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Students today represent a wide range of skills. Some students in every classroom read painfully slowly, stumble, and stall on words, failing to fully grasp passage meaning (Wood, 1988). These students miss out on the opportunity of "learning to read" and, therefore, lose the benefit of "reading to learn", the classic "Matthew effect" (Ciborowski, 1992; Peters & Wixson, 1984). Struggling readers limit the expansion of their vocabulary and knowledge because of circumscribed abilities, an accumulation of academic frustration and failure. Often students lack learning strategies to organize materials, store information, and retain learning. These facts necessitate using learning strategies as they can supply support for the low achievers in the classroom. Specifically, metacognitive learning strategies designed for comprehension have been proven to increase students' success in academics, problem-solving skills, independence, making choices, involvement in own learning process, organizational skills, and learning and understanding more efficiently (Day, & Elksnin, 1995; Gunning, 2003; Pressley, 2000; Schoenbach, et. al, 2003; Vaidya, 1999).

Student performance is not the only learning achievement dilemma. Much criticism has been directed toward instructional materials, specifically textbooks, and those teachers who seem to allow textbooks to direct the classroom curriculum. The "how" of reading a textbook, what to do in order to comprehend and remember what is being read, is not part of these teachers' instructional emphases. Imparting knowledge via textbooks can be formidable and overwhelmingly difficult (Ciborowski, 1995; Gunning, 2003; Lovitt & Hoi-ton, 1989; Snider & Tarver, 1987). However, just reading a textbook has little bearing on the development of higher order thinking, comprehension skills, concept building, and overall principle development (Ciborowski, 1995, Jitendra, et. al., 2001). Expository texts found in science and social studies classrooms are often filled with technical vocabulary and abstract concepts. Generally, textbooks also have unclear content goals, assume background knowledge, and have inadequate explanation and presentations of content (Bean, & Zigmond, 1994; Readence, Bean, & Baldwin, 2001). Furthermore, textbooks have been shown to restrict learning opportunities, and, by necessity, teachers need to adjust their curriculum for individual differences (Bean, & Zigmond, 1994; Readence, Bean, & Baldwin, 2001. Without appropriate adaptation, textbooks and accompanying materials are intimidating and incomprehensible to students struggling with reading deficiencies (Bean, & Ericson, 1989).

There are, however, instructional practices developed by Fisher, Schumaker, and Deshler (1995) called "Teaching Devices". Included in this categorization are the instructional tools "graphic organizers" and "study guides". Study guides, which enable students to draw upon their existing knowledge to assist them in formulating meaning from the text, are constructive, dynamic (affective and cognitive), and interactive tools. Study guides are designed to increase student involvement, highlight key information, and provide students with a preview of expectations (Anderson & Pearson, 1984; Blake & Young, 1995; Ciborowski, 1995; Davey, 1986; Peters & Wixson, 1984). Study guides, as the name implies, help students maneuver their way through text, and, in the meantime, allow students an easier time comprehending content and performing activities that are related to the information being taught. Used correctly, study guides can be coupled with the text to provide a framework of support for conceptual

understanding greatly needed by the students (Vacca & Vacca, 2003).

Three studies reported by Fisher, Schumaker, and Deshler (1995) indicate students with and without learning disability, upon using study guides to supplement teaching materials, improved their curriculum based measurement scores. In the first study, students with learning disabilities improved from 49% correct to 68% (mean scores) while students without disabilities moved from 80% correct to 93% (mean scores). In the second study reported, students with learning disabilities received average scores of 43% correct, but gained averages of 77% with the use of a study guide; students without disabilities scored initially 55% correct and 87% (mean scores) respectively. A third study revealed students with learning disabilities attained 42% correct average scores and increased to 76% during study guide usage, and students without disabilities enhanced their scores from 58% correct to 77% (mean) (Fisher, Schumaker, & Deshler, 1995). Students who use study guides to improve reading comprehension consistently outperform students who do not use study guides (Mastropieri & Scruggs, 2003). Work by Ryder and Graves (2003) under girds these findings. They identify five essential reasons to use study guides. Study guides assist students' learning; they can highlight important concepts; they improve comprehension; they help students organize information; and they assist students' metacognition by enabling them to check for understanding, helping students know when to alter their reading rates, and assisting students thinking about what information is important while reading.

