ENHANCING ARGUMENTATIVE ESSAY WRITING OF FOURTH-GRADE STUDENTS WITH LEARNING DISABILITIES

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Abstract. **A within-subject pretest-posttest comparison design was used to explore the effectiveness of a planning and writing intervention in improving the argumentative writing performance of five fourth-grade students with learning disabilities. Students were taught to collaboratively plan and revise their essays and independently write their essays using procedures articulated by Wong, Butler, Ficzere, and Kuperis (1996). Results demonstrated notable increases in students' written protocols on the quantitative criteria (e.g., number of words written, prewriting and composing times). However, only three of the five students made gains related to writing clarity and cogency. Students' performance improved from "below basic" to "basic" or "proficient" levels with respect to qualitative criteria (i.e., focus, content, and organization) on the statewide writing assessment. Although transfer effects to a different writing task, person, and setting were evident for all students on the quantitative criteria, these effects were mixed on the qualitative criteria. Social validity data indicated student and teacher satisfaction with the planning/writing intervention. Implications of the study for argumentative essay writing instruction are discussed.**

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Writing is a fundamental skill that allows us to communicate with others. Today's technology-based society increasingly emphasizes the ability to write clearly, which is also a requirement in many states for students to graduate from school. Unfortunately, many students in elementary, middle, and high schools evidence difficulties in writing, a central form of discourse in school curricula. Thus, results of the most recent National Assessment of Educational Progress (NAEP) indicate that while average scores in writing increased at grades 4 and 8 from 1998 to 2002, only 28% of fourth graders, 31% of eighth graders, and 24% of twelfth graders performed at or above the "proficient" level (National Center for Education Statistics, 2004).

Students with learning disabilities (LD) especially have difficulty processing and organizing written information (Graham & Harris, 1997). As a result, these students' written products are often short, provide few details, demonstrate a lack of awareness of the audience, and indicate what they know rather than what is

required (Gleason, 1999; Gleason & Isaacson, 2001; Graham & Harris, 1989, 1997; Graham, Schwartz, & MacArthur, 1993).

Although students with disabilities have trouble with writing tasks (e.g., narrative, informative, persuasive styles) in general, they experience persistent difficulties with persuasive writing (Gleason, 1999). Unlike narrative and informational writing that describes familiar information (e.g., writing about a person who has the greatest influence on one's life) in a familiar text structure (e.g., introduction, body, and conclusion), the text structure for persuasive writing is more complex (Englert & Raphael, 1988; Gleason, 1999). For example, a persuasive essay might entail developing structured paragraphs that validate both sides of an opinion or argument, choosing a particular side, and persuading the reader to one's side (Englert & Raphael, 1988; Gleason, 1999; Wong, 1997). Specific difficulties that students with LD demonstrate when writing persuasive (argumentative or opinion) essays include writing in a narrative style, using unsupported or nonexistent evidence, disregarding an opposing view, or presenting an argument that agrees with the other side (Gleason, 1999).

Instructional recommendations to enhance the writing performance of students with disabilities include allocating more time to writing, integrating reading and writing, and exposing students to a variety of writing tasks (Graham & Harris, 1988). While these recommendations are important in creating an environment that promotes writing, explicit instruction in the genre of the writing task (e.g., persuasive) is critical to address the writing difficulties of students with LD (Gersten & Baker, 2001; Gleason, 1999; Gleason & Isaacson, 2001; Wong, 1997).

A seminal study of persuasive writing instruction conducted by Wong, Butler, Ficzere, and Kuperis (1996) taught eighth- and ninth-grade students with LD or low achievement to write opinion essays. This study is important given its focus on the argumentative text structure and the collaboration between two students in the writing process. Students in the trained condition were randomly paired for instruction and were taught to use interactive dialogues to collaboratively plan and to revise essays that they wrote individually. Results indicated that, when compared to untrained controls, the clarity and cogency of written products for the trainees improved significantly from pretest to posttest, and the gains were maintained.

In addition, a growing body of research on self-regulated instructional procedures has demonstrated improved persuasive writing performance of middle and high school students with LD (e.g., Chalk, Hagan-Burke, & Burke, 2005; Graham & Harris, 1989). These procedures have been found to be successful with both middle school and high school students with regard to improvements in length and quality of writing as well as gains in the number of functional elements (e.g., premise, reason, conclusion, elaboration) and planning time (i.e., Graham & Harris, 1989). In addition, the effects maintained over time, and generalization to a new person and stories (e.g., Graham & Harris, 1989) as well as to a different subject in a content classroom (Chalk et al., 2005) was evident.

Other studies on self-regulated instructional procedures have included explicit instruction in planning and/or dictation to examine the added value of these procedures for middle school students (e.g., 5th, 6th, and 7th grade) with LD (De La Paz, 1997; De La Paz & Graham, 1997a, 1997b). These studies demonstrated the importance of advanced planning in positively influencing the number of functional elements, length, coherence, quality of writing, and strategy usage. Further, the combination of dictation and instruction in advanced planning resulted in more complete and qualitatively better essays compared to those written by students in the comparison condition (De La Paz & Graham, 1997b). Finally, the effects for planning strategy instruction were maintained over time (De La Paz, 1997; De La Paz & Graham, 1997b).

Another extension of the research on self-regulated strategy instruction has examined the value of adding an attribution component to the writing strategy instruction (Sexton, Harris, & Graham, 1998). Results for six students with LD showed longer papers, increase in the number of reasons supporting the premise, coherently ordered text, and improvement in overall quality of persuasive essays. Further, a combination of strategy, attribution, and self-regulation components influenced student attributions. Interestingly, although strategy effects transferred across settings and teachers, maintenance data were mixed.

Argumentative text structure has also been the focus of several studies involving manipulated goals for text production, revising, or planning to improve writing (Ferretti, MacArthur, & Dowdy, 2000; Graham, MacArthur, Schwartz, & Page-Voth, 1992; Page-Voth & Graham, 1999). Setting specific goals in conjunction with self-regulated strategy instruction has shown gains in terms of overall persuasiveness and elements of argumentative discourse for students with LD. However, data regarding generalization to story writing in the Graham et al. (1992) study were inconsistent across the four participants. In addition, setting goals alone was not sufficient for fourth-grade students with LD in the Ferretti et al. (2000) study. These students evidenced difficulties in writing as reflected in essays that included fewer elements of argumentative discourse (e.g., propo-

sitions, conclusions, alternative propositions, alternative reasons, rebuttals) than those of their typically achieving peers.

