What are the most effective academic interventions?

1. Provide Explicit Instruction and Supportive Practice in the Use of Effective Comprehension Strategies Throughout the School Day[1]

1. Initial discussions that help students become more aware of their own cognitive processes and learn about strategies they can use to help increase their understanding of what they are reading. Such discussions help establish the purpose of the work the students will be doing to improve their comprehension.

2. Explicit instruction from the teacher about the particular strategies being learned, with frequent think-aloud demonstrations by the teacher to show how the strategy is used during reading. This instruction includes a discussion of why the strategy can be useful, how to do it, and when it is appropriate to use. Teacher modeling of strategy use is essential.

3. Extended opportunities for students to practice using the strategies in meaningful literacy activities. Sometimes this practice is structured as small-group activities that encourage student discussion of both the text's meaning and how they are using the strategy to help them understand; sometimes it involves whole-class discussions. The purpose of this instruction and practice is to gradually transfer responsibility for selecting and using strategies from the teacher to the students. Researchers have noted a number of important issues in implementing comprehension strategy instruction, including:

a. Balance. Finding a balance between content and strategy instruction that responds to the needs of all students is important. The ideal is to use strategy instruction as a vehicle for effective content teaching and learning. Klingner et al. (1998) provide at least one demonstration that it is possible to do this.

b. Involvement. Using small-group interactions effectively to increase the involvement of underachieving students and facilitate active discussion of both content and strategies is critical. Both Klingner et al. (1998) and Guthrie et al. (2004; reviewed on page 50 of this document) have shown how comprehension strategies themselves can provide a structure for small-group text-related discussions that not only increase student involvement but also foster learning of content and strategies. Other examples of this principle appear in work on cooperative learning (Stevens, Slavin, & Farnish, 1991).

c. Number of strategies. The consensus is that it is useful to teach students more than one comprehension strategy, but it is not clear how many strategies can be effectively taught in any given period of time. The answer will likely vary, depending on teacher skill, student abilities, instructional group size, and the time available for instruction.

d. Time for professional development.It takes time for teachers to become skilled in providing this type of instruction. One group with substantial experience in training teachers to provide comprehension strategy instruction (Brown, Pressley, Van Meter, & Schuder, 1996) found that it often took several years for teachers to become skilled at teaching students to use multiple comprehension strategies flexibly and adaptively.

2. Increase the Amount and Quality of Open, Sustained Discussion of Reading Content

Although the experimental evidence for the effects of discussion-oriented approaches to instruction on reading comprehension is not as strong as it is for explicit instruction in comprehension strategies, a very large amount of qualitative research literature documents the extent to which participation in rich, extended discussions is associated with improvements in the quality of students' thinking about what they read (Applebee et al., 2003). Further, almost all effective applications of explicit strategy instruction include opportunities to practice using these strategies in contexts that foster extended discussions of the meaning of text. Teaching explicit comprehension strategies and providing opportunities for extended discussion of text to enhance comprehension are likely to be closely linked in actual classroom practice.

As discussed in the research literature and documented in the studies presented here, opportunities for extended discussion of text have two potential kinds of impact on student learning. First, opportunities for extended discussion of text can improve students' understanding

[1] *Academic Literacy Instruction for Adolescents: A Guidance Document from the Center on Instruction* (2007)

and learning of the specific texts under discussion. Second, opportunities to engage in text-based discussions over time can have a general impact on reading comprehension. Students who have repeated opportunities to explore the meaning of text in discussions with their teachers or peers develop habits of analysis and critical thinking that support improved comprehension when they read text on their own.

A last point related to this instructional recommendation is that establishing effective discussion-based instructional approaches for adolescents in middle and high school will likely require substantial adjustments to the curriculum. The tension here is between breadth and depth of content coverage. Taking time to build deep understanding through discussion must necessarily affect the breadth of content covered in a given class.

3. Set and Maintain High Standards for Text, Conversation, Questions, and Vocabulary

A broad scientific literature documents the effects of teacher expectations on student performance (Good, 1987; Good & Brophy, 2002). Higher expectations consistently lead to higher levels of student performance. Thus, it is not surprising that raising literacy expectations, and applying them consistently to all students, should be recommended regularly as one element of successful state-, district-, and school-level plans to improve adolescent literacy outcomes. However, it should also be clear that high state literacy standards will have little impact if individual teachers do not adopt those standards and embed them in their classroom curriculum and teaching practices.

