

Evidence-Based Practices for Writing Instruction



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Writing is critical to student success in education. In grade school, teachers ask students to compose texts to demonstrate, support, and deepen their knowledge and understanding of themselves, their relationships, and their worlds (Bangert-Drowns, Hurley, & Wilkinson, 2004; Graham & Perin, 2007a, 2007b; Keys, 2000; Shanahan, 2009; Sperling & Freedman, 2001). Students' competence with such writing tasks aids their performance on high-stakes achievement tests in writing and other learning domains (e.g., Graham & Hebert, 2011; Jenkins, Johnson, & Hileman, 2004; Reeves, 2000). Likewise, in postsecondary education, university professionals use writing to evaluate applicants' qualifications for admission, and proficient writing is expected for completion of a college degree (National Commission on Writing for America's Families, Schools, and Colleges [NCWAFSC], 2003, 2004, 2005; Smith, 2000).

Writing also serves as a gateway for employment and promotion in the workplace (NCWAFSC, 2004), and trends suggest that the demand for proficient on-the-job-writing will only increase in the future (Bazerman, 2006; Smart, 2008). Of course, writing also serves many purposes in today's civic life. In a nationally representative sample of teens, 85% reported using some form of electronic personal communication (e.g., text messages, social network posts, blogs, emails) for daily social interaction, self-exploration and expression, and reflection on current events (NCWAFSC, 2008). Writing can also help reduce mental and physical distress and can limit the need for health care related to impairments caused by such distress (Harris, 2006).

Together, these facts make the case for the central role of writing in society. Despite its importance for the success of lifelong learners and productive citizens, writing is a struggle for a large segment of the population, and nearly 75% of the nation's children and adolescents are not able to produce texts that are judged to meet grade-level expectations (National Center for



Education Statistics, 2012; Persky, Daane, & Jin, 2003; Salah-Din, Persky, & Miller, 2008).

Likewise, nearly one third of high school graduates are not ready for college-level composition courses (ACT, 2007), and three fourths of college faculty and employers rate students' and employees' writing as only fair or poor (NCWAFSC, 2004; Public Agenda, 2002).

One reason so many individuals fail to attain competency in writing is the limited implementation of evidence-based practices (EBPs) for writing in many classrooms (e.g., Burns & Ysseldyke, 2009). For instance, according to self-report data from a national sample of elementary teachers, instruction in planning and revising strategies for composing texts fills less than 10 minutes per day (Cutler & Graham, 2008). In secondary classrooms (see Applebee & Langer, 2006, 2011; Kiuahara, Graham, & Hawken, 2009), teachers report frequently giving writing assignments that require little analysis, interpretation, or actual composing (e.g., abbreviated responses, worksheets) and devote less than 3 hours per marking period to instruction related to writing strategies (and even less time to other aspects of instruction).

A major goal of education reform is to incorporate the findings from clear, consistent, and convincing scientific research into the day-to-day operations of schools to help create a culture of evidence-based educational practices to promote high-quality instruction and, as a result, improved student outcomes. In the domain of writing, systematic syntheses of the available group experimental, group quasi-experimental, single-case experimental, and qualitative research yielded a list of 36 separate writing instruction and assessment practices (see Appendix for innovation configuration/IC matrix) organized into 10 different essential component categories. These practices emerged from 20 meta-analyses or qualitative research syntheses, which have been designated in order and with superscript numerals in the Reference section of this paper. The IC matrix features these numerals to identify which meta-analyses



provided research evidence for the listed practices. In addition, the IC matrix identifies at which grade bands (i.e., K-2, 3-6, and 7-12) there is at least some research support for each practice. Of course, the rigor of the body of research evidence supporting each practice varies across practices; some practices are supported by strong research evidence, some are supported by moderate evidence, and some are supported by limited evidence. The strength of the research base for each practice has been color coded in the IC matrix; green indicates strong evidence, yellow indicates moderate evidence, and orange indicates limited evidence. Strong evidence is defined here as having at least four quasi-experimental studies with equivalent group pretest performance and independent replication by multiple research teams, *or* one randomized clinical trial (RCT) plus one quasi-experimental study with equivalent group pretest performance, *or* five or more single-case experimental studies with a demonstrated functional relationship between the treatment and outcomes and independent replication by multiple research teams. Moderate evidence is defined as at least three quasi-experimental studies with equivalent group pretest performance and independent replication by multiple research teams, *or* at least three single-case experimental studies with a demonstrated functional relationship between the treatment and outcomes and independent replication by multiple research teams. Limited evidence is defined as at least one RCT, *or* at least one quasi-experimental study with equivalent group pretest performance, *or* one or more single-case experimental studies with a demonstrated functional relationship between the treatment and outcomes, *or* at least three qualitative studies with credible data sources. These criteria were informed by those specified in the 2005 special issue of the journal *Exceptional Children* (volume 71, number 2).

