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REMEMBERING IS NOT NECESSARILY UNDERSTANDING IN CONTENT AREAS

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Improving comprehension in middle-grade content areas would be an easier topic to address if we had available validated theoretical models, and hence an understanding, of 1) how one learns from text, and 2) how intellectual operations develop in adolescence. Our current state of ignorance in these areas has been aptly summarized by Miller (1976) and Neimark (1975) respectively. We are then, like everyone else who would discuss improving comprehension of text, reduced to drawing upon the available body of literature and from this attempting to produce a framework from which useful strategies can be developed.

Goals and Instruction

Content area teaching is typically purposeful as opposed to incidental. For this purposeful teaching to occur, however, there must be goals for teaching; goals which go beyond the vague generalities and professional sounding platitudes too often associated with the various disciplines. We will not go as far as some and advocate goals which meet strict behavioral criteria, but for a variety of reasons the content area teacher must know what is to be taught and what is to be learned.

These goals have to reflect the dual role of the middle-grade content area teacher. In the middle grades the content area teacher has the distinctive and unique responsibility of developing effective application, utilization, and extension of reading abilities in content area texts (Allington, 1975). That is, the middle-grade teacher's role is one of producing students who know how to learn from printed material, thus attempting to ensure mastery of some of the most important prerequisite abilities for later learning, while simultaneously providing knowledge prerequisite to further learning in a particular discipline. The content specific knowledge must, of course, be identified but additionally the necessary learning strategies must also be identified. The middle-grade content area lesson then must not only produce content relevant learning but also provide the learner with skills and strategies for learning from text.

Instructional goals should be precise enough to allow the teacher to justify each assignment in relation to them. For instance, we should ask, "Why am I having students read page 33?" Is there information on that

page that has been identified as important? Can a particular strategy for learning from text be employed? Or is it assigned because it follows page 32 and precedes page 34? Many pages in content area texts have nothing worth remembering, nor are any important concepts, functions, or relationships presented. We should argue that assigning these pages because they fall between more relevant material is justifiable, but only as long as the teacher is aware that the purpose is to maintain textual continuity. This rationale then cues the teacher that no test item should be drawn from that page. Students should not be tested on material simply because it is there. Test items must be related to the instructional goals set by the teacher.

This may seem blatantly obvious but we still visit content area classrooms which are totally text dominated. The teacher seems to have no goals except to get through the text. Now simply getting through a text may indeed be justifiable economically, and even politically, but it cannot be supported educationally. The teacher who adopts this position assumes no real responsibility for teaching, seldom setting any educational goals. Every page is page 33 and assessments are constructed with randomly selected statements from the text. Any statement, regardless of significance, may be turned into a test item (What was the tune the British band played when Cornwallis surrendered to Washington at Yorktown?).

Without clearly formulated goals the content area teacher has little guidance for developing either instruction or the assessment. Formulation of goals must precede instruction even in the most eclectic teaching environment. Both types of goals, content specific and generalize learning strategies, should be presented on the assessment. The type and level of assessment employed is a powerful shaping factor for student learning. If assessments do not relate to the goals then the students, particularly the brighter ones, adopt strategies which relate to success on the assessment. Assessments which require only remembering of minute details, for instance, focus student attention on these rather than on acquiring an understanding of the concepts, functions, processes, and relationships presented.

This leads us to another facet of goals, instruction, and assessment in content areas; remembering does not equal understanding. This is noted because goals sometimes become lists of data to be memorized, at least until the test (consider for a moment all of the facts we have forgotten from classes in which grades of A were earned). We are at this point quite sure that remembering what one reads is not itself a valid indicator of understanding, or comprehension. A rather simple demonstration of the validity of this contention will be found by reading the paragraph entitled "The CRT" and then completing the test items.

THE CRT

A CRT is a handy device. Of course, it cannot function without a central processing unit. The portable models need only a telephone pick-up to work. However, the most common access device is similar to an electric

typewriter. With this combination a person can examine stored information prior to requesting hardcopy. It also allows a user to confirm input.

There are many uses for a CRT. Some models key mechanical responses such as opening valves, locks, etc. Of course direct mechanical manipulation requires a light sensitive model. These models are also useful in schools. The most common function is to present drill and practice exercises. However, due to the expense only about 1 percent of all classrooms have a CRT. Most experts predict that the CRT will become more common in schools. Some say it will replace the workbooks of today.

Answer True or False:

1. A CRT is a handy machine. _____
2. A CRT needs a central processing unit. _____
3. There are portable CRT models. _____
4. A CRT allows a user to confirm input. _____
5. A CRT has a single use. _____
6. Most classrooms have at least one CRT. _____

Select the best answer:

7. The most common access device for a CRT is . . .
 - a. a John Deere tractor
 - b. a CRT
 - c. an electric typewriter
 - d. none
8. CRT's are found in what percentage of classrooms?
 - a. .1 percent
 - b. 1 percent
 - c. 10 percent
 - d. 100 percent
9. The CRT allows a user to examine information prior to . . .
 - a. hand copy
 - b. impress
 - c. input
 - d. hardcopy
10. Most experts predict that the CRT . . .
 - a. will become common in schools.
 - b. fad will die out.
 - c. producers will market a color model.
 - d. will eliminate human teachers.