Students fail to comprehend what they read in textbooks for a number of reasons. Key terms are unknown or unfamiliar, concepts are unfamiliar, meanings are confusing, the text organizational patterns found within chapters varies, the number of details surrounding a concept are too numerous to determine importance and significance, prior knowledge is inadequate or missing, and students read too fast or skip around causing ineffective analyzes of text information (Gunning, 2003). Study guides can help eliminate many of these issues. Study guides are adaptable tools with variable formats that can be used to strengthen student textbook comprehension. Important to remember is that study guides do not supplant curricula. Rather they support it as they allow teachers to "maintain the integrity" of the required course content. One such study guide format is the Three-Level Guide. With this guide, comprehension is developed at literal, interpretive, and applied levels. These three levels position readers to respond to meaning at three levels of abstraction and conceptual difficulty (Vacca, & Vacca, 2003). At the literal level students find and report information explicitly from the text. At the interpretive level students read must read between the lines and begin to make inferences through perceived relationships. At the applied level, responding to reading becomes personal and evaluative, requiring students to express their own opinions and form new ideas. (Vacca, & Vacca, 2003). When considering creating a three-level guide as a learning tool, follow these guidelines:

1. Begin with level II. "What does the author mean?" The student can make inferences based on this question.
2. Then find information in the text for level I responses that will support the inferences needed for level II.
3. Finally, for level III develop statements that help students connect what they already know to what they read (Vacca, & Vacca, 2003).

Study Guide Development

Define the Curriculum

Study guides differ from typical end of chapter questions. In a teacher-developed study guide, the teacher controls the use of the textbook, the questions, and the activities designed to master

content information. Students do not have to delay finding out what they are supposed to know until the conclusion of their reading (Davey, 1986; Wood, Lapp, & Flood, 1992). Instead, study guides can enable students to become metacognitively involved with what they are reading, as teaching for metacognition is creating an instructional environment that facilitates students' awareness of their thinking processes coupled with strategies that enable them to know what is expected before, during, and after reading (Gunning, 2003). Thus, a student's engagement in reading can drive a higher level of thinking rather then a task entered upon for the purpose of answering literal level questions (Davey, 1986; Wood, Lapp, & Flood, 1992).

Teachers will need to set their content priorities. Choosing only the essential curriculum for mastery can eliminate unnecessary content coverage and provide additional time for frequent reviews of needed knowledge and skills, thus improving retention (Bean, Singer, & Cowan, 1985; Dempster, 1993; Palardy, 1997; Smith, Polloway, Patton, & Dowdy, 1995; Wood, 1988). Clearly determined objectives, which are initiated with specific action verbs, need to be established. Likewise, students should be allowed to have a voice in choosing some of the content objectives. This provides them with commitment, investment, and ownership in the learning process. Students will put forth more effort towards success when teachers positively acknowledge effort and engineer empowerment through goal oriented reading (Hoover & Patton, 1997; Irvin, 1998; Palardy, 1997).

Furthermore, in teaching students to process their thinking about their reading, teach for both declarative knowledge (what students will do) and procedural knowledge (how students will do it). To do this, first describe the instructional strategy being used. Then explain why the strategy is important to use during the lesson. Next model the strategy. This should include positive *I* statements, such as, "First I do this; then I do this: finally I do this." Modeling through think-alouds our own reading and thinking process demystifies the comprehension process (Gunning, 2003; Schoenbach, et. al, 2003). As part of the think-aloud process, explain when and where to use the strategy. Finally, provide sufficient time for guided practice in-order-to offer necessary adjustments to our explanations and/or students' understandings (Gunning, 2003).

Procedures for creating a study guide

1. Note the major concepts and principles you want students to learn and assign pages to read that will help students to understand these concepts.
2. Predict problem areas of the text that will cause students to struggle such as: technical vocabulary, new and complex content, figurative language.
3. Determine different strategies for students to use to grasp content.