Evidence-Based Writing Practices: Essential Components

The 36 evidence-based instruction and assessment practices for writing fall into one of the following 10 essential component categories. These component categories provide an



organizational framework to aid teachers, administrators, and others in their application of the practices. As such, the components identify the big ideas denoted by the individual practices.

Component 1—Writing Is an Essential Part of the Curriculum

Writing must be deemed an essential part of the school experience while developing curriculum, selecting instructional materials, prioritizing professional development opportunities, allocating time and effort for instruction, and weighing student outcomes. Writing instruction and practice should occur every day and in all school subjects (totaling up to 1 hour each day for most grades) to help students gain confidence and competence with writing for varied purposes and audiences (Graham, Bolinger, et al., 2012).

Component 2—Varied Approaches to the Teaching of Writing

Teachers, administrators, and other instructional personnel should recognize that there is a variety of approaches to teaching written expression, some of which reflect a more comprehensive treatment of writing than others. All students will require instruction that is comprehensive, but teachers must be comfortable with adjusting their instructional approaches to match individual learner needs (e.g., a strategy instruction approach may be emphasized when a student requires a greater focus on writing strategies) as well as with adjusting the degree of support they offer within a particular approach.

Component 3—Instruction Focused on Process Elements

Writing instruction should focus on helping students understand and deftly execute in ways that are developmentally appropriate the elements of the writing process, including prewriting activities to generate ideas and plan content for papers, drafting text, and revising and editing text (Graham, McKeown, Kihara, & Harris, 2012; Graham & Perin, 2007a, 2007b; Graham & Sandmel, 2011). Younger writers and those who struggle with writing will require greater explicitness, more practice, and enhanced scaffolding (e.g., repetitive modeling, graphic



aids, checklists, incremental goals, expectations); these writers may initially benefit from a predictable procedural routine for writing. However, all students should eventually be taught to use the writing process in an iterative and recursive fashion, in which all elements occur multiple times and with a great deal of overlap among the elements (e.g., planning, drafting, and revising take place for small chunks of text following a larger organizational outline of a longer paper; drafting and revising occur simultaneously). This instantiation of the writing process more accurately reflects how the act of writing looks for competent and expert writers.

Component 4—Instruction Focused on Product Elements

Writing instruction should also focus on helping students understand and use elements that appear in the text and make the text pleasurable, informative, and/or provocative for the reader. The structure of text segments and the text as a whole, the words chosen to communicate ideas, and the degree of creativity and imagination present in the text are elements that contribute to the writer's success in composing a purposeful paper that meets the needs of the audience and fulfills the writing task (Graham, Bollinger, et al., 2012; Graham, McKeown, et al., 2012; Graham & Perin, 2007a, 2007b; Olinghouse & Wilson, 2013).

Component 5—Utilizing Technology in Writing Instruction

Technology continues to advance at a rapid pace, and the technological tools available to support writers expand every few months. Technology runs the gamut from basic word processing with grammar and spell checkers to more sophisticated applications such as a digital stylus for transcribing notes on a tablet device (and then using software to convert the handwritten text to typewritten text), automated scoring of writing samples with feedback, and collaborative writing platforms. Moreover, new forms or modes of communication have evolved over the past quarter century with the advent of email, texting, social media, blogs, multimedia web pages, and the like. To prepare students for 21st century writing tasks, teachers must help



students take advantage of the available tools and modes through systematic and purpose-driven instruction that aims to identify and put to use the appropriate tools for the most suitable tasks throughout the writing process. Additionally, students who struggle with writing are likely to benefit even more from the thoughtful use of technology to eliminate or diminish the barriers they encounter to successful text production (see MacArthur, 2006).