In summary, the importance of explicit instruction, particularly planning, for improving the production of written text by students with LD is clear. Further, dictation may be an alternate mode of response to consider for students with LD who have handwriting difficulties (De La Paz, 1999). Also, the findings of previous research suggest that effective writing instruction for students with disabilities must focus on all aspects of writing (e.g., planning and organizing, formulating goals, drafting, editing, revising text).

The research, to date, has focused mostly on teaching argumentative writing to late-elementary and middle school (grades 5 through 9) students with LD. Because students' reading materials change from narrative to expository text during the fourth grade, it is critical that students at this grade are introduced to the new text structure (Gleason & Isaacson, 2001). In addition, the argumentative writing of young students, especially students with LD, does not conform to conventional form (McCann, 1989, cited in Ferretti et al., 2000), which makes it imperative that writing instruction research addresses this population. Also, peer collaboration was the focus of only one study (Wong et al., 1996), even though it is considered an effective approach for many students with LD (Isaacson & Gleason, 1997). Therefore, the primary purpose of the present study was to investigate the effectiveness of a writing intervention that emphasized argumentative text structure and the writing process in conjunction with collaborative planning and revising by peer dyads.

The present study extended the work of Wong et al. (1996) for several reasons. First, writing strategies in their study were not difficult objectives for classroom teachers to implement. In addition, the planning sheet employed in their study served to anchor student writing of argumentative essays and support in a sense the self-regulated writing defined by Graham and Harris (1989). Therefore, the first extension of the Wong et al. study was to implement the writing intervention with younger students. Specifically, the classroom teacher was trained to teach fourth-grade students with LD to plan, write, and edit argumentative essays. A second extension was to provide explicit instruction on all written elements of an argumentative essay (i.e., purpose, audience, introduction, structured paragraphs that included both sides of an argument, and a conclusion to persuade the reader). Similar to Wong et al., we incorporated the use of student dyads to collaboratively plan and revise essays. However, student dyads in the present study were changed after working together on two essays rather than after each essay. The rationale for this change was to increase the opportunities for students to build rapport with their peer partner. A third extension of the Wong et al. study was to include procedures designed to fade the writing scaffolds (e.g., planning sheets, peer interactions). Students with LD tend to be passive learners, who may become dependent on scaffolds. As such, it was deemed critical to program for transfer of the learned skill by fading the scaffolds and ensure that these students are able to apply the writing procedure in varied contexts (e.g., statewide testing) that do not afford these scaffolds. Finally, a fourth extension involved the use of dictating essays as in the De La Paz and Graham (1997b) study to determine whether students' writing performance improved with this alternate mode of response.

A second purpose of the study was to examine planning/writing transfer effects to a different argumentative writing task (social studies), person (social studies teacher), and setting (general education classroom). Only three studies (Graham & Harris, 1989; Graham et al., 1992; Sexton et al., 1998) were found to evaluate strategy transfer effects to a different setting (general education classroom), person (resource room and general education teachers) or task (e.g., story writing). Finally, we assessed teacher and student perceptions of the planning instruction as a measure of social validity.

A within-subjects comparison pretest-posttest design, in which participants served as their own controls, was used to examine the effectiveness of the writing intervention. In light of the limitations of this design, results from this investigation should be viewed as preliminary.

METHOD

Participants

Five students identified as having learning disabilities (LD) were selected from an initial sample of 10 fourth-grade students from a resource classroom serving approximately 15 students in an urban elementary school in the northeastern United States. Each student met the following four criteria to be included in the study. First, students were diagnosed by the school district as LD based on a full assessment and comprehensive report by a certified school psychologist indicating evidence of a severe discrepancy between achievement and intellectual ability. Second, a teacher interview indicated that the students had significant writing difficulties. Third, student performance on at least two of the five subtests on the Test of Written Language-2 (TOWL-2; Hammill & Larsen, 1988) was one or more standard deviations below the mean, indicating significant writing difficulties. Fourth, students had to be able to read at least at the second-grade level as measured by an oral reading fluency measure that assesses a child's

ability to read grade level passages fluently and accurately. This criterion ensured that participants would be able to adequately decode the written materials in the study.

Of the five participants, three were girls and two were boys. Students' mean chronological age was 122.2 months (range = 114 to 129). Participants were Caucasian, spoke English as their first language, and had IEP goals in writing. The percent of time these students spent in the resource room during a school day ranged from 20 to 60%. Although the students had significant writing difficulties, none had been previously retained in a grade. Table 1 summarizes the participating students' characteristics.

The classroom teacher, with the assistance of the first author, provided all writing instruction in the study. The teacher was a Caucasian female, who had completed her bachelor's degree in special education and had one and a half years of teaching experience at the time of the study. The first author was present for the duration of the study. Her participation included assisting the teacher in the planning phase (e.g., modeling the opposing view point) and monitoring implementation of the writing intervention.

Teacher Training

The teacher received one hour of training from the first author. Prior to the training session, the teacher was given all intervention materials (e.g., scripts, plan-

Table 1
Participant Characteristics

	S1	S2	S3	S4	S5
Age in months	117	129	114	129	122
Gender	M	F	F	F	M
Ethnicity	C	C	C	C	C
Disability	LD	LD	LD	LD	LD
Free/reduced-price lunch	No	Yes	No	No	No
IQ					
Verbal scale	95	NA	94	86	93
Performance scale	84	NA	84	61	99
WIAT (reading composite score)	81	102	91	75	71
TOWL-2					
Thematic Maturity	10	8	9	12	5[a]
Contextual Vocabulary	8	6[a]	8	4[b]	10
Syntactic Maturity	6[a]	10	6[a]	9	9
Contextual Spelling	5[a]	9	6[a]	6[a]	7[a]
Contextual Style	6[a]	7[a]	6[a]	6[a]	6[a]
Oral Reading Fluency					
Wcpm	72	90	57	65	48
Errors	6	2	6	5	4
Instructional Level	3rd	3rd	3rd	3rd	2nd

Note. C = Caucasian; LD = learning disability; NA = not available; WIAT= Wechsler Individual Achievement Test (1992); TOWL-2 = Test of Written Language - 2; [a] = 1 *SD* below the mean; [b] = 2 or more *SD* below the mean; wcpm = words correct per minute.

