Essay-Writing Interventions for Adolescents with High Incidence Disabilities:
A Review of Research

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Abstract ━━━

Many students with disabilities have written language production deficits. As a result, these students are failing to meet the demands of government-initiated standards, higher education, and employment. In this review, quantitative experimental intervention studies for improving persuasive, narrative, and expository compositions for adolescents, $6^{th} – 12^{th}$ grade, with high incidence disabilities in the United States are evaluated. The review focuses on standard-based essay writing, specifically U.S. Common Core State Standards (CCSS, 2013). Twenty-six single subject and group studies were reviewed. Effect sizes for group designs and percentage of non-overlapping data (PND) for single-case designs were provided to enable standardized assessment of intervention strength. Quality indicators were used to evaluate strength of designs. Results indicate Self-Regulated Strategy Development and the Strategic Instruction Model as promising intervention approaches for facilitating essay-writing skills for adolescents with high-incidence disabilities. Further intervention research is needed, specifically in relation to CCSS, and to identify methods for supporting maintenance and generalization skills across content-area curricula.

Academic intervention research often reflects classroom curriculum demands. Initiatives, such as the Common Core State Standards Initiative (CCSS, 2013) in the United States (U.S.) and Common European Framework of Reference for Languages (Council of Europe, 2001), mandate that individuals master narrative, persuasive, and expository essay writing across writing tasks. In these contexts, students are also expected to demonstrate skilled keyboarding for the production and publication of written compositions. In the U.S.,

specifically, students are required to begin generalizing essay-writing skills across all genres in all academic content areas by the onset of sixth grade. Thus, it is crucial that teachers understand the skills students need for essay writing and have instructional methods for addressing standards and benchmarks.

Several benefits of the initiatives for writing standards have been identified. Graham and Harris (2013), for example, note that CCSS (2013) writing reforms may result in increased emphasis for writing performance improvement. Increased emphasis for writing performance could positively influence reading comprehension, subject-matter knowledge, and network-communication skills such as email, text, blogs, and social media. In addition, CCSS benchmarks provide a clear understanding of what is needed for writing proficiency and help educators better identify appropriate grade-level skills. Benchmarks also help teachers identify students who may not be meeting standards and who may need remediation. CCSS emphasizes writing instruction as a school-wide responsibility, rather than a skill taught during Language Arts instruction, providing increased opportunities for students to practice using writing skills across settings using content-knowledge.

However, despite CCSS (2013) mandates and advantages, most typically achieving students in the U.S. are not proficient writers. According to results from the National Assessment of Educational Progress report (NAEP, 2011), 80% of students in 8th grade and 70% of students in 12th grade are not writing proficient persuasive (argumentative essays intended to support claims with clear reasons and relevant evidence), narrative (essays intended to develop real or imagined experiences or events), and expository (essays intended to examine a topic and convey ideas, concepts, and information) essays. An NAEP proficient writing level indicates competent writing skills; any level below proficient is indicative of partial mastery. Adolescents with high-incidence disabilities (i.e., learning disability [LD], emotional behavior disorder [EBD], attention deficit hyperactivity disorder [ADHD], speech or language impairment [SLI], and developmental delay [DD]) have even greater difficulty writing the coherent essays required. Students with disabilities often struggle with idea generation, have difficulty using genre-specific text, and generally produce shorter, less structured essays with more errors than their peers without disabilities (Taft & Mason, 2011). Furthermore, written compositions of adolescents with high-incidence disabilities are well below the high standards required for higher education and employment (Mason & Graham, 2008).

Unfortunately, essay-writing intervention approaches for adolescents with disabilities is understudied, leaving teachers without clearly defined evidence-based practices that are directly reflective of CCSS (2013) demands (Graham & Harris, 2013; Graham, Harris, & McKeown, 2013; Mason & Graham, 2008; Taft & Mason, 2011). In a synthesis of writing intervention techniques, Graham and Perin (2007a) reviewed empirical studies (i.e. true and quasi-experimental) conducted with adolescents in fourth through 12th grade. Elements such as providing strategies for planning, writing, and revising, goal-setting, and explicit models were recognized as effective, research-based writing intervention techniques. However, these

techniques were selected as effective for typically achieving students without an analysis of effective techniques for adolescents with disabilities. Moreover, omission of single-case studies may have excluded effective writing intervention research for struggling writers and students with disabilities, as single-case experimentation is a commonly used methodology in special education research (Horner et al., 2005).

Mason and Graham (2008) also reviewed writing intervention programs of study for adolescents in fourth through 12th grade. Although the review was expanded to include single-case designs, only intervention studies for students with LD were included. Recommendations for effective instruction components for students with LD included imbedding self-regulation practices (goal-setting, self-monitoring, self-reinforcements, and self-instructions) throughout instruction, allowing opportunities for teacher-student conferencing, and providing scaffolded, guided practice to foster generalization and maintenance. In a subsequent review, Taft and Mason (2011) synthesized writing research for students with disabilities other than LD by providing an analysis of all types of writing approaches and interventions across all grade levels. Self-Regulated Strategy Development (SRSD), an instructional program used to facilitate strategy use and develop self-regulation skills, was noted to be an effective program for students with disabilities other than LD.

More recently, Graham et al. (2013) conducted a meta-analysis to examine the effects of SRSD writing instruction for all students with LD. Results indicated a large average effect size (ES) of 2.37 for both quasi-experimental and experimental designs. The authors indicated that SRSD was an effective instructional procedure for teaching writing to students with LD and recommended future researchers investigate new writing strategies to address a wider range of tasks across genres and contents.

The reviews of writing research for adolescents with disabilities have noted effective procedures used to improve writing performance; however, reviews have not evaluated intervention with a focus on specific CCSS (2013) writing standards. CCSS calls for student achievement in three writing genres - persuasive, narrative, and expository. Table 1 displays key standards for mastery across genres. With increased demands on students with disabilities to write and generalize persuasive, narrative, and expository essays across all content areas by sixth grade, a review of effective essay interventions with regard to government-initiated standards is timely.

Current Study

The purpose of this literature review is to synthesize the research on essay-writing interventions for adolescents with high incidence disabilities and to discuss the extent to which the research base is reflective of high CCSS (2013) initiatives. Quantitative experimental studies focused on interventions for improving narrative, persuasive, and expository essays of students in sixth through 12th grade with high-incidence disabilities are reviewed. Results are organized around the following research questions:

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1) What were outcomes of essay-writing interventions for adolescents with high-incidence disabilities across classroom setting, participant characteristics, and narrative, persuasive, and expository writing genres?
2) What was the quality of the research for each writing genre?
3) How well is the research base within each writing genre addressing CCSS (2013)?