The study guide should be constructed very deliberately. It should include:comprehension strategies, clear content goals, interesting questions, and game-like activities that are engaging and fun (Gunning, 2003).

Designing the Format

To assist readers in creating study guides as described in this article, we have published the following nineteen web linked examples. Adobe Acrobat Reader is needed to open each link.

1. Civil War - http://www.educ.andrews.edu/pdf/civWar.pdf
2. Fur Trade - http://www.educ.andrews.edu/pdf/furTra.pdf
3. Canada's Atlantic Provinces - http://www.educ.andrews.edu/pdf/canAtlPro.pdf
4. Empire in Asia and the Americans - http://www.educ.andrews.edu/pdf/empAsi&Ame.pdf
5. Organisms and their Environment - http://www.educ.andrews.edu/pdf/org&Env.pdf
6. Regions and States - http://www.educ.andrews.edu/pdf/reg&Sta.pdf
7. United States Constitution Study Guide - http://www.educ.andrews.edu/pdf/usConStuGui.pdf
8. Map Type and Terms Study Guide - http://www.educ.andrews.edu/pdf/mapTyp&TerStuGui.pdf
9. Early American Study Guide - http://www.educ.andrews.edu/pdf/earAmeStuGui.pdf

10. Illinois Study Guide - http://www.educ.andrews.edu/pdf/illStuGui.pdf
11. North East Region Study Guide - http://www.educ.andrews.edu/pdf/norEasRegStuGui.pdf
12. North Central Region of the US Study Guide # 1 - http://www.educ.andrews.edu/pdf/norCenRegUsStuGui1.pdf
13. North Central Region of the US Study Guide # 2 - http://www.educ.andrews.edu/pdf/norCenRegUsStuGui2.pdf
14. Health: Smoking, Three Level Study Guide - http://www.educ.andrews.edu/pdf/heaThrLevStuGui.pdf
15. Science: Plant Characterists, Three Level Guide - http://www.educ.andrews.edu/pdf/sciThrLevGui.pdf
16. Physics: Light Lesson, Three Level Guide - http://www.educ.andrews.edu/pdf/phyThrLevGui.pdf
17. *The Lottery*, Three Level Guide - http://www.educ.andrews.edu/pdf/reaThrLevGui.pdf
18. *The Bet* by Chekhov, Three Level Guide - http://www.educ..edu/andrewspdf/reaThrLevGui2.pdf
19. Baseball, Three Level Guide - http://www.educ.andrews.edu/pdf/reaThrLevGui3.pdf

Study Guide Implementation

The task of study guide design can become problematic if not approached with a win-win attitude. Teachers should pool their talents in order to problem-solve together the pitfalls (i.e., curriculum/assessment decisions, time investment) of material creation and curriculum enhancement. Benefits of mutual cooperation can be increased through the generation of ideas, ownership in process and product, and a clear focus on reading purpose (Ciborowski, 1995; Dettmer, Dyck, & Thurston, 1996). Teachers should never attempt, in one year's time, to construct study guides as a support curriculum for an entire textbook. Accomplish what is manageable. Thus educators should devise only a few study guides during a school year. Sharing study guides between and among professionals can increase the momentum of substantive task accomplishment (Davey, 1986; Kampwirth, 2002; Mastropieri & Scruggs, 2003).

Following initial development decisions, Horton and Lovitt (1989) suggest teachers can expect to spend about 30 minutes preparing a 15-item study guide and approximately 20 minutes forming a corresponding curriculum based assessment. Conclusions drawn from Fisher, Schumaker, and Deshler (1995) indicate concerns regarding the acceptability of time teachers need to spend in study guide preparation. They suggest a timeline of 50 - 60 minutes per guide. *Some specific suggestions for implementation of study guides are to:*

Install the textbook reading passage (possibly adapted for some students) and aligned study guide on a computer disk and/or CD-ROM, using video and/or audio clips (Friend & Bursuck, 1999; Higgins & Boone, 1992; Horton & Lovitt, 1989; Horton, Lovitt, Givens, & Nelson, 1989);