Component 6—Effective Assessment and Feedback for Writing

Teachers assume, rightly so, that students need ample feedback about their writing to make improvements in content, organization, and form. Feedback from both teachers and other students is a key part of effective writing instruction, but teachers must recognize that a host of variables can have undue influence on how they evaluate the quality of a composition; these variables include the structure of rubrics designed for this purpose; the teacher's scoring reliability; a student's facility with writing mechanics (i.e., basic writing skills); and the paper's representativeness of a student's true writing ability (Graham, Harris, & Hebert, 2011a, 2011b). Additionally, students improve their writing quality when they use explicit criteria (e.g., rubric traits) to self-evaluate their writing performance.

Component 7—Instruction Focused on Writing Skills

If not applied with a large degree of automaticity, basic writing skills such as spelling, handwriting, typing, capitalization, punctuation, and grammar can become obstacles to productively written expression (Troia & Graham, 2003). Explicit, systematic, and sustained instruction in such skills, especially in the context of authentic writing activities, is advised to ensure correct and fluent application of basic writing skills during text production (Andrews et al., 2006; Graham, Bolinger, et al., 2012; Graham, McKeown, et al., 2012; Graham & Perin, 2007a).



Component 8—Learning Through Writing

In every grade, students read informational source texts about people, places, and things to increase their background knowledge about natural phenomena, human relations, and historical events. Effective writing instruction capitalizes on these reading materials (a) through the use of textual sources and other sources of information, such as video, audio, lecture, and directed inquiry, as content for written expression (e.g., writing a first-person historical account of Lewis and Clark’s first encounter with Sacagawea, writing a feature article about the pros and cons of canine ownership) and (b) through the use of writing as a mechanism to enhance students’ topic knowledge via extended explanation/interpretation and personal reflection.

Component 9—Promoting Independent and Reflective Writers

Accomplished writers set concrete rhetorical and personal writing goals for composing, monitoring their progress, and evaluating their written texts in the context of their goals. Instruction aimed at supporting students’ capacities to engage in goal-oriented behaviors, deeply reflect on their writing strengths and limitations, and take appropriate action promotes independence and better writing (Graham, Bollinger, et al., 2012; Graham, McKeown, et al., 2012; Graham & Perin, 2007a, 2007b; Rogers & Graham, 2008). Teacher modeling of and guided practice with activities such as graphing productivity (e.g., total words written, total distinct ideas); accuracy (e.g., proportion of correctly spelled words, number of incorrect punctuations); and complexity (e.g., proportion of complex sentences, number of successfully refuted counterarguments) can help students internalize goal setting and self-evaluation.

Component 10—Promoting a Supportive Writing Environment

If students know they will receive adequate support to be successful with writing assignments, feel writing is exciting and important, and believe that their teachers and peers value their writing contributions, they are more likely to be motivated to write. There are many



means by which teachers can create supportive environments, including the frequent use of personally relevant and authentic writing tasks; modeling; teacher-student and peer conferencing; collaborative writing activities; praise for effort; and targeted adaptations to the writing environment, tasks and materials, instruction, and evaluation to accommodate the needs of individual writers (Graham & Perin, 2007a, 2007b; Rogers & Graham, 2008).

Evidence-Based Writing Practices: Descriptions and Suggestions

The 36 EBPs listed in the IC matrix and grouped by essential component category are described below. Each practice is described briefly (those seen less often in classrooms have concrete examples to aid implementation) with representative references for further consultation. These references serve to guide the reader to key studies for each practice but in no way represent the full spectrum of research available for a practice. An exhaustive list of research studies associated with a practice can be found in the meta-analyses cited for the essential component under which a practice is found.

Component 1—Practice 1A: Providing Extra Time for Writing

When students spend more time in sustained writing activities and/or write more frequently, they have greater opportunities to practice their writing skills and strategies for composing. Such massed and distributed practice occasions can lead to improvements in writing performance, especially when accompanied by strong writing instruction. Given that it is often the case that too little time is devoted to writing in school, any effort to increase the overall time students engage in writing in and out of school is likely to be beneficial (see Knudson, 1989; Raphael, Englert, & Kirschner, 1986).