Method

Studies included in this review met all of the following criteria: (a) used quantitative intervention methods (i.e., true experiment [randomized control trial], quasi-experimental group [non-randomized group studies, single group pretest/posttest], or single-case) to analyze the effects of an essay-writing intervention on narrative, persuasive, or expository compositions, (b) targeted writing performance of students in sixth through 12th grade in secondary (i.e., middle or high school) settings who were diagnosed with EBD, LD, ADHD, SLI, or DD, and (c) published in peer-reviewed journals. Only interventions for instruction in persuasive, narrative, or expository essay writing were considered acceptable independent variables. Thus, interventions that did not focus on constructing an essay (e.g. editing strategies, fluency interventions, interactive journaling, and note-taking methods) were excluded from this review. Quick writes (i.e., an organized, short constructed response to teacher prompts) and summary writing, while a valuable form of written expression, were also excluded from the review, as the review is intended to focus on essay compositions (Graham & Perin, 2007a; 2007b; Mason, Benedek-Wood, & Valasa, 2009).

To locate studies for review, searches of ERIC, ProQuest Education Journals, and PsychINFO databases were conducted using the keywords *writing*, *writing intervention, middle school*, *high school*, *essay intervention*, *narrative essay*, *persuasive essay*, *expository essay*, *compare-contrast essay*, *special education,* and *disability*. Keywords and keyword combinations were entered into title, abstract, and descriptor fields. Next, a hand search of reference lists of all identified articles was conducted to avoid potential omissions. Twenty-six studies met inclusion criteria.

Effect sizes (ES; standardized mean difference) based on researcher reported essay strategy-specific elements and quality scores for group studies and percentage of all non-overlapping data (PND: the percentage of data in the treatment phase that exceeds the most positive result documented in the baseline phase) for single-case studies were obtained (Thompson, 2007). Effect sizes, if not reported, were calculated by subtracting the posttest mean of the control group from the posttest mean of the treatment group and dividing by the pooled standard deviation. For pre and posttest or repeated measures quasi-experimental designs, effect sizes were calculated using gain scores. Cohen's benchmarks for group studies were classified as small (.20), medium (.50), or large (.80 or greater; Cohen, 1988). It is important to note effect sizes from designs with a control group (randomized control trials and quasi-experimental group designs) are not comparable to designs without a control group (repeated measures and pre and posttest designs), as randomized control designs and quasi-

experimental designs could yield smaller effects due to more rigorous design methodology. Effect sizes are calculated to provide standardized information about overall treatment impact on behavior.

PND is a widely implemented and recommended method for quantitatively synthesizing single-case treatment effects and was therefore chosen to evaluate effect sizes in single-case studies (Scruggs & Mastropieri, 2001). As noted in the recent meta-analysis of writing interventions conducted by Graham et al. (2013), PND is the most commonly used method of evaluating effects across writing reviews and meta-analyses. In other words, use of PND makes it easy to situate findings within the current research base and compare findings across other reviews and meta-analyses of writing. Moreover, PND has established benchmarks within writing research for small, medium, and large effects, which is useful for the purpose of this review. PND is presented simply to provide standardized information about overall treatment impact on behavior.

If not researcher reported, PND was calculated by dividing the number of data points exceeding the most positive result in baseline by the total number of data points in the intervention phase and multiplying by 100. PND for single-case studies were also classified as small (50-70%), medium (70-90%), or large (90% and above). While effects sizes and PND are not comparable, each provides meaningful, standardized information about overall treatment impact on behavior and is, therefore, reported to enable standardized assessment of intervention strength (Mason & Graham, 2008). Unless reported by the researcher, all ES and PND calculations were computed using the data provided by study authors.

Quality indicators were also utilized to assess quality of research. Nine indicators adapted from Gersten et al., (2005) by Graham and Perin (2007a), each holding a value of 1 point, were used to evaluate group studies: (1) random assignment of subjects, (2) mortality equivalence between conditions, (3) no ceiling or floor effects for the primary measure, (4) pretest equivalence across conditions, (5) instructor training described, (6) type of control condition described, (7) the Hawthorne effect controlled, (8) treatment fidelity established, and (9) teacher effects controlled (e.g. instructors blind to research questions). For pre and posttest and repeated measures designs, mortality equivalence between conditions, pretest equivalence across conditions, and type of control condition described were considered unmet, as these designs do not involve a control or comparison condition. As a result, randomized control trials and quasi-experimental group designs that included a comparison condition were able to meet a higher number of indicators, signifying a stronger design with greater internal validity. Additionally, if no confound for the Hawthorne effect was documented, the Hawthorne effect was assumed controlled.

Quality indicators for single subject studies (Horner et al., 2005) were adapted by Mason and Graham (2008) and were reported for groups of studies based on persuasive, narrative, and expository genre. One point was assigned for each of the 11 indicators: (1) participants adequately described, (2) participant selection adequately described, (3) description of instructional setting adequately described, (4) dependent measures quantified,

(5) dependent measures reliable, (6) multiple baseline data points collected, (7) multiple intervention points collected, (8) treatment fully described, (9) treatment fidelity established, (10) testing procedures adequately described, and (11) social validity established. Indicator criteria were based on procedures described by Horner et al. (2005). All quality indicators were calculated for group and single-case designs in this way by the first author.

Results

Findings are organized into three main sections to address research questions: participant and setting characteristics, intervention outcomes, and CCSS (2013) standards (see Table 1). A total of 26 studies were reviewed. Table 2 displays study design characteristics, participants, and setting. Eight studies were randomized control trials (RTC), six used quasi-experimental group designs, three utilized a pre and posttest single group method, and nine used single-case designs.

Fifteen studies implemented a persuasive essay-writing intervention, three studies implemented a narrative essay-writing intervention, and eight studies implemented an expository essay-writing intervention as the independent variable.

Participants and Setting

A total of 417 students with disabilities were participants in 26 studies. Disability, gender, setting, and instructional delivery information for individual studies is noted in Table 1. Eighty-five percent (*n*=354) of students were diagnosed with LD, 12% (*n*=51) with EBD, 2% (*n*=9) with ADHD, less than 1% (*n*=1) with ADHD/SLI, less than 1% (*n*=1) with ADHD/DD, and less than 1% (*n*=1) with SLI. In the 21 studies that specified participant gender, 74 % (*n*=226) were male and 26 % (*n*=80) were female.

Twenty-seven percent (*n*=7) of studies took place in an inclusion classroom, 23% (*n*=6) in the resource room, 8% (*n*=2) in an alternative program for students with emotional/behavioral difficulties, and 42% (*n*=11) administered treatment individually or outside of the regular daily setting. Instruction was delivered by the classroom teacher in 27% (*n*=7) of studies, trained graduate students in 23% (*n*=6), trained undergraduate students in 12% (*n*=3), and the researcher or a research assistant in 35% (*n*=9). One study did not specify who provided instruction (Ferretti, MacArthur, & Dowdy, 2000).