Figure 1. Planning sheet for argumentative writing.

Goal: (What is the question I am answering?): *To continue or discontinue making Cherry Coke*

Audience: (Who is reading this?): *Coca-Cola, my peers and teachers*

Title: *Cherry Coke Should Be Continued*

Introductory Paragraph:

Attention Getter: *Cherry Coke is the best tasting Coca-Cola*

What is my opinion: *Cherry Coke should be continued*

What am I going to talk about: *I am going to talk about why Cherry Coke should be continued and the pros and cons of the argument*

Main Idea #1 (Pro Arguments):

1. Coca-Cola makes the best tasting Cherry cola.

a. _____

b. _____

2. Cherry Coke makes a lot of money for Coca-Cola.

a. _____

b. _____

3. Cherry Coke tastes better than regular Coke.

a. _____

b. _____

Main Idea #2 (Con Arguments):

1. Cherry Coke is too sweet compared to other colas.

a. _____

b. _____

2. Cherry Coke is not available in all soda machines.

a. _____

b. _____

3. Cherry Coke is artificially flavored.

a. _____

b. _____

Concluding Paragraph:

Sum up Your Argument: *I believe that Coca-Cola should continue Cherry Coke because …*

CONVINCE ME: *Although there are a lot of sodas on the market, Cherry Coke has its own special flavor, and once you taste it you will agree that it should remain on the shelves.*

ning sheets), and the first author reviewed the instructional procedures by modeling a sample lesson for each phase of the writing instruction (e.g., planning/writing, editing/revising). This lesson also served as the first lesson modeled by the teacher. The teacher then practiced applying the instructional procedures, with specific feedback from the first author. In addition, the first author provided further training (e.g., generating attention-getting statements) as needed during the intervention.

Instructional Procedures

Instruction for planning, writing, editing, and revising argumentative essays incorporated the procedures articulated by Wong et al. (1996). All instruction was scripted and occurred during the students' regularly scheduled language arts period in the resource classroom. Instruction included three 45-min sessions a week for six weeks followed by two 45-min sessions a week for two weeks to fade instruction. Students completed one argumentative essay each week for a total of eight argumentative essays.

Instructional procedures included the teacher modeling planning/writing, students working in pairs to plan and revise essays, and independent student practice in writing essays. The teacher paired students for partner work. Given the uneven number of participants (5), one student worked with the teacher. Student pairs were switched every two essays until the fading procedures were implemented. The teacher closely monitored student performance during partner work. Students received feedback from the teacher or their peer partner when planning and revising essays. However, they completed the writing tasks without any assistance.

The first instructional session began with the teacher discussing the rationale and importance of argumentative writing. Next, she presented a sample of a well-written argumentative essay using an overhead projector. Essential components of the sample essay (e.g., introductory paragraph, supporting paragraphs, conclusion) were identified and discussed. In addition, the teacher presented an example of an essay that did not meet acceptable criteria. Students were taught to identify and correct critical elements in the essays. Following the modeling of positive and negative examples of essays, the teacher and students brainstormed to identify several topics for argumentative essay writing.

Planning and writing phase. During this phase, the teacher modeled the planning process for argumentative writing. Instruction emphasized that argumentative writing consists of two points of view and that it is important to present a strong argument for a particular point of view in an attempt to persuade the reader. At the same time, students were directed to consider both points of view. Instruction began with the teacher presenting the following argumentative essay prompt: "You have just been informed that Coca-Cola is thinking about discontinuing Cherry Coke. Write to persuade Coca-Cola to either continue or discontinue making Cherry Coke." Next, she used a think-aloud procedure to describe the writing process. For example, the teacher took the position of continuing Cherry Coke and supported her viewpoint by thinking aloud her reasons. To illustrate the opposing view, the first author presented her viewpoint for discontinuing Cherry Coke and discussed reasons to support her argument. The teacher then listed both sides of the argument on the planning sheet (see Figure 1). She emphasized that even though she had carefully considered both sides of the argument, she strongly believed that Cherry Coke should be continued. Next, she modeled writing how to persuade Coca-Cola to continue making Cherry Coke. The teacher drafted her essay by using the information from the planning sheet. For example, she began her introductory paragraph with an attention-getting statement and her viewpoint about the topic and also provided a context for her essay (see Figure 1). Next, she presented the arguments and counterarguments on the topic. Finally, she summed up her essay by persuading the reader towards her viewpoint.

Students were reminded that additional planning is necessary prior to writing the essay. The teacher emphasized that the more students plan, the more information they have to write. After the teacher modeled the planning process for writing, students worked in pairs to complete their first argumentative essay. Students selected a topic using the list of topics that the teacher and students had generated earlier. Prior to working with their peer partner, each student generated two to three arguments independently to support their viewpoint on the topic. During paired learning, each student was taught to ask the peer partner for additional information to clarify any of the arguments generated and share his/her arguments to support the opposing viewpoint. Students either wrote down arguments for the other viewpoint as generated by their peer partner or wrote their own counterarguments. Following the discussion, students independently completed the remainder of the planning sheet. Next, each student solicited information from the peer partner that might be added to the planning sheet. Finally, the teacher reviewed students' planning sheets and provided feedback as needed, which the students used to complete writing their essays. Feedback included assistance in completing the planning sheet (introductory paragraph, main ideas, and concluding paragraph), editing students' pro-and-con arguments to ensure clarity and persuasiveness of ideas, and correcting spelling and punctuation.

Following the planning phase, students wrote their essays on paper by transcribing the information on the planning sheet. The teacher taught students to begin their essays with an introductory paragraph followed by a paragraph that describes the arguments and counterarguments and a closing paragraph. She discussed how to complete each paragraph using the completed planning sheet. For example, she completed the introductory paragraph by starting with the attention-getting statement followed by her opinion (e.g., I think ...) and a statement to alert the reader about the text to follow.

