SYNOPSIS OF "WRITING NEXT: EFFECTIVE STRATEGIES TO IMPROVE WRITING OF ADOLESCENTS IN MIDDLE & HIGH SCHOOLS"

INTRODUCTION

Although it has received less attention than reading, writing is a critical aspect of literacy and one in which effective instructional techniques and models for intervention are needed. Results from the most recent (2002) National Assessment of Educational Progress (NAEP) writing exam of students in 4th, 8th, and 12th grades indicate that the vast majority are not meeting educational standards for writing proficiency, with 72% of 4th graders, 69% of 8th graders, and 77% of 12th graders scoring at the Basic or Below Basic levels.

States and districts need assistance and direction based on the best available research in order to act broadly to remedy these deficits. This need for research-based guidance prompted Graham and Perin (2007) to compile a quantitative synthesis of the existing research on writing instruction, using the rigorous methodology of meta-analysis. Their results provide a foundation for selecting and implementing effective instructional methods. This synopsis of Graham and Perin's meta-analysis summarizes their findings and describes implications for practice with a particular eye toward interventions that have been shown to be effective with low-achieving students or those with learning disabilities (LD).

Graham, S., & Perin, D. (2007). *Writing next: Effective strategies to improve writing of adolescents in middle and high schools – A report to Carnegie Corporation of New York.* Washington, DC: Alliance for Excellent Education.

Also see: Graham, S., & Perin, D. (2007). A meta-analysis of writing instruction for adolescent students. *Journal of Educational Psychology, 99,* 445-476.

METHOD & RESULTS

The studies analyzed by Graham & Perin involved students in grades 4 to 12 who participated in interventions focused on improving writing skills (learning to write) or learning content-area material through writing (writing to learn). The studies, from 1964 to 2005, used an experimental or quasi-experimental design and included a reliable outcome measure of writing quality; writing-to-learn studies also included a measure of academic achievement in a content area. Studies were eliminated if data needed to calculate an effect size[1] were not present. In all, 142 studies met these criteria, producing a total of 176 effect sizes. The studies were categorized according to the instructional method used and effect sizes were combined within each category to produce a weighted average effect for each.

This sorting process yielded eleven instructional elements with a statistically significant positive effect on writing quality across multiple studies. They are listed by the magnitude of their effectiveness. Instructional effects for students with LD or who were low achieving are reported for the 25 studies that provided sufficient data. The example study listed under each element is a resource for further information about what is involved in each aspect of instruction. Readers are also referred to the *Writing Next* document, available at http://www.all4ed.org/files/WritingNext.pdf), which highlights many of these studies.

[1] An effect size quantifies the strength of the effectiveness of an intervention by calculating the magnitude of the difference between the intervention group and the comparison group. Generally, an effect of 0.20 is considered small, 0.50 moderate, and 0.80 large.

INSTRUCTIONAL ELEMENTS

1. **Writing strategies** (ES overall=0.82, n=20; ES for low achieving students=1.02, n=9). Writing strategy instruction, as defined here, refers to specific instruction in planning, revising, and editing. Strategy instruction is an explicit method that involves teaching the sequence of steps necessary to complete a larger task. It involves instruction in processes such as collaborating with peers, developing self-regulation skills, and learning aids, such as mnemonic devices, to recall the strategies taught. Teaching writing strategies appears to be especially effective with low-achieving students. See De La Paz, S., & Graham, S. (2002). Explicitly teaching strategies, skills, and knowledge: Writing instruction in middle school classrooms. *Journal of Educational Psychology, 94,* 291–304 for an example of the studies in this category.[2] It offers an example for interested readers of the methods,

[2] For each of the 11 elements, one study included in the *Writing Next* document is referenced as an example of the types of studies included. These examples simply provide a starting point for readers who wish to learn more. See *Writing Next* for a complete list of the studies included under each element.

CENTER ON INSTRUCTION

findings, and implications of research that are typical in this specific area.

2. **Summarization** (ES overall=0.82, n=4). The use of this strategy teaches students to write summaries of existing passages by explicit instruction in a summarization process and by providing models of well-written summaries for students to emulate. Just one study investigating this element involved only students with learning disabilities or low achievement. See Bean, T. W., & Steenwyk, F. L. (1984). The effect of three forms of summarization instruction on sixth graders' summary writing and comprehension. *Journal of Reading Behavior, 16,* 297–306.