In the 23 studies that documented school district classification, 57% (*n*=13) of schools were considered suburban school districts, 17% (*n*=4) urban, 17% (*n*=4) rural, and 9% (*n*=2) urban/suburban.

Intervention Outcomes

The following section is a review of outcomes by essay strategy specific elements and quality for each study across persuasive, narrative and expository genres. Outcomes of studies within each writing genre are organized by intervention program (e.g., SRSD or Strategic Instruction Model [SIM]) or instructional methodology (e.g., goal-setting, concept mapping, or strategy instruction). Key characteristics of intervention programs and

methodologies are outlined in Table 3. It is very important to note many components of various instructional programs/methodologies overlap. The original authors' terms for their interventions are used to categorize instructional programs/methodologies. Quality indicators are used to review quality of research by genre.

Table 1

CCSS Writing Standards

Genre	Key Standards for Essay Writing	Addressed in Existing Research	Number of Studies
Persuasive	Write organized arguments that introduce claims, provide reasons and explanations to support claims, and offer concluding remarks to support the stated argument	Yes	15
	Write discipline-specific persuasive essays that acknowledge counter arguments and present accurate data using credible sources	Yes	1
	Utilize technology to produce typed essays	No	0
Narrative	Write compositions to describe real or imagined experiences through description of context and characters, appropriately sequenced events, and development of a logical conclusion	Yes	3
	Include narrative techniques (i.e. transition words, dialog, descriptive details) within essays	No	0
	Utilize technology to produce typed essays	No	0
Expository	Introduce a topic, organize ideas using strategies, and provide a conclusion	Yes	8
	Include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia to enhance reader comprehension	No	0
	Write domain-specific expository essays using domain-specific vocabulary and an objective tone	No	0
	Utilize technology to produce typed essays	Yes	2

Note. Standards were coded as "yes" for "addressed in existing research" if the standard was all or partly addressed in studies reviewed.

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Table 2

Participants, Settings and Procedures

	Participants			Setting				
Author	Sample Size (*n*)	Gender	Disability	Grade	School/ Setting/ Instructor	Design	Instructional Procedure	Genre
Barry & Moore, 2004	20	15m, 5f	LD	9	Rural/ Resource/ Teacher	Pre and Post Test	SI	Expository/ Persuasive
Chalk et al., 2005	15	11m, 4f	LD	10	Suburban/ Resource/ Researcher	Quasi-Experi-mental	SRSD	Expository
Cihak & Castle, 2011	19	15m, 4f	LD, ADHD, EBD	8	Rural/ Inclusion/ Teacher	Quasi-Experi-mental	SI	Expository
Cuenca-Scnchez et al., 2012	21	20m, 1f	EBD	7	Alternative Program/ Teacher	RCT	SRSD	Persuasive
De La Paz, 1999	6	5m, 1f	LD	7-8	Suburban/ Inclusion/ Teacher	Single Case	SRSD	Expository
De La Paz, 2001	3	1m, 2f	ADD, ADHD, SLI	7-8	Suburban/ Inclusion/ Teacher	Single Case	SRSD	Expository
De La Paz, 2005	11	8m, 3f	LD	8	Suburban/ Inclusion/ Teacher	Quasi-Experi-mental	SRSD	Persuasive
De La Paz & Graham, 1997	42	33m, 9f	LD	5-7	Suburban/ Pull-out/ Graduate Students	RCT	SRSD	Persuasive
Ferretti et al., 2000	32	NS	LD	6	Urban-Suburban/ Inclusion/ Not specified	RCT	Elaborated goal setting, Goal setting	Persuasive
Ferretti et al., 2009	24	NS	LD	6	Urban-Suburban/ Inclusion/ Under-graduate Students	RCT	Elaborated goal setting, Goal setting	Persuasive
Graham & Harris, 1989a	11	NS	LD	6	Suburban/ Pull-out/ Under-graduate Students	RCT	SRSD/SI	Narrative
Graham & Harris, 1989b	3	1m, 2f	LD	6	Suburban/ Pull-out/ Graduate Students	Single Case	SRSD	Persuasive

Author	Sample Size (*n*)	Gender	Disability	Grade	School/ Setting/ Instructor	Design	Instructional Procedure	Genre
Jacobson & Reid, 2010	3	3m	ADHD	11-12	Rural/ Pull-out/ Researcher	Single Case	SRSD	Persuasive
Kiuhara et al., 2012	6	4m, 2f	EBD, LD, ADHD	10	Suburban/ Pull-out/ Researcher	Single Case	SRSD	Persuasive
MacArthur & Philippakos 2012	6	5m, 1f	LD	6-8	Private School/ Pull-out/ Researcher	Single Case	SRSD	Compare-Contrast
Mastropieri et al., 2009	15	14m, 1f	EBD	8	Alternative Program/ Graduate Students	Single Case	SRSD	Persuasive
Mastropieri et al., 2012	12	12m	EBD	7-8	Suburban/ Pull-out/ Graduate Students	Single Case	SRSD	Persuasive
Monroe & Troia, 2006	6	5m, 1f	LD	6-8	Urban/ Pull-out/ Researcher	Quasi-Experi-mental	SRSD	Persuasive
Page-Voth & Graham, 1999	30	NS	LD	7-8	Suburban/ Pull-out/ Graduate Students	RCT	Goal setting, Goal setting and SI	Persuasive
Patel & Laud, 2009	3	1m, 2f	LD	7	Urban/ Resource/ Researcher	Pre and Post Test	Combined SRSD and VV	Narrative
Sawyer et al., 1992	43	25m, 18f	LD	5-6	Suburban/ Pull-out/ Under-graduate Students	RCT	SRSD, SI, Direct teaching	Narrative
Sexton et al., 1998	6	4m, 2f	LD	5-6	Suburban/ Pull-out/ Researcher	Single Case	SRSD	Persuasive
Sturm & Rankin-Erickson, 2002	12	8m, 4f	LD	8	Urban/ Inclusion/ Teacher	Quasi-Experi-mental	Concept Mapping	Expository

Author	Sample Size (*n*)	Gender	Disability	Grade	School/ Setting/ Instructor	Design	Instructional Procedure	Genre
Therrien et al., 2009	40	26m, 14f	LD	7-8	Rural/ Resource/ Graduate Students	RCT	SIM	Expository
Wong et al., 1996	14	NS	LD	8-9	Urban/ Resource/ Researcher	Quasi-Experi-mental	SI	Persuasive
Wong et al., 1997	14	10m, 4f	LD	9-10	Suburban/ Resource/ Researcher	Pre and Post Test	SI	Compare-Contrast

Note. NS = not specified, m = male, f = female, LD = Learning Disabled, EBD = Emotional Behavioral Disorder, RCT = Randomized control trial, SRSD = Self-regulated strategy development, SI = Strategy instruction, SIM = Strategic Instruction Model, VV= Visualizing and verbalizing. Sample size includes students with disabilities only.