Editing and revising phase. During this phase, students learned to edit written essays. The teacher first modeled this process by identifying and editing all written errors in a sample essay using the COPS (capitalization, overall appearance, punctuation, and spelling) strategy checklist (Alley, 1988). She then monitored students' performance as they applied the COPS strategy to edit their essays. Next, students gave their essays to the peer partner, who further proofed and edited it using the checklist. Peer editing was followed by the teacher (a) editing students' essays for the mechanics of writing or (b) identifying other areas (e.g., quality of writing) needing revision. During the individual teacher-student conferences, the teacher asked students to further clarify their written ideas (e.g., Can you tell me more about this topic/argument?). In addition, the teacher suggested alternate, more persuasive arguments that might be considered. However, given these students' significant writing deficits, the teacher spent a relatively large portion of the time editing the mechanics of writing (e.g., paragraph writing, spelling, punctuation). Students then made the necessary changes to complete their essays and submitted the final draft as well as the planning and editing sheets.

Fading of instruction. Fading procedures included students completing an essay in two days rather than three days as during instruction. During the first week of fading, students were allowed to use their planning and editing sheets to write their essays. They also received partial teacher assistance (e.g., spelling, organization of paragraphs), but did not receive peer feedback. In the second week of fading, students independently completed their essays without the aid of planning or editing sheets. However, they were allowed to ask the teacher for assistance (e.g., spelling, organization of paragraphs) as needed.

Measures

Writing essay probes. Students individually completed essay writing probes that were administered at pretest and posttest. Pretest and posttest probe topics for written and dictated essays were derived from writing prompts used in the Pennsylvania System of School Assessment (PSSA) for writing (Pennsylvania Department of Education, 1992). An example prompt is: "You have just learned that M&M's would like to add dark purple as their new candy color. Write to persuade M&M's to add or not add this new candy color."

In addition, an argumentative writing probe that included a social studies topic was administered at posttest to measure planning/writing transfer effects. The first author and the social studies teacher collaboratively developed the following writing prompt based on content recently taught: "You have just learned that the parents of one of your friends are thinking about moving to a state in the southeast region. Pick a state that you would like to write about. Then, write to persuade the parents to either move or not to move to this state."

When administering the writing probes, the teacher read the argumentative essay topic and asked students to state their opinion about the topic and write or dictate an essay. For written essay, students were provided with the prompt sheet presented on a lined paper, a piece of scrap paper for planning notes, and pencils. Dictated student responses to essay prompts were collected the day following the written essay. For the dictated essays, students were given pencils and scrap paper for planning notes. Students were in-structed that they had 45 minutes to plan and write or dictate their essays. Student responses for dictated essays were audiotaped and later transcribed. The teacher did not provide any assistance (e.g., spelling) or offer feedback on the content or quality of the written or dictated essays.

Planning/writing intervention satisfaction. To assess student and teacher perceptions of the writing intervention, students and the teacher in the study completed planning/writing satisfaction questionnaires following the intervention. They were asked to respond to eight items on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Items were scored on acceptability of the intervention (e.g., planning, peer planning, peer editing/revising) and intervention effectiveness (e.g., writing improved, more confident writer, more motivated to write). In addition, participants were asked to respond if they would continue to use the intervention and share it with others. Also, an open-ended question was used to gather additional information about the planning/writing intervention.

Scoring Procedures

Students' written and oral argumentative essays were scored using both quantitative and qualitative scoring criteria.

Table 2
PSSA Quality Index

	FOCUS	CONTENT	ORGANIZATION	STYLE	CONVENTIONS
	The single controlling point made with an awareness of task (mode) about a specific topic.	*The presence of ideas developed through facts, examples, anecdotes, details, opinions, statistics, reasons and/or explanations.*	*The order developed and sustained within and across paragraphs using transitional devices, including introduction and conclusion.*	*The choice, use and arrangement of words and sentences that create tone and voice.*	*The use of grammar, mechanics, spelling, usage and sentence formation.*
4	Sharp, distinct controlling point made about a single topic with evident awareness of task (mode)	Substantial, specific and/or illustrative content demonstrating strong development and sophisticated ideas	Sophisticated arrangement of content with evident and/or subtle transitions	Precise, illustrative use of a variety of words and sentence structures to create consistent writer's voice and tone appropriate to audience	Evident control of grammar, mechanics, spelling, usage and sentence formation
3	Apparent point made about a single topic with sufficient awareness of task (mode)	Sufficiently developed content with adequate elaboration or explanation	Functional arrangement of content that sustains a logical order with some evidence of transitions	Generic use of a variety of words and sentence structures that may or may not create writer's voice and tone appropriate to audience	Sufficient control of grammar, mechanics, spelling, usage and sentence formation
2	No apparent point but evidence of a specific topic	Limited content with inadequate elaboration or explanation	Confused or inconsistent arrangement of content with or without attempts at transition	Limited word choice and control of sentence structures that inhibit voice and tone	Limited control of grammar, mechanics, spelling, usage and sentence formation
1	Minimal evidence of a topic	Superficial and/or minimal content	Minimal control of content arrangement	Minimal variety in word choice and minimal control of sentence structures	Minimal control of grammar, mechanics, spelling, usage and sentence formation

	NONSCORABLE	OFF-PROMPT
0	• Is illegible (includes so many indecipherable words that no sense can be made of the response) • Is incoherent (words are legible but syntax is so garbled that response makes no sense) • Is insufficient (does not include enough to assess domains adequately) • Is a blank paper	• Is readable but did not respond to prompt

Quantitative Scoring

Number of words. Written and dictated essays were scored for the number of words included. When calculating the total number of words for written essays, words that were incorrectly spelled but closely approximated the actual spelling of recognized words were included in the tally.

Planning time. This was defined as the time following the end of the teacher's directions to the beginning of the student writing on the writing prompt sheet or dictating the essay. For example, planning time ended once the student stopped writing on the scrap paper and began to write on the prompt sheet or dictated the essay. To observe planning time for written essays, students were directed to raise their hands when they had completed planning their essays. The first author recorded the beginning of planning time, and the teacher or first author recorded the end of planning time on each student's prompt sheet as they completed planning by show of raised hands. This time also served as the beginning of composing time for the student.