Create study Class Wide Peer Tutoring 3x5 cards for extended practice of facts clips (Friend & Bursuck, 1999; Horton & Lovitt, 1989);

Use study guides as homework assignments building in accountability (Blake & Young, 1995; Friend & Bursuck, 1999; Hoover & Patton, 1997; Horton & Lovitt, 1989);

Engage students' active participation through goal setting, self-assessment/monitoring and student ownership in objectives (Davey, 1986; Palardy, 1997);

Provide students options from which to select (Hoover & Patton, 1997);

Identify structured activities to break down student isolation (a) individual student, (b) peer groupings, (c) cooperative groupings, (d) whole class, (e) heterogeneous and homogeneous divisions, and (f) learning centers (Bean & Ericson, 1989; Davey, 1986; Palardy, 1997; Wood, 1988);

Incorporate a variety of response formats both written (i.e., diagrams, questions/answers, maps) and verbal (i.e., discussions, presentations, news reporting) (Davey, 1986);

Employ a strategic instructional delivery format to implicitly teach through direct instruction the "how to" of using a study guide including: describe, model, faded individualized guided practice, and independent practice (Bean, Singer,

& Cowan, 1985; Davey, 1986; Gajria & Salvia, 1992; Goetz, 1993; Horton & Lovitt, 1989; MacLean, 1991; O'Shea, O'Shea, & Algozzine, 1998; Wood, 1988);

Provide a student directed learning atmosphere rather than a teacher lead learning classroom (Horton & Lovitt, 1989);

Respond to student errors with feedback targeted on the expansion of student learning (formative constructive comments) (O'Shea, 0'Shea, & Algozzine, 1998; Talbot, 1997);

Encourage students to dream, develop, and implement their own study guides for future curriculum needs (Horton & Lovitt, 1989).

Conclusion

Critical thinking is the learning process students navigate in coming to what they know (Talbot, 1997). Study guides are the instructional aids that act as critical thinking stimulators engaging students in learning processes; they accompany reading, before, during, and after (Bean & Ericson, 1989; Bean, Singer, & Cowan, 1985; Ciborowski, 1992; Ciborowski, 1995; Horton & Lovitt, 1989; Palardy, 1997; Wood, 1988; Wood, Lapp, & Flood, 1992).

The words "read" and "study" can be meaningless to students who are not aware of how to learn and retain information. Spontaneous integration of old (familiar) and new (unfamiliar) knowledge may not be within the struggling student's repertoire (Bean, Singer, & Cowan, 1985; Blake & Young, 1995). Study guides are not only the means of making students aware of metacognitive strategies for successful comprehension; they also develop and reinforce necessary student skills and strategies; guides are "tutors in print", tools students can use to refer back to essential curriculum, and a repetition of instruction (Dempster, 1993; Friend & Bursuck, 1999; Goetz, 1993; MacLean, 1991; Smith, Polloway, Patton, & Dowdy, 1995; Wood, 1988; Wood, Lapp, & Flood, 1992).

Understanding of content material, increased text material retention, movement through textual material at a faster pace, improved task completion and on-task behaviors, and higher curriculum based measurement scores are all outcomes teachers can expect when they use study guides to teach expository information (Blake & Young, 1995; Friend & Bursuck, 1996; Graham & Johnson, 1989; Lovitt & Hoi-ton, 1989; Lovitt & Horton, 1989; Wood, Lapp, & Flood, 1992). Study guides facilitate success by emphasizing important information and skills through consistent structure, direction, and purpose (Graham & Johnson, 1989; Lovitt & Horton, 1989; Smith, 1987).

Finally, study guides facilitate metacognitive comprehension. As metacognition requires goal setting for constructing meaning, assessing whether the goals are being met, and modifying the goals if they are not being met (Gunning, 2003), teachers who follow the framework for creating study guides as detailed in this article are positioning their students to become metacognitively involved in making meaning from their reading.

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