Persuasive essay-writing. SRSD was utilized as an instructional approach in ten persuasive essay intervention studies (Cuenca-Sanchez, Mastropieri, Scruggs, & Kidd, 2012; De La Paz, 2005; De La Paz & Graham, 1997; Graham & Harris, 1989b; Jacobson & Reid, 2010; Kiuhara, O'Neill, Hawken, & Graham, 2012; Mastropieri et al., 2009, 2012; Monroe & Troia, 2006; Sexton, Harris, & Graham, 1998). Strategy instruction was implemented in two studies (Barry & Moore, 2004; Wong, Butler, Ficzere, & Kuperis, 1996).

SRSD. Effects of SRSD in the reviewed persuasive writing studies were evaluated by counting the number of strategy specific functional persuasive essay elements (premise, reason, conclusion, elaboration, and nonfunctional elements) and calculating quality according to a traditional holistic rating scale (i.e. a point scale designed to enable scorers to assign a numerical value to represent overall essay organization, sentence structure, vocabulary, ideas, and coherence).

SRSD was used to teach the TREE (Topic sentence, Reasons, Examine reasons, Ending) strategy to adolescents with disabilities in two single-case studies (Graham & Harris, 1989b; Sexton et al., 1998). Both studies yielded an increased number of essay strategy specific elements and essay quality during the intervention phase. PND was calculated using data provided by the study authors: PND for Sexton et al. (1998) was medium, 88%, for quality and small, 58%, for essay strategy specific elements. PND for Graham and Harris (1989b) was large, 100% for essay strategy specific elements. PND for quality was not computable, as mean holistic quality ratings for each student were provided rather than individual quality scores. Graham and Harris (1989b) found students were not able to generalize writing gains across genres. Sexton et al. (1998), however, noted generalization through students' use of TREE when administered a prompt by a teacher other than the study instructor. Both studies documented slightly decreased essay strategy specific element and quality scores during maintenance phase in treatment phase comparison to; however, gains maintained above baseline (PND = 100%).

Table 3

Instructional Programs and Methodologies

Instructional Methodology	Description	Key Characteristics
SRSD	Instructional program used to facilitate strategy use and develop self-regulation skills (Harris, Graham, Mason, & Friedlander, 2008).	• Stages for acquisition: (a) develop necessary prerequisite skills for strategy mastery (b) discuss the strategy and explain how the strategy will improve writing skills (c) memorize the strategy steps (d) provide an explicit model that includes verbalization of the thought process used to apply the strategy, (e) provide guided practice and self-regulation procedures (f) provide ample independent practice and opportunities for generalization. • Four self-regulation procedures (goal-setting, self-monitoring, self-instructions, and self-reinforcement)
Strategy Instruction	Strategy instruction is a teaching methodology used to assist students in appropriately executing and maintaining strategy-use (Wong, 1998).	• May look different across studies • Modeling, collaborative planning, scaffolding, drafting/revising, and collaborative revising (Swanson,1999)
Goal-setting	Goal setting studies aimed to display the impact of goals on written compositions and self-regulatory skills of adolescents with LD (Ferretti et al., 2000; Ferretti et al., 2009; Page-Voth & Graham, 1999).	• Attainable, proximal, genre-specific goals guide the writing process
SIM	SIM utilizes explicit/ direct instruction of writing strategies (Therrien et al., 2009)	• Components of SIM instruction: (a) establishing the purpose of the strategy (b) teaching how, when, and why to use the strategy (c) different ways to remember the strategy (d) developing goals for learning the strategy (e) modeling the strategy (f) guided practice (Lenz & Deshler, 2004)
Concept-Mapping	Instructional approach used to enable students to create a visual representation of text-structure and ideas.	• Also known as semantic mapping and graphic organizing

Mastropieri et al. (2009) and Mastropieri et al. (2012) used single-case methodology to implement SRSD for the POW (P = Pick my idea, O = Organize my notes, W = Write and Say More) + TREE strategies for students with EBD, again documenting increased number of essay strategy specific elements and essay quality with PND at 100% for both measures in both studies. As in the Graham and Harris (1989b) and Sexton et al. (1998) studies, scores in

the Mastropieri et al. (2009, 2012) studies decreased during the maintenance phase in comparison to the treatment phase but were above those noted at baseline (PND = 100%). In an RTC study, Cuenca-Sanchez et al. (2012) also implemented SRSD for POW + TREE strategies. A large effect size for number of essay strategy specific elements (ES = 3.19) and essay quality (ES = 3.43) was calculated using the data reported by study authors, who had reported significant results on both measures. Students in the treatment condition outperformed students in the control condition on a maintenance probe given 2 weeks after instruction (ES = 1.36). To facilitate student ability to generalize the strategy across content areas, instructors encouraged students to think of other contexts where they could use the strategy and modeled how to write a persuasive essay using science and social studies content. Students in the treatment condition wrote qualitatively better essays than students in the control condition on a generalization probe (ES = 1.8).

A second line of SRSD persuasive writing research stems from an RTC conducted by De La Paz and Graham (1997) during which students were taught the STOP and DARE (Suspend judgment, Take a side, Organize ideas, and Plan more as you write; Develop your topic sentence, Add supporting ideas, Reject at least one argument for the other side, and End with a conclusion) strategy. A large, significant effect for dictation and advanced planning strategy use in quality (ES = .90) and number of essay strategy specific elements (ES = 1.15) was calculated using the data reported by study authors. Gains were maintained according to a maintenance probe administered 2 weeks after instruction. Jacobson and Reid's (2010) single case study used the STOP and DARE strategy and documented a large effect (PND = 100%) for both essay strategy specific elements and quality. However, Jacobson and Reid (2010) reported decreased quality scores from post-instruction to maintenance phases (PND = 67%). To meet high school writing task demands, Kiuhara et al. (2012) added the AIMS (Attract the reader's attention, Identify the problem of the topic, Map the context of the problem, and State the thesis) strategy to SRSD for STOP and DARE. The intervention produced a moderate effect (PND = 74%) for quality and moderate-large effect (PND = 90%) for essay strategy specific elements. PND was calculated using study data reported by the authors.