Composing time. This referred to the time the student began to write on the prompt sheet or dictate the essay until the completion of the essay. To observe composing time for written essays, students were directed to immediately turn in their completed essays to the teacher or first author, who then recorded the time on each student's prompt sheet.

Qualitative Scoring

PSSA quality index. Each essay was scored using the PSSA quality scoring index of writing, which emphasizes five dimensions of effective writing—focus, content, organization, style, and conventions. Writing competence on each dimension was scored separately using a Likert scale, with scores ranging from a high of 4 to a low score of 0 (see Table 2). Scores 4, 3, 2, and 1 characterized writing to be at an advanced, proficient, basic, or below basic level, respectively. An essay was judged to be nonscorable and received a score of 0 when the paper was blank, or when writing was illegible, incoherent, insufficient, or off prompt.

Clarity and cogency. Essay quality also was scored on both clarity and cogency. Both dimensions were scored on a scale ranging from 1 to 5 using the procedures described by Wong et al. (1996) (see Table 3).

Interscorer Reliability

The first author scored all probes, and a graduate stu-

Table 3
Scoring Criteria for Clarity and Cogency

Clarity	Cogency
1. Ideas are unclear; needs elaboration to be understood.	1. Ideas/arguments for the two viewpoints are not discussed or poorly developed (e.g., out of sequence), illogical, or unconvincing.
2. Ideas are clear (i.e., focused on a topic), but elaboration of ideas is lacking.	2. Ideas/arguments include two viewpoints; some inconsistencies with ideas/arguments; arguments are stated but are unconvincing.
3. Ideas are clear and focused; elaborations are made but are minimal.	3. Ideas/arguments for the two viewpoints are apparent, logical, but are minimally persuasiveness.
4. Ideas are complete and understandable; elaborations are provided, but include some inconsistencies.	4. Ideas/arguments for the two viewpoints are well considered, logically developed and persuasive, but some inconsistencies noted.
5. Ideas are complete, understandable, and clear throughout.	5. Ideas/arguments for the two viewpoints are well considered, nicely or logically developed, sound, and persuasive.

dent in special education who was naive to the study independently scored 40% of the essays. Interscorer reliability was calculated by dividing the number of agreements by the number of agreements and disagreements and multiplying by 100. While reliability for number of words, planning time, and composing time was 100% for both written and dictated essays, the mean reliability for quality of written and dictated essays was 86% (range = 40% to 100%). One plausible explanation for the low reliability score of 40% was a discrepancy between the first author and the graduate assistant in determining "scorable" essays. This issue was resolved through discussion.

Fidelity of Treatment

Instructional lessons were scripted, and a checklist based on the features of the planning/writing instruction (e.g., rationale and purpose for argumentative writing, review of previous lesson, overview of the current lesson, modeling of the planning/writing procedures, use of partners to plan and revise essays, independent writing practice, corrective feedback) was developed to measure fidelity of treatment. The first author collected fidelity of treatment data as she observed the classroom teacher for 40% of the instructional sessions. Fidelity of treatment, which was calculated as the percentage of instructional steps completed correctly by the classroom teacher divided by the total number of instructional steps multiplied by 100, was 95% (range = 89 to 100%).

RESULTS

Results demonstrated improvements in students' written and oral protocols from pretest to posttest on all measures (number of words, planning and composing times, essay quality). In addition, planning/writing intervention transfer effects were seen. Tables 4 and 5 show the pretest, posttest, and generalization test scores for written and dictated essays, respectively.

Quantitative Measures

Number of words. Results demonstrated notable increases in the number of words used from the pretest (*M*=39.20; *SD*=22.21) to posttest (*M*=141.60; *SD*=43.84) for all five students on their written essays. At pretest, four students produced very few words (range = 23 to 34) on the written probe. All students more than tripled the number of words on the written protocols at posttest (range = 92 to 224) when compared to their pretest performance. On the generalization test, the mean number of words (*M*=115.80; *SD*=72.22) was substantial. Two students (S2 and S4) wrote more words on the generalization test than on the pretest and posttest. Interestingly, the number of words generated for dictated essays (range = 33 to 133) was higher than those for written essays (range = 23 to 83) at pretest. However, students' dictated essays also showed a substantial improvement in number of words from pretest (*M*=72.80; *SD*=34.42) to posttest (*M*=141.40; *SD*=78.88).

Planning time. Overall, students' planning time on their written essays increased from pretest (*M*=2.34; *SD*=1.53) to posttest (*M*=8.53; *SD*=2.50). At pretest, S4 and S5 spent less than one minute (0.45 and 0.35 min, respectively) planning their written essays. Following instruction, all students spent considerably more time planning their written essays (range = 5.05 to 11.51) when compared to the pretest (range = 0.35 to 4.20). In fact, two students (S1 and S2) spent over 10 min (10.18 and 11.51, respectively) on the posttest. Similar effects for planning were seen on the generalization test (range = 6.14 to 16.08). It is encouraging that two students (S4 and S5), who had spent less than one minute planning their essays at pretest, took 9.56 and 6.14 minutes, respectively, on the generalization test.

In contrast to the positive findings for written essays, students' planning time on dictated essays increased marginally from pretest (*M*=0.02; *SD*=0.49) to posttest (*M*=0.13; S*SD*=0.20). At pretest, all students spent less than two seconds planning their essays (range = 0.01 to 0.02). Following instruction, one student (S4) planned for about a minute, whereas the remaining students spent less than six seconds (range = 0.01 to 0.06).

Composing time. Results on written essays showed large increases from pretest (*M*=6.04; *SD*=2.38) to posttest (*M*=25.08; *SD*=0.55) for composing time. At pretest, four of the five students (S1, S3, S4, and S5) spent over six minutes composing their written essays (range = 2.40 to 8.20). Following instruction, all students on average spent about 24 min (range = 23.28 to 26.11) to write their essays. S2 demonstrated the greatest gain by writing for more than 23 minutes, which was 20 minutes more than her pretest performance. Similar effects were found for all students on the generalization test, with a mean of 18.10 min (*SD*=5.06). While one student (S4) spent over 26 minutes, the mean composing time for the remaining four students was about 16 minutes (range = 13.18 to 19.15).