Component 1—Practice 1B: Free Writing

Students need regular opportunities to independently probe the craft of writing without concern for external criteria or judgments about their writing performance. This frees students to



engage in writing to explore whatever topics they wish in whatever manner they believe to be appropriate—the goals are to develop fluid thinking and translation of thoughts into text and to form a habit of regularly writing. In school, teachers frequently use journals as platforms for free writing, but with free writing, teachers should not (a) assign topics about which to write, (b) require students to share their journals with others, or (c) ask students to conform to a specific format or type of journal writing. Students should make these determinations, although teachers should encourage journaling most every day for between 10 minutes and 20 minutes (depending on the grade of the class) and reassure students that the writing is their own property to do with as they see fit (e.g., share with a friend, family member, or teacher). Students should not worry about writing conventions, genre, format, audience, etc. Of course, other journals, such as learning logs and dialogue journals, can support extant instructional goals, but these do not fit the spirit of free-writing journals. In fact, Elbow’s (1973) original description of free writing encouraged continuous writing without censoring or editing for a set period of time (see Gomez, Parker, Lara-Alecio, & Gomez, 1996; Wienke, 1981).

Component 2—Practice 2A: Process Writing Instruction

Process writing instruction serves as the backbone for most writing instruction that takes place in United States classrooms, although there is high variability in how this approach is interpreted and enacted by teachers (Lipson, Mosenthal, Daniels, & Woodside-Jiron, 2000; Troia, Lin, Cohen, & Monroe, 2011). A process approach to writing instruction should be characterized by (a) extensive opportunities for writing; (b) writing for authentic audiences and purposes; (c) engaging in cycles of planning, translating, and reviewing; (d) personal responsibility and ownership of writing projects; (e) self-reflection and evaluation; (f) a supportive writing environment; and (g) individualized assistance and instruction. One key to successful implementation of process writing instruction is a shared understanding among all



instructional staff of its core features and the relevance of each feature to student success in writing (see Pritchard & Marshall, 1994; Varble, 1990).

Component 2—Practice 2B: Comprehensive Writing Instruction

A comprehensive writing program uses the backbone of the process approach in tandem with explicit instruction in strategies to support the writing process as well as text structure (i.e., paragraph and genre organization) and writing skills (i.e., writing conventions and use of the computer to produce text) instruction. The combination of these instructional approaches is a potent mechanism for addressing the writing needs of a diverse group of students. Most teachers will require extensive and prolonged professional development to achieve a level of comfort with each approach and the deft integration of approaches to attain a cohesive comprehensive instructional program (see Bui, Schumaker, & Deshler, 2006; Englert et al., 1995).

Component 2—Practice 2C: Strategy Instruction

A strategy is a set of procedural steps taken to solve a problem. In the case of writing, strategies for carrying out the writing process and managing the writing task are needed because composition often takes place in an ill-defined problem space (i.e., the requisite outcome to achieve one's goals—the text—is not clear, and the approach one adopts to achieve the outcome is not fixed). Strategy instruction provides students with cognitive routines for managing the complexities of writing tasks and can help them gain greater awareness of their writing strengths and challenges; consequently, students can be more strategic while writing. The Self-Regulated Strategy Development (SRSD) model is one example of a strategy intervention that has been used successfully with all kinds of writers (see Graham, 2006; Graham, Harris, & Troia, 1998) to plan, revise, and edit. With SRSD, teachers model how to use the targeted strategy and then provide students with as much support as they need to progress toward independent use of the strategy. Support can include the teacher working as a partner in applying the strategy, peers



helping other students apply the strategy, and simple reminders for using part or all of the strategy. Students also learn any background knowledge required to apply the strategy successfully (e.g., text structure); develop a thorough understanding of how the strategy supports their writing efforts; and systematically investigate how to apply the strategy across diverse contexts and writing tasks. Self-instructions, goal setting, self-monitoring, and self-evaluation further support students learning to use the strategy. As an illustration, students often develop and use self-statements for managing some aspect of their behaviors (e.g., impulsiveness) that interferes with using the strategy. Throughout instruction, the importance of effort and collaborative interaction is stressed. Finally, instruction is criterion-based because students do not progress to subsequent stages of instruction (e.g., from supported to independent use of the strategy) until they have met the criteria for doing so (see Graham, Harris, & Mason, 2005; Torrance, Fidalgo, & Garcia, 2007; Wong, Butler, Ficzere, & Kuperis, 1996).