3. **Collaborative writing** (ES =0.75, n=7). Studies that investigated collaborative writing placed students together to work through one or more aspects of the writing process. In some cases, a stronger writer was placed with a low-performing student. Two studies in this area involved students with learning disabilities or low achievement, making an average effect not meaningful to calculate, but effect sizes in both studies were above 1.00. See Yarrow, F., & Topping, K. J. (2001). Collaborative writing: The effects of metacognitive prompting and structured peer interaction. *British Journal of Educational Psychology, 71,* 261–282.

4. **Specific product goals** (ES overall=0.70, n=5; "similar" effect for low-achieving students, n=2). This method provides students with a particular goal to achieve with their writing project. The goal may involve identifying a purpose for the essay (such as persuading others to agree with a given perspective) and specific ways to achieve it (giving compelling examples) or it may be used in other stages of writing such as revising. Providing specific goals (such as, "give two examples to support your point of view") was found to be especially effective compared with supplying general overarching goals (such as, "write an essay to persuade someone to agree with your point of view"). Three studies implementing this strategy included students with learning disabilities or low-achieving students; effects were reported to be "similar" to the overall effect across all types of students, but an average effect for the low-achieving/LD subgroup was not reported. See Ferretti, R. P., MacArthur, C. A., & Dowdy, N. S. (2000). The effects of an elaborated goal on the persuasive writing of students with learning disabilities and their normally achieving peers. *Journal of Educational Psychology, 92,* 694–702.

5. **Word processing** (ES overall=0.55, n=18; ES=0.70, n=5 for low-achieving students). The interventions in these studies involved students' use of word processing software to complete composition-related classroom assignments. Comparison of the quality of the word-processed products with those of students who composed "by hand" suggested that the former group produced higher quality writing. The ease of manipulating text in a word processing program and the neatness of the resulting typed document appear of particular benefit to students with learning disabilities and low achievement. See Lowther, D. L., Ross, S. M., & Morrison, G. M. (2003). When each one has one: The influences on teaching strategies and student achievement of using laptops in the classroom. *Educational Technology, Research and Development, 51,* 23–44.

6. **Sentence combining** (ES=0.50, n=5). This intervention taught students to improve the quality of their writing by crafting more complex sentences. Students were taught to combine two simple sentences into one. In the one study that focused on low-achieving students,

the effect was 0.46, very similar to the overall effect. See Saddler, B., & Graham, S. (2005). The effects of peer-assisted sentence combining instruction on the writing performance of more and less skilled young writers. *Journal of Educational Psychology, 97,* 43–54.

7. **Pre-writing** (ES=0.32, n=5). Instruction in pre-writing engages students in activities such as brainstorming, gathering information, constructing outlines or depictions of ideas, and organizing thoughts and information. No studies of pre-writing focused solely on students with learning disabilities or low achievement. See Brodney, B., Reeves, C., & Kazelskis, R. (1999). Selected prewriting treatments: Effects on expository compositions written by fifth-grade students. *Journal of Experimental Education, 68,* 5–20.

8. **Inquiry activities** (ES=0.32, n=5). These activities involved students in collecting and analyzing data that would later become the content of their writing assignment. The research in this area was somewhat dated (the most recent study was published in 1986), but did demonstrate significant effects. No studies involved only students with learning disabilities or low achievement. See Hillocks, G., Jr. (1982). The interaction of instruction, teacher comment, and revision in teaching the composing process. *Research in the Teaching of English, 16,* 261–278.

9. **Process writing** (ES=0.32, n=21). This instructional method was multi-faceted. The approach involved providing students with extended time for writing; stressing the importance of keeping in mind the audience whom the writing assignment addresses; fostering discussion and interaction among students about the writing task; creating an environment that supports writing; individualizing instruction based on student needs; and encouraging students' ownership of their written work. Three studies investigated this approach with students with learning disabilities or low achievement; two showed small negative effects close to zero and one showed a strong positive effect of 0.69, indicating a lack of certainty for the effectiveness of process writing with this population of students. See Troia, G., & Graham, S. (2002). The effectiveness of a highly explicit, teacher-directed strategy instruction routine: Changing the writing performance of students with learning disabilities. *Journal of Learning Disabilities, 35,* 290–305.