The data for dictated essays also indicate that all students improved from pretest (*M*=0.46; *SD*=0.21) to posttest (*M*=3.47; *SD*=3.00) in composing their essays. However, the gains were not as large as those for written essays. At pretest, four students (S1, S2, S3, and S5) on average took less than one minute (range = 0.26 to 1.25) to compose their essays. Following instruction, S4 took 8.45 minutes to compose her essay, whereas three students (S1, S2, and S3) spent less than two minutes.

Qualitative Measures

PSSA quality index. As shown in Table 4, students' written essays demonstrated improvement from pretest

Table 4

Pretest, Posttest, and Generalization Scores on Essay Writing Measures for Students With Learning Disabilities

	Student					
Measure	**S1**	**S2**	**S3**	**S4**	**S5**	**Mean (*SD*)**
Quantitative						
Number of Words						
Pretest	23	26	34	83	30	39.20 (22.21)
Posttest	132	92	130	224	130	141.60 (43.84)
Generalization	89	116	56	254	64	115.80 (72.22)
Planning Time (min.)						
Pretest	2.12	3.5	4.2	0.45	0.35	2.34 (1.53)
Posttest	11.51	10.18	6.17	9.09	5.05	8.53 (2.50)
Generalization	16.08	10.33	7.38	9.56	6.14	10.08 (3.40)
Composing Time (min.)						
Pretest	7.3	2.4	6.15	8.2	7.15	6.04 (2.38)
Posttest	25.15	23.28	25.42	24.52	26.11	25.08 (0.55)
Generalization	19.15	16.18	15.04	26.36	13.18	18.10 (5.06)
Qualitative						
PSSA Index						
Pretest						
Focus	0	0	0	0	0	0.00 (0.00)
Content	0	0	0	0	0	0.00 (0.00)
Organization	0	0	0	0	0	0.00 (0.00)
Style	0	0	0	0	0	0.00 (0.00)
Conventions	0	0	0	0	0	0.00 (0.00)
Posttest						
Focus	3	2	3	2	3	2.60 (0.49)
Content	2	2	2	2	2	2.00 (0.00)
Organization	3	2	3	2	3	2.60 (0.49)
Style	2	2	2	1	2	1.80 (0.40)
Conventions	2	1	2	1	2	1.60 (0.49)
Generalization						
Focus	3	2	1	2	2	2.00 (0.63)
Content	2	2	1	2	1	1.60 (0.49)
Organization	3	1	1	2	1	1.60 (0.80)
Style	2	1	1	2	1	1.40 (0.49)
Conventions	1	1	1	1	1	1.00 (0.00)
Clarity						
Pretest	1	1	1	1	1	0.00 (0.00)
Posttest	3	2	3	2	3	2.60 (0.49)
Generalization	2	2	1	3	1	1.80 (0.75)
Cogency						
Pretest	1	1	1	1	1	0.00 (0.00)
Posttest	3	2	3	2	3	2.60 (0.49)
Generalization	2	1	1	2	1	1.40 (0.49)

Table 5
Pretest and Posttest Scores on Dictated Essays for Students With Learning Disabilities

	Student					
Measure	**S1**	**S2**	**S3**	**S4**	**S5**	**Mean (*SD*)**
Quantitative						
Number of Words						
Pretest	33	49	83	133	66	72.80 (34.42)
Posttest	61	97	90	277	182	141.40 (78.88)
Planning Time (min.)						
Pretest	0.02	0.01	0.02	0.02	0.01	0.02 (0.49)
Posttest	0.01	0.02	0.03	0.53	0.06	0.13 (0.20)
Composing Time (min.)						
Pretest	0.26	0.28	0.42	1.25	0.51	0.46 (0.21)
Posttest	1.08	0.55	1.4	8.45	4.52	3.47 (3.00)
Qualitative						
PSSA Index						
Pretest						
Focus	0.00	0.00	1.00	1.00	0.00	0.40 (0.49)
Content	0.00	0.00	1.00	1.00	0.00	0.00 (0.00)
Organization	0.00	0.00	1.00	1.00	0.00	0.00 (0.00)
Style	0.00	0.00	1.00	1.00	0.00	0.00 (0.00)
Conventions	0.00	0.00	1.00	1.00	0.00	0.00 (0.00)
Posttest						
Focus	2.00	1.00	2.00	2.00	3.00	2.60 (0.49)
Content	1.00	1.00	2.00	2.00	2.00	1.60 (0.49)
Organization	1.00	1.00	2.00	2.00	2.00	1.60 (0.49)
Style	2.00	1.00	2.00	2.00	2.00	1.80 (0.40)
Conventions	1.00	1.00	1.00	1.00	1.00	1.00 (0.00)
Clarity						
Pretest	1.00	1.00	1.00	1.00	1.00	1.00 (0.00)
Posttest	2.00	1.00	2.00	2.00	3.00	2.00 (0.63)
Cogency						
Pretest	1.00	1.00	1.00	1.00	1.00	1.00 (0.00)
Posttest	1.00	1.00	1.00	2.00	2.00	1.40 (0.49)

to posttest on all dimensions of the PSSA quality index. However, the gains made on style and conventions were comparatively less pronounced than those on focus, organization, and content. At pretest, students scored at a "below basic" level on all writing dimensions and produced written essays that were insufficient and/or incoherent. Specifically, essays were relatively short with little or no awareness of the topic, the audience, overall organization, or the genre of writing. Following instruction, three students (S1, S3, and S5) made considerable gains on both focus and organization and scored at the "proficient" level. These students produced well-organized, persuasive essays with some elaboration that delineated both voice and tone (e.g., "Get the new dark purple M&M it will be the best M&M you ever had."). On the remaining three dimensions (content, style, and conventions), their performance was at the "basic" level. These students' essays did not show evidence of

consistently adhering to conventions of writing (e.g., spelling, sentence formation, grammar), which, in turn, affected their writing style (e.g., word choice). In contrast, the remaining two students (S2, S4) scored at the "basic" level on focus, content, and organization, and "below basic" on writing conventions.