Component 3—Practice 3A: Teaching Prewriting, Planning, and Drafting

Activities that support the development of content for writing (e.g., prewriting activities that may help learners construct background knowledge about a topic, brainstorming ideas based on existing knowledge, completing graphic organizers that signpost with keywords a flexible network of ideas) help authors produce higher quality papers. Although planning for writing does not necessarily occur prior to generating an initial draft (many expert writers do most of their planning while, not before, drafting), prewriting activities that focus on generating serviceable content enable the novice writer to bypass attention and memory disruptions that can occur while drafting longer texts. Planning involves three integrated actions: (a) formulating, prioritizing, and modifying both abstract and highly delineated goals and subgoals to address task and genre demands and perceived audience needs; (b) generating ideas; and (c) selecting and organizing valuable ideas for accomplishing the established goals (Bereiter & Scardamalia,



1987; Hayes & Flower, 1986). Because many students fail to plan ahead for writing and do not possess the level of sophistication required to plan and draft simultaneously, explicitly teaching planning behaviors and strategies has been extensively studied in the research literature and has been found to be very beneficial (see Brodney, Reeves, & Kazelskis, 1999; De La Paz & Graham, 1997).

Component 3—Practice 3B: Teaching Revising and Editing

Checklists and questionnaires that encapsulate prompts for revising and editing are staples in many classrooms, although a checklist does not guarantee students will make the requisite changes or even dependably evaluate their papers using the items on the checklist. Nevertheless, checklists are meant to be flexible procedural facilitators that scaffold revising behaviors and should (a) reflect students' increasing competence by including more items over time and (b) contain at least some items suited for the individual needs of each writer. One such checklist developed by Ellis and Friend (1991) uses the acronym SEARCH (i.e., Set goals, Examine paper to see if it makes sense, Ask if you said what you meant, Reveal picky errors, Copy over neatly, and Have a last look for errors). This checklist is unique because (a) students set writing goals before beginning to write and when finished revising and editing a paper to determine if the goals were met, and (b) students work with peers to double check editing.

As an alternative to a checklist, the C-D-O strategy for individual revising (De La Paz, Swanson, & Graham, 1998; Graham, 1997) involves a greater degree of self-regulation on the part of the writer than checklists and is considerably more powerful; consequently, it is very helpful for students with writing difficulties. The prompt sheet lists three steps for strategy deployment—Compare (i.e., identify discrepancies between the written text and the intended meaning), Diagnose (i.e., select a reason for the mismatch), and Operate (i.e., fix the problem and evaluate the effectiveness of the change). These strategy steps occur first while the student



attends to each sentence in the paper and then during a second cycle while the student attends to each paragraph in the paper. A third cycle, focusing on the whole text, could be added. A minimum of two cycles is necessary to help the student attend to local and global problems in the text. The diagnostic options for making meaningful revisions vary depending on the level of text to which the student is attending. The teacher must develop sets of diagnostic cards, color coded for each cycle, from which the student selects. The diagnostic cards serve both to focus a student's efforts and to limit the variables in play that, in greater numbers, could easily frustrate a struggling writer. Clearly, using C-D-O requires quite a bit of explanation, modeling, and guided practice because it is complex, and it necessitates lengthy interactions with text because the procedure is enacted for each sentence, paragraph, etc. prior to identifying and correcting problems in larger units of text. Therefore, it may be advantageous to use C-D-O for relatively short texts until students have internalized and automatized the procedure. C-D-O facilitates self-regulation in revising because it provides a structured approach for self-monitoring writing problems and using self-talk to manage the process; certainly, other components of self-regulation could be added. For instance, a student may determine that a reduction in the number of times he or she selects *lacks details* as a diagnostic option is warranted as a goal, and then he or she can self-record relevant data while using C-D-O to monitor progress in reaching that goal (see McNaughton, Hughes, & Ofiesh, 1997; Scott, 1993).