Write a short answer to the following question:

Describe in some detail how a CRT would be useful in your classroom.

Few teachers have difficulty correctly answering 70% of the items, even when the passage is removed after reading. Few, however, can describe a CRT (though most have had a direct experience with one). Simple questions on size, material, color, etc., cannot be answered. Likewise virtually none can answer the final question beyond simply regurgitating the statements from the passage. Thus while most readers are able to recognize all of the words and even remember much of the information, few ever comprehend what they have read, or understand the function of a CRT. This brings us to a crucial issue yet to be resolved. If comprehension is to be defined as an increase in information (Bormuth, 1969), then the performance on the CRT test is a demonstration of comprehension. However, it should be fairly obvious that little understanding has been generated. Remembering is not necessarily either comprehending or un-

derstanding. Only if the new information can be organized or associated with the previously known will understanding, or comprehension, take place.

How much learning in the content areas is of this type? Simple remembering of factual information but no assimilation, or cognitive reorganization. Do we really have as goals remembering whether Ben Franklin signed the Declaration of Independence, or how many miles Lee advanced into Pennsylvania, or the capitol of Oregon, or the major river in Brazil? Each of the above were drawn from social studies tests and by turning the items around we get what seem to be quite arbitrary and menial goals for learning. Similar examples abound in other content areas as well and these seem to suggest either goals that reflect rather low level expectations or test items discrepant from the original instructional goals.

Thus far remembering as an instructional goal has been criticized in relation to the content area skills role of the middle-grade teacher. However, similar criticism can be leveled in relation to the other role, that of developing learning skills. Factual recall is a necessary learning skill to be sure, but it is far from the most important or most powerful, particularly if recall goes no further than that found in the CRT task. Middle-grade students need to learn a variety of text processing skills particularly; assessing the value of information, identifying relationships, rapid identification of information relevant to a specific purpose, etc. A continual emphasis on recall of information leads to rote learning in content areas, students who can list exports without understanding the importance of exporting to an economy, students who can solve x but do not understand the underlying mathematical relationships, students who can list the genus and species of an organism without discovering the interrelationships of living things.

Goals are necessary for teaching. They do not have to be narrow or even measurable in the behavioral sense, but they do need to guide the teacher in planning instruction. They are even more useful for deciding whether one has reached the planned destination. However, goals for teaching are not enough, one must attempt to meet the goals with effective instruction and that is another point at which content area instruction at times breaks down.

From our standpoint what is called teaching in some content area classrooms is too often only testing or telling. To support this contention let us present two brief scenarios which can be observed in virtually any school on any day. In the first, the teacher simply assigns pages to be read with no further guidance and follows this with a test covering the material assigned. Or the teacher may simply use class time to question students on the assigned material. In the second scenario the teacher tells students a number of pieces of information and then also follows with a formal test or perhaps with the in-class questions. Both of these scenarios recur endlessly in the schooling process, and seem plausible methods for ensuring students have read assignments or attended to the lecture, but we need to examine whether either is truly teaching.

If the teacher simply writes "Read pg. 108-123" on the chalkboard and then later assesses student knowledge of this material, it would seem that instruction has not occurred. Even though pages have been assigned to be read, the teacher has not specified what is to be learned (unless one assumes everything on pages 108-123). Now suppose the student fails the test. Has the teaching failed? Perhaps it failed by omission but in the strictest sense teaching cannot be evaluated. How then should the failure be construed? If no teaching has occurred, what type of inadequacy is indicated?

It could be that the student has not read the assigned material, or perhaps could not read the material. It is also possible the student completed the assignment but did not have adequate experiences, or previous knowledge, to fully assimilate all the concepts presented. Then again the student may have completed the assignment and understood the material but failed to retain the specific information required for the test. The point is, the student failed the test but without a teaching component it is difficult to assess the relevance of this failure.

The student has failed to demonstrate the necessary independent learning skills and strategies, but we have identified the development of these as one of the two primary goals of the middle-grades content area teacher. The student has also seemingly failed to acquire the knowledge base one would consider prerequisite for further learning in the discipline, the other primary goal of middle-grade content area instruction.

Rather than continuing to beat this dead horse, let us summarize here by noting that in neither of the previous scenarios did the teacher develop either of the primary prerequisites; strategies or knowledge. These examples point out a major deficiency in content area instruction; too often aptitude and achievement is assessed without an instructional component. The learner has instruction in neither the development or refinement of processing skills and strategies nor in the development of an understanding of the concepts, processes, functions, or relationships presented in the text. At this point the teacher is only maintaining the status quo; those students who have the abilities or knowledge achieve, the others do not.

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