On the generalization measure, none of the students made gains on conventions. Performance on the other dimensions was mixed, with only one student (S1) scoring at the proficient level on both focus and organization. However, he scored at the basic level on content and style and below basic on writing conventions. In contrast, S3 scored below basic on all five dimensions. An examination of the remaining three students' scores indicated performance ranging from a "basic" to a "below basic" level. In general, these students' essays indicated minimal evidence of the topic, content, organization, style, and conventions.

On dictated essays, the quality of pretest-to-posttest improvement was less pronounced than that for written essays. None of the students showed improvement on writing conventions. S5 demonstrated the greatest improvement, and scored at the "proficient" level with regard to writing focus and improved from a score of 0 to 2 (basic) on the qualitative writing dimensions. S2's posttest performance was below basic on the five writing dimensions. While two students' (S3, S4) scores improved to the "basic" level on the qualitative writing dimensions, S1's scores improved to the "basic" level only on focus and style.

Clarity and cogency. Table 4 indicates that at pretest all students' written essays were unclear, unsound, unconvincing, and poorly developed (*M*=1.00). For example, S1 wrote the following:

> "I thing they shod so they get more then what you nomlly get. And so peopl have more fun. They wold taste diffent."

After instruction, three students (S1, S3, and S5) scored a 3 for both clarity and cogency, indicating written essays that were clear and focused and also included arguments that supported two points of view in a logical manner. However, their essays were minimally persuasive. For example, S1 wrote the following:

> "Get the new dark purple M&M it will be the best M&M you ever had. I am going to talk about the dark purple M&M. I think they shold make the new M&M.
>
> I think that they shold make it because they will make more mony. They shold make it because there will be more in a pake. They shold make it because it will make kids have to find it.
>
> Some others might think they shold not make it because it will rot your teeth. They wold not want it because they just add die. Pareints wondet waont their kids haveing them.
>
> Plese make the M&M it will be very good. Think about it plese. I will buy it every time I go to the stor. You will get more mony."

The other students (S2 and S4) scored a 2 for both clarity and cogency, indicating slight improvement from their pretest scores of 1. Their written essays were clear and focused on a topic that included two points of view, but their arguments were not elaborated. Also, arguments generated were illogical, unconvincing, and poorly developed. For example, S2 wrote the following:

> "I think they should come out with the new M&M's, so people can try them and see if they like them or test them."
>
> "Some people think they should come out with the purples M&M because they might like purple for their favorite color of something."
>
> "I think you should not try the M&M's because it might be nasty or it might get you sick. So what ever you do don't try them."
>
> "Some people think you should try them because you might use it or not because you might like it."

Generalization test scores for clarity and cogency were low (range = 1 to 3) for all students. Interestingly, although S4 scored a 3 on clarity, indicating clear and focused writing, her writing revealed minimal elaborations. In contrast, two students' (S3 and S5) written essays did not demonstrate both clarity and cogency.

Similar to their written essays, all students' dictated essays at pretest were unclear, unsound, unconvincing, and poorly developed (*M*=1.00). Following instruction, only one student (S5) scored a 3, indicating an essay that was clear and focused and included two points of view. However, S5 scored a 2 for cogency, because some inconsistencies (e.g., out of sequence, illogical, unconvincing) were evident in his arguments. Two students (S1 and S3) provided ideas that were focused, but did not include elaborations. These students' viewpoints were not discussed and were poorly developed. An examination of the cogency data for S4 and S5 revealed arguments that included two points of view. However, their arguments were illogical, unsound, or unconvincing. Interestingly, clarity and cogency scores for S2 remained unchanged from the pretest to posttest.

Planning/Writing Intervention Questionnaire

All students liked the intervention with respect to planning (*M*=5.00), peer planning (*M*=4.80; *SD*=0.40), and peer editing/revising (*M*=5.00). Students expressed that their writing had improved (*M*=4.80; *SD*=0.40), the planning procedure helped them to become more con-

fident writers (*M*=5.00), and they were more motivated to learn about argumentative writing than before (*M*=5.00). Also, students indicated that they would use the planning/writing in other classrooms (*M*=5.00) and share it with others (*M*=5.00). On the open-ended question, S2 and S5 noted the following: "I'd like the other people to learn this more too," "Yes, it will help other kids."

The teacher rated all items on the questionnaire a score of 5, with the exception of one item (i.e., "Students were motivated to learn argumentative writing."), which received a rating of 4. The teacher reported that her students' writing improved and that her students perceived themselves as more confident writers following the intervention. In addition, the teacher expressed that she liked the intervention materials (e.g., planning and editing sheets) as well as the peer planning and editing/revising sessions and that she would incorporate them in her writing instruction.

DISCUSSION

Although the results of this exploratory study are encouraging, the nature of the within-subject comparison design warrants caution in interpreting the findings. The primary purpose of this study was to provide an in-depth analysis of the effectiveness of planning/writing instruction on the argumentative writing performance of five fourth-grade students with LD.

Results indicated that when students with LD received writing instruction that incorporated key instructional components (e.g., purpose, audience, pros and cons of an argument), coupled with explicit planning instruction (e.g., teacher think-aloud) on the written text structure (e.g., introduction, body paragraphs, and conclusion), their text production and quality improved from pretest to posttest. These findings support previous research on persuasive writing instruction for students with disabilities (De La Paz, 1997; De La Paz & Graham, 1997a, 1997b; Ferretti et al., 2000; Graham & Harris, 1989; Graham et al., 1992; Page-Voth & Graham, 1999; Wong et al., 1996). The planning/writing instruction not only led to increases in number of words, planning and composing times, but also improvements in essay quality. On average, students' performance showed a substantial increase of 102 words from pretest to posttest. Further, planning and composing times increased by 6.19 min and 19.04 min, respectively. These scores indicate that all students spent more time planning and composing their posttest essays. Evidently, the intervention, with its focus on planning, impacted outcomes directly related to it (e.g., more time planning).