In a quasi-experimental group study, De La Paz (2005) used SRSD for the STOP and DARE strategy combined with strategy instruction in historical reasoning. Students were taught to reconcile conflicting historical information and to display understanding of content in a persuasive essay. To meet standards for students at the secondary level, De La Paz (2005) increased expectations for length, elaborations, and number of supporting reasons. Using pre and posttest data reported by the study author, a large effect (ES = 1.09) for quality and moderate effect (ES = .70) for essay strategy specific elements was calculated. De La Paz (2005) also reported large, significant effects at post-test for quality (ES = 1.19) and essay strategy specific elements (ES = 1.17) compared to a control group. No students with disabilities were in the control group. Small-medium effects were documented on a historical

accuracy measure for the pre and posttest comparison (ES = .42) and control group (ES = .57) comparison. Maintenance and generalization data were not collected.

In the tenth SRSD persuasive writing study, Monroe and Troia (2006) used SRSD for the CDO (Compose, Diagnose, and Operate) and SEARCH (Set goals, Examine paper to see if it makes sense, Ask if you said what you meant, Reveal picky errors, Copy over neatly, Have a last look for errors) strategies. Although number of essay strategy specific elements and quality increased, a standardized mean difference could not be calculated because neither standard deviations nor individual scores were provided.

Results of SRSD persuasive writing studies can be examined with confidence. Five single-case designs met 11 out of 11 quality indicators (Graham & Harris, 1989b; Kiuhara et al., 2012; Mastropieri et al., 2009; 2012; Sexton et al., 1998). Jacobson and Reid (2010) met 10 out of 11 indicators; social validity was not established. The RTC studies conducted by De La Paz & Graham (1997) and Cuenca-Sanchez et al. (2012) met 9 out of 9 quality indicators. The quasi-experimental study conducted by De La Paz (2005) met 8 out of 9 quality indicators; students were not randomly assigned to treatment and control conditions. Monroe and Troia's (2006) pre and posttest design met 2 out of 9 indicators. Missing indicators included lack of random assignment of subjects, mortality equivalence between conditions, pretest equivalence across conditions, teacher training description, control condition description, methods to control for teacher effects, and establishment of treatment fidelity.

Goal setting. Effects of goal setting in the reviewed persuasive writing studies were evaluated by counting the number of strategy specific functional persuasive essay elements (premise, reason, conclusion, elaboration, and nonfunctional elements) and calculating quality according to a traditional holistic rating scale (i.e. a point scale designed to enable scorers to assign a numerical value to represent overall essay organization, sentence structure, vocabulary, ideas, and coherence). In an RTC study, Page-Voth and Graham (1999) demonstrated student ability to create higher quality persuasive essays with a greater number of essay strategy specific elements when provided with genre-specific goals (e.g., a goal to increase the number of supporting reasons, a goal to increase the refutation of counterarguments). As reported by the study authors, students in both a goal setting and goal setting plus a strategy conditions significantly outperformed students in the no treatment control condition on quality (ES = 1.18) and essay strategy specific element (ES = 1.53) measures.

Two studies conducted by Ferretti and colleagues analyzed the effects of general goal setting (i.e., students were instructed to write a persuasive response and support their position) versus elaborated goal setting (i.e., students were provided with the general goal as well as genre-specific sub-goals [e.g., statement of belief, two or three reasons for belief, examples or supporting information for each reason, two or three reasons why others might disagree, why those reasons are wrong] based on elements of argumentation; Ferretti et al., 2000; Ferretti, Lewis, & Andrews-Weckerly, 2009). As reported by Ferretti and colleagues, students in both studies, in the elaborated goal conditions, produced qualitatively stronger

persuasive essays (average ES = .63) according to a holistic rating scale with more essay strategy specific elements. Feretti and colleagues reported significant effects in both investigations. Effect sizes could not be calculated for number of essay strategy specific elements because mean and standard deviation scores for essay strategy specific elements were not reported.

Page-Voth and Graham's (1999) RTC met 9 out of 9 quality indicators; results should be examined with great confidence. Studies by Ferretti and colleagues met 6 out of 9 indicators: instructor training, methods of controlling for teacher effects, and methods of establishing treatment fidelity were not addressed.

Strategy instruction. Following common principles of strategy instruction outlined in Table 3, Wong et al. (1996) taught students to write persuasive essays with a planning, writing, and revising strategy. Students worked collaboratively to revise each other's compositions. Following instruction, Wong et al. (1996) reported students wrote with greater clarity (i.e., degree of absence of ambiguities in essays) and cogency (i.e., degree of persuasiveness of arguments presented in essays) according to a holistic scale (ES for clarity = 2.17; ES for cogency = 2.74). Wong et al. (1996) also reported a large, significant effect compared to the control condition (ES = 2.55). Effects were reported to maintain one week after instruction. Wong et al. (1996) did not measure essay strategy specific elements or collect generalization data. This quasi-experimental design met 5 of the 9 quality indicators used to measure strength of group designs. Elements lacking included random assignment of subjects, instructor fidelity described, and establishment of treatment fidelity. The authors also reported a floor effect.

Strategy instruction was also utilized in a quasi-experimental study aimed to increase state competency exam persuasive writing scores (Barry & Moore, 2004). Stages of strategy instruction in the study conducted by Barry and Moore (2004) involved explaining the purpose of the strategy, modeling, providing opportunities for student practice, providing corrective feedback, and holding a peer review session. Students were taught to use their fingers as an iconic memory stimulus for identifying the paragraphs (introduction, 3 body paragraphs containing supporting reasons, and conclusion) of a persuasive composition. While a large, significant effect (ES = .92) on state testing scores was computed using the data reported by study authors, the quasi-experimental study met only 3 (control condition described, no ceiling effects or floor effects for the primary measure, and Hawthorne effect controlled) of the 9 quality indicators.

Narrative essay-writing. All three narrative intervention studies explored the effects of variations of SRSD on the narrative essays of students with LD (Graham & Harris, 1989a; Patel & Laud, 2009; Sawyer, Graham, & Harris, 1992). Effects of SRSD in the reviewed narrative writing studies were evaluated by counting the number of essay strategy specific story-grammar elements (main character, locale, time, starter event, goal, action, ending, and reaction) and calculating quality according to a traditional holistic rating scale (i.e. a point scale designed to enable scorers to assign a numerical value to represent overall essay

organization, sentence structure, vocabulary, ideas, and coherence). Graham and Harris (1989a) taught the W-W-W, What = 2, How = 2 strategy to help students remember the parts of a narrative essay by answering the following questions: (a) Who is the main character? Who else is in the story? (b) When does the story take place? (c) Where does the story take place? (d) What does the main character want to do? (e) What happens when he or she tries to do it? (f) How does the story end? (g) How does the main character feel? Graham and Harris (1989a) implemented W-W-W, What = 2, How = 2 across two treatment conditions: (1) instruction including self-regulation procedures, and (2) instruction without explicit instruction in self-regulation. Combined pre and posttest means and standard deviations of intervention conditions were provided by study authors. Both intervention conditions produced significant increased essay strategy specific elements (ES = 2.2) and essay quality (ES = .61) in comparison to pretest scores. Graham and Harris (1989a) found students maintained writing skills two weeks after instruction and were able to independently generalize skills to the general education setting.

