to a close. These three steps of problem solving stress inductive learning. The tentative hypothesis is tested through more study, information gathering, and application of ideas. The testing of ideas, when applied, emphasizes deduction, such as going from the general to the specific in secured information.

Reasoning

Logic is involved in the reasoning process. Many adults have taken an analogies test. In the test, there will be items such as, cat is to dog, as cow is to ___ . For the entire test, there will be four alternatives as possible answers such as in a multiple choice test item.

Mathematics emphasizes much logical thinking, such as, "If A is greater than B, and B is greater than C, then A is greater than C. The commutative, associative, and distributive properties stress logic. In other words, one can change the order of addends, and the sum will be the same for the commutative and associative properties of addition.

Experimentalism, as a philosophy of education, emphasizes that school and society should logically not be separated from each other. Thus, the school curriculum should relate directly to what is salient in society. Learnings then should be life-like and real. The social world indicated that which is salient for the pupil to learn. This can be contrasted with an essentialist's curriculum whereby there are basics for pupils to learn based on academic knowledge. Experimentalism appeals to society in terms of what pupils are to learn whereas essentialism (the basics) appeals to a academic knowledge in providing offerings in the curriculum.

The logic is there: life-like learnings for the pupil is as academic knowledge is to the curriculum.

The heart of experimentalism is problem solving. Why? In society, there are problems which need identification and needed solutions. Thus, lifelike problems need identification and necessary solutions sought in ongoing lessons and units in school (See John Dewey on logical thinking, 1938).

Service learning emphasizes reality in the curriculum, among other approaches. Bloom (2003) wrote the following:

It would be dishonest to say that preparing and supervising a service learning project has not added to my work. But the benefits outweigh the costs. It provides an avenue for teaching with hands-on approaches despite the crunch of assessments. I get new ideas and fresh energy as the formerly unseen needs of our neighbors come to light. Students get excited about academic content that relates to their work. And suddenly they find they have the power to change things in their community. They are needed.

Our city is presently building a greenway along the river that runs through town. A call has gone out for volunteers to help build it. I know a group of energetic fourteen year olds who just might be perfect for the job.

Logical thinking is necessary to notice needs and therefore attempt to remedy those identified problems.

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