On the PSSA quality index, which is the primary assessment measure used by school districts within the Commonwealth of Pennsylvania, students' writing performance increased from a "below basic" level to "basic" or "proficient" levels with respect to the qualitative dimensions of writing, such as focus (e.g., awareness of the genre of writing), content (e.g., ideas, elaborations), and organization (content arrangement). Prior to the intervention, student essays were incoherent/insufficient (i.e., nonscorable), whereas they were clear and focused on a topic and included arguments that included two points of view following the intervention. However, similar gains were not seen for writing style (e.g., voice, tone) and use of conventions (e.g., grammar, sentence formation). This is not surprising given that students with LD have consistent problems with conventions, which in turn affect their writing style (Graham, 1990). It seemed that the students in this study maximized their time to plan and compose essays to produce essays that were of better quality, as indicated by the quality indicators (e.g., focus, organization) on the PSSA.

Regarding the qualitative criteria of clarity and cogency, although three students' (S1, S3, S5) scores improved from a score of 1 at pretest to 3 at posttest, improvement scores for two students (S2, S4) were marginal. One plausible explanation is that these students did not have sufficient background knowledge or experience with some of the topics. For example, although students selected a local amusement park as one of the writing topics, they never had the opportunity to go to the park. All of their information about the park was based solely on TV advertisements.

An examination of students' writing performance across time indicated that it was not until the sixth essay prior to fading of the planning sheets that any meaningful improvements in the quality of students' writing were evident. Based on these findings, it appears important to provide more attention to the qualitative aspects of writing during the revision phase and set a training criterion for quality of writing. In addition, helping students monitor the extent to which their writing met the larger qualitative criteria for argumentative essays (e.g., presenting two sides of the argument, being persuasive) is important if we are to promote self-regulated writing, an important element of instruction.

Results for students' dictated essays were mixed compared to their written essay performance. Although student performance increased considerably from pretest to posttest in number of words, only one student (S5) showed meaningful gains on both the PSSA qualitative criteria and clarity of writing. In addition, all students spent less than a minute planning, and three students (S1, S2, and S3) spent less than two minutes composing their posttest essays. It is interesting to note that two students (S3 and S4) indicated at posttest that it was

more difficult to dictate an essay. Several students experienced this difficulty, which may explain their lower posttest scores on the qualitative measures. Thus, although De La Paz and Graham (1997b) noted positive effects for dictated essays, findings from our study do not support the notion that an oral response mode is an effective alternative to written responses for fourth-grade students with LD (Gersten, Baker, Smith-Johnson, Peterson, & Dimino, cited in Scanlon, Boudah, Elksnin, Gersten, & Klinger, 2003).

Another purpose of this study was to examine writing transfer effects. Similar to previous research (Graham & Harris, 1989; Graham et al., 1992), results of this study indicate that students' performance showed transfer effects in terms of number of words written as well as planning and composing time to a new context in the content area classroom with the social studies teacher. However, transfer effects for quality of writing were mixed. Although the generalization prompt was based on the content covered in the social studies class, the lack of criterion-level training on the quality dimensions assessed may explain the poor effects for generalization. Interestingly, the transfer task involved a more difficult type of writing task (e.g., persuasive content area writing) than the story writing tasks investigated in previous research (Graham & Harris, 1989; Graham et al., 1992; Sexton et al., 1998).

The positive evaluation of the planning/writing instruction by students and the special education teacher in the study seemed to contribute to improved performance as in previous investigations (e.g., De La Paz, 1997a; Graham & Harris, 1989; Graham et al., 1992). Specifically, the teacher and students indicated that they liked the planning instruction, that writing performance improved, and that they were willing to continue using the writing procedure. It is encouraging that several students indicated that the intervention facilitated essay writing. One student stated, "I know what I need to do now. It [argumentative writing] is a lot easier to do." A few students asked the teacher whether she would continue with the writing practice, because they argued, favoring further practice, that, "we need to make sure that we do well on our PSSA." As noted by Wood, Frank, and Wacker (1998), "Student preference is an important factor, because students are not as likely to exhibit effort over time with strategies that they do not like or do not feel are helpful" (p. 336). At the same time, the positive ratings on the planning/writing intervention questionnaire may be a function of the design of the instrument that did not provide opportunities for negative perceptions (e.g., What changes would you recommend if I were to implement this writing instruction in the future?), which should be considered in future research.

It must be noted that this study was exploratory in nature, and that the results must be interpreted in light of several limitations. First, the lack of a control group threatens the internal validity of the conclusions. This problem could not be circumvented, because school personnel were reluctant to include participants who did not receive the treatment. Second, the sample size was small, which precluded conducting statistical analyses. Third, the study focused on fourth-grade students with LD, who had minimal opportunity to interact with expository text prior to this study. Even though teaching argumentative writing at this grade level is important, students may need to have more time to acquaint themselves with the new materials if we are to see further gains in writing.

A fourth limitation is that the classroom teacher who implemented the study had minimal teaching experience. At the time of the study, she was in the second year of teaching and needed substantial coaching to implement the writing instruction. Fifth, the eight-week duration of the intervention may not be sufficient for some students with LD who need more intensive instruction to be successful. Sixth, we did not assess for maintenance of planning/writing effects given the constraints of the teacher having to complete other areas of the school curriculum as mandated by the school district.

Implications for Practice

Despite the limitations, the findings of this study suggest several implications for practice. First, students' argumentative writing skills improved over a short period (i.e., 8 weeks) of time, suggesting the feasibility of the planning/writing intervention for students as young as fourth graders. Further, our findings suggest that students can work effectively in dyads and benefit from the planning/writing intervention following teacher mediation instruction. However, it appears that for students to be able to engage profitably in the interactive dialogues in revision, they need to be cognitively mature, as in the Wong et al. (1996) study. Therefore, teacher-directed instruction for fourth-grade students with significant cognitive deficits may be particularly important to enhance their argumentative writing.

Another implication of the study is that while initial teacher preparation for writing instruction is required, the three lesson plans developed for use in this study may be used with other topics involving the argumentative text framework. It may be the case that teachers are likely to sustain a relatively simple and generalizable writing instruction such as the one used in this study (Schumm & Vaughn, 1991). In fact, other teachers in the school district have indicated an interest in the intervention based on the writing success of stu-

dents in this study. In summary, providing explicit writing instruction appears to enhance the argumentative writing performance of elementary school students with LD.

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