In a replication study, Sawyer et al. (1992) compared SRSD for W-W-W, What = 2, How = 2 across full SRSD instruction, strategy instruction without explicit instruction for self-regulation, and direct teaching. A control condition was added in order to strengthen internal validity of results. Students in the "full SRSD condition" outperformed students in the "instruction without explicit instruction for self-regulation condition" and "direct teaching condition". A large effect on number of essay strategy specific elements (ES = 3.67) and overall story quality (ES =1.85) in comparison to the control condition was calculated using data reported by study authors (although study authors reported significant results for number of strategy specific element measures, no significant differences were found for quality measures). Students in instruction without explicit instruction for self-regulation (ES = .52) and direct teaching (ES = .97) also improved quality of narrative compositions compared to the control condition. Strategy use across all intervention conditions slightly decreased on maintenance probes administered four weeks after instruction. However, researchers noted results suggested maintenance was highest in the full SRSD condition.

Patel and Laud (2009) evaluated SRSD for POW + W-W-W, What = 2, How = 2; however, during the "W" phase students were encouraged to visualize and verbalize (V&V) structure words- *what*, *size*, *color*, *number*, *shape*, *where*, *when*, *background*, *movement*, *mood*, and *perspective*- to enhance story detail. Large, positive gains were computed using study data on the number of essay strategy specific elements (ES = 8.97) and the quality (ES= 1.38) of student compositions. The study was conducted with three students. Significance was not reported.

Studies conducted by Graham and Harris (1989a) and Sawyer et al. (1992) were well-constructed, randomized experimental designs that met 9 out of 9 quality indicators for group studies. Results of these studies can be examined with confidence. However, Patel and Laud (2009) met only 2 (no ceiling or floor effects for the primary measure, Hawthorne effect controlled) of the 9 quality indicators.

Expository essay-writing. Strategy instruction was utilized as an instructional approach in two expository essay intervention studies (Cihak & Castle, 2011; Wong, Butler, Ficzere, & Kuperis, 1997), SRSD in four studies (Chalk, Hagan-Burke, & Burke, 2005; De La Paz, 1999; 2001; MacArthur & Philippakos, 2010), SIM in one study (Therrien, Hughes, Kapelski, & Mokhari, 2009), and concept mapping in one study (Sturm & Rankin-Erickson, 2002).

Strategy instruction. In an early study, students with LD were taught to write compare-contrast type essays on computers with a planning, writing, and revising strategy (Wong et al., 1997). Following principles of effective writing strategy instruction (modeling, collaborative planning, scaffolding, drafting/revising, and collaborative revising), students were taught to effectively collaborate to revise each other's compositions. Following instruction, students wrote with greater clarity, aptness (i.e., appropriateness of ideas/details in supporting comparisons and contrasts), and organization according to a holistic scale (ES = 1.56). The large, statistically significant effect was reported to maintain one week after instruction. Wong et al. (1997) did not measure expository essay strategy specific elements. This pre and posttest design met 5 of the 9 quality indicators used to measure strength of group designs. Elements lacking included random assignment of subjects, mortality equivalence between conditions, pretest equivalence between conditions, and type of control described.

In a quasi-experimental study, Cihak and Castle (2011) explored effects of strategy instruction for the expository writing program, Step-Up to Writing. Five lessons were given to provide students with instruction in organizing, outlining, structuring, and using transitions and details in expository essays. A large, statistically significant effect (ES = 3.80) was calculated on student writing according to a state test-scoring rubric using data reported by study authors. Number of essay strategy specific elements was not measured. While the intervention yielded a large effect size, caution should be taken in interpreting results. The study met only 2 (Hawthorne effect controlled and no ceiling or floor effects for the primary measure) out of 9 quality indicators.

SRSD. Effects of SRSD in the reviewed expository writing studies were evaluated by counting the number of strategy specific essay elements (premise, reason, conclusion, elaboration, and nonfunctional elements) and calculating quality according to a traditional holistic rating scale (i.e. a point scale designed to enable scorers to assign a numerical value to represent overall essay organization, sentence structure, vocabulary, ideas, and coherence). De La Paz (1999, 2001) explored the effects of SRSD on the expository compositions of adolescents in two single-case designs. Students were taught to write expository essays using SRSD for the PLAN (Pay attention to the prompt, List main ideas, Add supporting ideas, Number your ideas) and WRITE (Work from your plan to develop your thesis statement, Remember your goals, Include transition words, Try to use different kinds of sentences, and Exciting, interesting, $100,000 words) strategies. Instruction resulted in increased essay strategy specific elements and quality in both studies. De La Paz (1999, 2001) was also able

to document lasting effects on a maintenance probe administered four weeks following instruction. PND for essay strategy specific elements and quality were calculated using data reported by study authors; essay strategy specific element scores resulted in 89% PND and quality scores resulted in 89% PND for the first study (De La Paz, 1999). For the second study, essay strategy specific element scores resulted in 100% PND. PND could not be calculated for quality using data provided in the second study because individual quality scores were not reported.

Chalk et al. (2005) also examined the effects of SRSD on the expository essays of adolescents with LD. Using a repeated measures group design, Chalk et al. (2005) used SRSD to teach (a) Think, who will read this and why I am writing it, (b) Plan what to say using DARE, and (c) Write and say more. Researchers observed a medium, statistically significant effect (ES = .60) on the quality of expository compositions. Students sustained improved scores on a maintenance measure given two weeks following instruction and during a generalization probe administered in the social studies classroom. Essay strategy specific elements were not measured.

MacArthur's and Philippakos' (2010) study taught adolescents with LD to develop and write compare-contrast essays. SRSD for the IBC (Introduction, Body, and Conclusion) and TAP (Topic, Audience, and Purpose), Brainstorm and Organize strategies were taught along with instruction on developing compare-contrast text structure. MacArthur and Philippakos noted increased essay strategy specific elements (PND = 100%) and quality (PND = 85%), indicating a large effect for essay strategy specific elements and a moderate effect for quality. Of the four students probed during the maintenance phase, two were able to maintain gains made immediately following instruction.

The studies by De La Paz (1999) and MacArthur and Philippakos (2012) met 11 out of 11 quality indicators. De La Paz (2001) met 10 out of 11 indicators; social validity was not established. Results of these single-case studies should be analyzed with confidence. The quasi-experimental group study conducted by Chalk et al. (2005), however, met 5 (no ceiling or floor effects for the primary measure, instructor training described, Hawthorne effect controlled, treatment fidelity established, and teacher effects controlled) out of 9 quality indicators.