Where to start raising standards for adolescent literacy on a large scale seems relatively clear. First, state-level literacy leaders must identify and adopt clear and comprehensive literacy standards, which must be reflected in the state-level accountability measures for literacy outcomes. Second, school-level literacy leaders and teachers must work to understand the meaning of those standards as they apply to classroom instruction and ongoing, formative assessments. If school-level study groups carefully evaluated state assessments (and other assessments as well) for their implicit literacy demands, that would help teachers form a more explicit understanding of the literacy targets or standards at each grade level. Third, classroom teachers must teach in ways that directly support student growth toward the high literacy standards defined by their states, as understood in the analyses described in the second step. All four of the other instructional recommendations contained in this document describe evidence-based instructional techniques that will likely be required to consistently achieve the higher literacy standards we are recommending here.

4. Increase Students' Motivation and Engagement with Reading

Both the theoretical and empirical supports for the role of motivation in improving students' response to instruction in reading comprehension are compelling. Since variability and inconsistency in motivation for reading among students and across subject areas are widely noted in the observational and survey studies of motivation and engagement in middle and high school classrooms (Biancarosa & Snow, 2006), evidence-based methods for improving student motivation and engagement should have a high priority in efforts to improve adolescent literacy outcomes.

One issue several investigators in this area have noted is the large number of motivational strategies used by teachers who successfully promote literacy in their students, even in the elementary grades (Bogner, Raphael, & Pressley, 2002; Pressley, Wharton-McDonald, Mistretta-Hampston, & Echevarria, 1998). However, Guthrie et al. (2004) suggest that it is likely to be most effective to train teachers to focus on a finite number of methods for increasing student

engagement during literacy instruction. In their experience, three to five motivational enhancements, used in concert with one another, provide a consistently powerful effect on engagement for most students. Although there is no systematic research to determine which motivational elements are most powerful for specific types of students, Guthrie et al. (2004) recommend that teachers first try to

1. build student autonomy by allowing more choices of texts and assignments;

2. create opportunities for students' social interactions focused on learning and understanding from text;

3. ensure a range of interesting texts are available to students; and

4. focus students on important and interesting learning goals.

5. Teach Essential Content Knowledge So That All Students Master Critical Concepts

This section contained examples of three approaches to improve content-area teaching that, if widely implemented, could help to increase student learning of essential content. Of all the areas we have discussed, our treatment of this area is most narrow; many, many more instructional improvements might be considered to increase the likelihood that students in content-area classes will understand and retain essential vocabulary, concepts, and facts in science, social studies, history, and other classes (Brophy & Good, 1986a; Brophy & Good, 1986b; Reynolds, 1992; Sanders & Horn, 1998; Stahl & Fairbanks, 1986; Wenglinsky, 2000).

Two studies in this section came from the work of Don Deshler and his colleagues at the University of Kansas Center for Learning; they are at present the single most active group studying Content Enhancement Routines that can be used by late-elementary, middle, and high school teachers. Currently instructional routines have been developed for (1) planning instruction; (2) exploring texts, topics, and details; (3) teaching concepts; and (4) increasing student performance. Details about instructional routines in each of these areas can be found at http://www.ku-crl.org/sim/ceroutines.html. In a real sense, some of these Content Enhancement Routines are similar to the reading comprehension strategies discussed earlier. That is, when teachers actively guide students in using the routines during class, students learn more of the content they are studying. Further, over time we might expect students to assume more responsibility for using these routines independently in a manner similar to the way that responsibility for executing comprehension strategies is gradually transferred from teachers to students. Thus, what begins as a teacher- guided learning strategy can become an information-processing habit in students who actively practice using the strategy in multiple contexts over time.

These content enhancement routines may be particularly attractive to content-area teachers because they are designed to increase learning of essential subject matter content. If they also produce a more generalized impact on reading comprehension when students work independently, they would provide a powerful means for both increasing learning of specific content and improving students' ability to learn from text.

Although improved content teaching may not be linked directly to improved literacy in the minds of many teachers, there is, as we have seen, compelling evidence that as students improve their knowledge in any specific area, their ability to comprehend text in that area improves. Thus, any recommendations for the long-term improvement of adolescent literacy must highlight the potential impact of more powerful teaching of essential content both within and across grade levels as one important way to help accomplish this goal.