10. **Study of models** (ES=0.25, n=6). In this approach, students are given an example of a well-written text that exemplifies the type of writing that they are being taught. After analyzing the model and discussing the elements that make it effective, students develop an original composition using elements of the model as a guide. No studies of this type of instruction focused on students with learning disabilities or low achievement. See Knudson, R. E. (1991). Effects of instructional strategies, grade, and sex on students' persuasive writing. *Journal of Experimental Education, 59,* 141–152.

11. **Writing for content-area learning** (ES=0.23, n=26). In these writing-to-learn studies, writing was employed to advance students' learning in an academic content area. The purpose of writing to learn is content-area mastery through the practice of writing, not necessarily advancement of writing skills. Specific instruction in writing skills was not always provided in these studies. This small but significant effect indicates that writing can help students' achievement in content areas. No writing-to-learn studies included only students with learning disabilities or low achievement. See Boscolo, P., & Mason, L. (2001). Writing to learn, writing to transfer. In G. Rijlaarsdam, P. Tynjala, L. Mason, & K. Lonka (Eds.), *Studies in Writing: Vol. 7. Writing as a Learning Tool: Integrating Theory and Practice* (pp. 83–104). The Netherlands: Kluwer Academic Publishers.

Grammar instruction was found to have a small but statistically significant negative effect on writing quality, both across all students and with only low-achieving students.

Graham and Perin point out that these 11 elements of effective instruction in writing do not represent a writing curriculum. Rather, state and district education administrators are encouraged to consider the needs of their students, discern the areas where improvement is needed, and plan writing instruction that includes these research-based elements in a way that meets students' needs. Students are likely to benefit from a mixture of a number of the elements identified in this meta-analytic summary of research. Further research on instruction that combines multiple elements and tests their effectiveness against other combinations is needed to assist in identifying how best to blend the 11 elements of effective instruction. Pending such research, educators might begin to implement the elements that showed the strongest effects. Explicit instruction in the steps for planning, revising, and editing text is highly recommended. Other elements could be tried in combination with strategy instruction, such as giving students access to computers to compose their writing or having them work collaboratively to practice implementing the strategies they have learned.

Given that the focus of this analysis is students in 4th through 12th grades, Graham and Perin encourage educators to consider the importance of both teaching students how to write well and engaging students in writing in order to teach content (learning to write and writing to learn). As with teaching reading to older students, writing at this level needs to be taught across the curriculum, with content-area teachers encouraging writing to master subject knowledge and language arts teachers instructing students in mastering writing skills and the mechanics of language. Further, Graham and Perin encourage educators to teach writing in a way that reflects the flexibility in writing skills needed in real-world contexts (such as at work or in the community).

Additional research is needed to determine how best to teach writing to students with learning disabilities or other special needs. Only 23% of the effect sizes included in this analysis were derived from this population, making the conclusions drawn here tentative at best when applied to these students. As writing increasingly becomes a focus of attention in research aimed at improving all aspects of literacy, special attention must be given to evaluating the effectiveness of instructional methods with students with disabilities.

Given that the focus of this analysis is students in 4th through 12th grades, Graham and Perin encourage educators to consider the importance of both teaching students how to write well and engaging students in writing in order to teach content (learning to write and writing to learn).

Writing Next includes a full description of each of the 11 elements, effect sizes for each intervention included in the meta-analysis, and additional technical information on how the meta-analysis was conducted. Readers interested in learning more are encouraged to read the full document at http://www.all4ed.org/files/WritingNext.pdf.

CENTER ON INSTRUCTION

This publication was created for the Center on Instruction by the Vaughn Gross Center for Reading and Language Arts at the University of Texas at Austin. The Center on Instruction is operated by RMC Research Corporation in partnership with the Florida Center for Reading Research at Florida State University; Horizon Research, Inc., RG Research Group; the Texas Institute for Measurement, Evaluation, and Statistics at the University of Houston; and the Vaughn Gross Center for Reading and Language Arts at the University of Texas at Austin.

The contents of this document were developed under cooperative agreement S283B050034 with the U.S. Department of Education. However, these contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government.

Preferred citation: Center on Instruction (2007). *A synopsis of "Writing Next: Effective Strategies to Improve Writing of Adolescents in Middle & High Schools."* Portsmouth, NH: RMC Research Corporation: Author.