SIM. Therrien et al. (2009) evaluated the Strategic Instruction Model (SIM) for The Essay Test-Taking Strategy, ANSWER: (a) Analyze the action words in the question, (b) Notice the requirements of the question, (c) Set up an outline, (d) Work in detail, (e) Engineer your answer, and (f) Review your answer. Effects of SIM were evaluated by counting the number of strategy specific essay elements (i.e. action words, underlining requirements, setting up an outline, listing details, engineering answer, and reviewing answer) and calculating quality according to a holistic rating scale (i.e., a point scale designed to enable scorers to assign a numerical value to represent overall essay organization, sentence fluency, word choice, voice, ideas and content, and conventions). Therrien and colleagues reported a medium effect (ES = .51-.68) for quality and large, significant effect (ES = 1.69) for number

of strategy-specific elements. While the authors reported significant student gains in quality of student writing according to sections of the rubric that were aligned with the strategy, no significant differences were found on sections of the quality rubric that were not aligned with the strategy. This RTC study met 9 out of 9 quality indicators established by Graham and Perin (2007a), signifying a strong experimental design.

Concept mapping. To examine the effects of concept mapping on the expository essays of eighth grade students with LD, Sturm and Rankin-Erickson (2002) used a repeated measures within-subjects design comprising three writing conditions: (1) no-mapping, (2) hand-mapping, and (3) computer-mapping. Students typed all essays on computers. Effect sizes were calculated using data reported by study authors. Results indicated students wrote higher quality essays (according to a holistic rating scale) using hand-mapping or computer mapping in comparison to a baseline probe (ES = .93). However, students also wrote qualitatively better essays in the no-mapping condition compared to the baseline (ES = 1.63). Researchers attributed statistically significant gains in both conditions to writing instruction containing information about expository writing processes and conventions. Number of essay strategy specific elements was not used as a dependent measure. Sturm and Rankin-Erickson's (2002) concept mapping study met five (no ceiling or floor effects for the primary measure, instructor training described, treatment fidelity established, teacher effects controlled, and Hawthorne effect controlled) out of the nine quality indicators.

Addressing CCSS

Table 1 displays writing standards addressed in existing research. Persuasive writing research provided methods for enhancing students' ability to write organized arguments that introduce claims, provide reasons and explanations to support claims, and offer concluding remarks to support the stated argument, as required by CCSS (2013). However, results reveal several aspects of CCSS persuasive writing demands that have not been adequately addressed. First, only one of 15 studies considered students' ability in writing discipline-specific persuasive essays that acknowledge counter arguments (De La Paz, 2005). In all other studies, treatment was administered in a pull-out setting, resource room, self-contained classroom, or in an unspecified classroom setting. None of the studies were conducted in a science classroom setting or aimed to encourage student use of science-specific content. However, Cuenca-Sanchez et al. (2012) provided a model of how to generalize the POW + TREE strategy across science and social studies settings and documented successful generalization of the strategy in comparison to the treatment group. Next, studies have not focused on teaching students to present accurate data using credible sources. Only one study facilitated student use of accurate data from credible sources (De La Paz, 2005). Finally, researchers have not developed methods to enhance students' ability to utilize technology to produce typed compositions within persuasive writing intervention studies.

Analysis of existing narrative essay intervention research shows researchers have developed strategies to address some aspects of CCSS demands. As mentioned, researchers have established instructional practices aimed at students' development of imagined

experiences through description of context and characters, appropriately sequenced events, and development of a logical conclusion (Graham & Harris, 1989a, 1989b; Patel & Laud, 2009; Sawyer et al., 1992). However, results also reveal several aspects of CCSS narrative writing demands that have not been addressed. First, studies have not focused on the production of narratives based on personal experience. All studies used W-W-W, What = 2, How = 2 to engender imaginative story-writing skills. Furthermore, none of the studies provided personal narrative or story-writing prompts using words. Instead, pictures were used as prompts to develop imagined experiences. Next, researchers have not included strategies to assist students in incorporating narrative techniques (i.e. transition words, dialog, and descriptive details). Finally, researchers have not developed methods to enhance students' ability to utilize technology to produce typed compositions within narrative writing intervention studies.

Expository essay writing research has addressed some CCSS demands including instruction in strategies to enable students to introduce a topic, organize ideas, and provide a conclusion (Cihak & Castle, 2011; Chalk et al., 2005; De La Paz, 1999, 2001; MacArthur & Philippakos, 2010; Sturm & Rankin-Erickson, 2002; Therrien et al., 2009; Wong et al., 1997) and utilization of technology to produce typed essays (Sturm & Rankin-Erickson, 2002; Wong et al., 1997). However, several CCSS writing standards have not yet been addressed. First, aside from compare-contrast strategies, research has not provided expository text-structure (definition, classification, and cause/effect) specific strategies. It is not known whether existing interventions generalize across all expository essay text-structure types required by CCSS. None of the studies collected generalization data across various expository text-structures. Next, none of the expository writing interventions include instruction for including graphics to enhance reader comprehension. Finally, research has not targeted students' ability to utilize domain-specific vocabulary. While one study (Chalk et al., 2005) documented successful strategy-use within the social studies classroom, dependent measures (essay length and holistic quality) did include student utilization of domain-specific vocabulary or content.

Discussion

The purpose of the present review was to explore the literature on essay-writing interventions for adolescents with high incidence disabilities. Specifically, essay-writing interventions implemented across persuasive, narrative, and expository genres for adolescents with high-incidence disabilities were reviewed and the extent to which research has addressed CCSS standards within each genre was evaluated. Results reveal several major findings: (1) Certain participant and school setting populations are underrepresented within the literature; (2) Most essay interventions designed to enhance writing skills for adolescent writing skills are persuasive; few interventions aimed at improving narrative and expository essay writing skills; (3) Within each genre, essay interventions that utilized SRSD and strategy instruction methodologies had the most support across the literature; (4) Research

has not addressed many key components of CCSS for writing instruction. These major findings are discussed in detail below.

The majority of participants (85%) across studies were students with LD, further emphasizing the need for more writing intervention research aimed to enhance essay-writing skills of students with disabilities other than LD. Instruction was provided by the classroom teacher in only 27% ($n = 7$) of studies. Without data documenting successful teacher implementation of instruction, it is difficult to ascertain whether teachers can independently implement interventions and engender outcomes similar to those documented in research. Thus, more research is needed to ensure interventions can be feasibly implemented by the classroom teacher. Furthermore, only 17% ($n = 4$) of studies took place in urban and 17% ($n = 4$) in rural school districts. In order to ensure results are applicable to students in urban and rural districts, studies should be replicated across urban and rural settings, as students in these settings could possess different characteristics/cultural differences that may impact outcomes.

Examination of results by genre revealed effective instructional approaches and interventions as well as gaps within essay writing intervention research. More than half of the studies that met inclusion criteria targeted persuasive writing performance. Within the persuasive genre, the SRSD and goal-setting (a component of SRSD) studies yielded large effects on writing quality through strong study designs. These results extend and strengthen results of prior reviews noted in the introduction that documented the effectiveness of SRSD for teaching writing (Graham et al., 2013; Graham & Harris, 2003; Graham & Perin, 2007; Mason & Graham, 2008; Taft & Mason, 2011). To address middle and high school CCSS standards, future persuasive writing research should incorporate instruction in writing persuasive essays across content areas using accurate data and credible sources. Researchers should also match study settings to CCSS classroom expectations by incorporating student opportunities to produce typed essays.

Examination of results within the narrative genre reveals somewhat similar findings. However, only 2 studies, both conducted over 20 years ago, were strong experimental designs (Graham & Harris, 1989a; Sawyer et al., 1992). Both found medium effects for strategy instruction without explicit instruction in self-regulation on essay quality measures. Only one of the strong designs produced a large effect using SRSD for the W-W-W, What = 2, How = 2 strategy (Sawyer et al., 1992). These results are surprising considering the well-documented, highly positive effects of SRSD and strategy instruction for the W-W-W, What = 2, How = 2 strategy on narrative writing tasks at the elementary level (Harris et al., 2012). While SRSD and strategy instruction for the W-W-W, What = 2, How = 2 strategy has resulted in large effects on the quality of narrative compositions at the elementary level (Harris et al., 2012), it could be that a different strategy, designed to match writing prompts and demands at the secondary level, would yield consistent, large effects for adolescent students with high-incidence disabilities. More research is needed to conclusively recommend SRSD and strategy instruction without explicit instruction in self-regulation as best-practice narrative essay intervention techniques for adolescents with disabilities. To

better address CCSS standards in secondary settings, future narrative writing intervention research for students with disabilities should include methods for responding to written, grade-level, personal experience and story prompts using appropriate narrative sequence. Moreover, instruction should include methods for facilitating student use of narrative techniques, and technology to produce typed compositions.

Within the expository genre, three strong single-case designs documented medium-large effects on the quality of student essays for SRSD (De La Paz, 1999, 2001 MacArthur & Philippakos, 2010). SIM was also found to have medium-large effects on quality of expository compositions of adolescents in a strong RTC design (Therrien et al., 2009). This result is parallel to previous research noted in the introduction documenting the effectiveness of SRSD and SIM for improving writing performance (Graham & Harris, 2003; Graham & Perin, 2007a, 2007b; Mason & Graham, 2008; Taft & Mason, 2011). Although these strong expository intervention studies for adolescent students with disabilities provide information about effective programs of instruction in the expository genre, CCSS standards require student mastery of compare/contrast, cause/effect, classification, and definition expository text structures across content-areas. Thus, future intervention studies should specify expository text-structure prompt type, document whether or not the intervention can be generalized across text-structures, and should include instruction for including discipline-specific content and vocabulary.

Limitations and Implications

The lack of long-term maintenance and generalization data across genres represents a large gap in the research base. Of the 15 studies that collected maintenance data, 6 reported decreased scores on maintenance probes in comparison to post instruction scores (Graham & Harris, 1989b; Jacobson & Reid, 2010; Mastropieri et al., 2009, 2012; Sawyer et al., 1992; Sexton et al., 1998). This result further emphasizes the need for booster sessions as part of the writing curriculum, previously recommended by Graham and Harris (1989a). Previous reviews have also stressed the need for assessing the effects of writing interventions over an extended period of time (Graham et al., 2013).

As noted in the results, generalization data were reported in 8 studies. In 5 studies, successful generalization was reported because students could write an essay in a different classroom or with a different teacher (Chalk et al., 2005; Graham & Harris, 1989a; Mastropieri et al., 2009, 2012; Sexton et al., 1998). Two studies reported that students were unable to transfer newly acquired writing skills across genres (Graham & Harris, 1989b; Monroe & Troia, 2006). Student inability to simply generalize writing strategies across various genres highlights the need for further analysis and development of writing research within each genre.

Disappointingly, only 8% ($n = 2$) of studies documented successful generalization across varied content-area classrooms (Cuenca-Sanchez et al., 2012; De La Paz, 2005). In both studies, persuasive essay interventions were implemented. Students with disabilities are expected to write persuasive, narrative, and expository essays across all content areas (CCSS,

2013). For example, a student must write a cause/effect expository essay in science class using domain-specific vocabulary, then must not only recognize a cause/effect expository prompt in social studies class, but also use domain specific vocabulary to respond to the prompt. Clearly, more research in writing across content-area curricula for adolescents with high-incidence disabilities is needed to ensure students can recognize/differentiate between text structures of, and use the appropriate strategy to respond to, prompts of various genres across content areas. Future researchers should incorporate generalization instruction within interventions and generalization measures within designs to enable students at the secondary level to write seamlessly across content areas and avoid over/under-generalization of strategy use.

Future Research

To meet CCSS demands, Graham and Harris (2013) have recommended enhancing teacher knowledge of writing development and implementation of evidence-based writing procedures for students with disabilities in general education settings. Thus, identification of specific, effective essay intervention procedures that are grounded in effective, research-based instructional methodology, and address CCSS writing standards, may help teachers provide effective essay writing instruction to students. However, results reveal that U.S. CCSS demands are higher and broader than the research has addressed. Based on the results of this review, it is recommended that future writing research for students at and above middle school level should (a) incorporate stronger methods for facilitating maintenance and generalization, (b) address student ability to utilize technology to produce typed compositions, (c) include methods of instructing students to incorporate domain-specific vocabulary, data, and credible sources, (d) ensure students can identify genres of prompts to allow for appropriate strategy use, (e) further develop strategies within the narrative and expository genres to account for all text-structures within those genres, and (f) utilize SRSD and SIM programs of writing instruction.

Students with disabilities often have severe persuasive, narrative, and expository writing deficiencies (Santangelo, Harris, & Graham, 2008). As a result, students with high-incidence disabilities are failing to meet the demands of the CCSS (2013), higher education, and employment. SRSD and SIM approaches are promising intervention methods for facilitating essay-writing skills for adolescent students with high-incidence disabilities. However, further empirical research is needed to develop the research base to meet CCSS standards and identify methods to help students maintain and generalize skills across curriculum content areas. Such investigations would be valuable to teachers who are in need of effective, evidence-based instructional techniques to enable their students with writing difficulties to achieve high levels of academic success across the curriculum.

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