Component 4—Practice 4A: Paragraph Structure Instruction

Instruction aimed at helping students construct well-organized paragraphs (i.e., those with engaging topic sentences, impactful concluding sentences or logical transition sentences, and integrated and relevant topic elaboration sentences) is essential to helping students build their knowledge of how texts are effectively organized. Graphic aids can help students visualize and follow the prototypical structure of paragraphs. Explicitly teaching students vocabulary



terms that illustrate ways in which elaborative sentences are organized (e.g., comparative, conditional, temporal, spatial, causal) within a paragraph will help students maintain cohesion in their writing (see Dowell, Storey, & Gleason, 1994).

Component 4—Practice 4B: Text Structure Instruction

Students must use appropriate conventional patterns for accomplishing purposes through their writing if they wish to communicate effectively with their readers. Familiarity and facility with these conventional patterns, or genres, will position students to attempt writing assignments with confidence, explore hybrid patterns of writing, or even invent new types of writing. A carefully orchestrated routine can guide students' appropriation of text-structure knowledge associated with genres; one such routine is genre study. In genre study, each instructional cycle focuses on a single genre (e.g., poetry) and one or two forms of that genre (e.g., cinquain, haiku). To develop a strong sense of the genre and its forms, a genre study cycle may last up to an entire marking period. In each cycle, teachers (a) use graphic aids or mnemonic devices to introduce and help students remember the key elements of text structure (e.g., story parts); (b) share touchstone texts that exemplify the structure and valued genre traits and represent high-quality writing; and (c) give students plenty of opportunities to create texts that use the target text structure and sound like the touchstone texts they have read (see Bryson & Scardamalia, 1996; Gambrell & Chasen, 1991).

Component 4—Practice 4C: Vocabulary Instruction

Sufficient vocabulary knowledge is essential to both text comprehension and written expression and encompasses knowledge of common and rare general vocabulary (e.g., *correlate*), specialized common vocabulary (e.g., *dividend* in economics, *solution* in chemistry), and technical vocabulary terms (e.g., *ribosome*). Highly targeted and explicit topic-area vocabulary and genre-specific vocabulary instruction (perhaps combined with spelling



instruction) to build capacity for generating texts should have the following features (see Duin & Graves, 1986):

- a focus on both definitional knowledge (i.e., formal categorical understanding) and contextual knowledge (i.e., linkages to prior knowledge and other vocabulary);
- the identification and use of morphological patterns (i.e., Greek and Latin roots, base words, and frequently used affixes);
- multiple exposures in varied and authentic contexts to facilitate fast and slow mapping;
- exposure to words in meaningful groups to examine similarities and differences and build lexical networks; and
- strategies and activities for acquiring new vocabulary, such as semantic mapping/webbing, semantic features analysis, keyword mnemonics, and concept ladders.

Component 4—Practice 4D: Creativity/Imagery Instruction

Creativity in writing (i.e., the ability to synthesize and express ideas in original ways) can be fostered through (a) guided imagery in which students are told how to construct mental images of events and things with strong sensory components that are then encoded into writing; (b) exposure to texts with strong imagery and creativity to boost students' creativity in their own writing; and (c) the provision of direct sensory experiences (e.g., touching objects with different surface properties while blindfolded). In essence, creativity in writing is heightened when students understand how to convey sensory details with vivid, descriptive language (see Jampole, Konopak, Readence, & Moser, 1991).



Component 4—Practice 4E: Text Models

To effectively use text models to illustrate elements of mature writing craft, teachers should employ activities in which students compare and contrast superior exemplars with inferior ones; focus on one or two text attributes at a time (e.g., word choice, sentence fluency, text structure/organization); and study excerpts if whole texts are less feasible. For instance, touchstone text may include an excerpt from Fitch’s (1999) *White Oleander*:

The Santa Anas blew in hot from the desert, shriveling the last of the spring grass into whiskers of pale straw. Only the oleanders thrived, their delicate poisonous blooms, their dagger green leaves. We could not sleep in the hot dry nights, my mother and I. (p. 3)

Text may include an excerpt from Cleary’s (1964) *Ribsy*:

Mr. Huggins went on, and so did Ribsy, his tongue flapping like a flag and his feet scissoring back and forth as fast as he could make them go . . . Ribsy barely made it to the next stop, which was a traffic light at a busy intersection. He stood panting with his sides going in and out like bellows. (p. 11)

These excerpts illustrate exemplary word choice and sentence fluency. These may be contrasted with excerpts from students’ texts taken from the Internet with vague, uninteresting word choice and limited voice; this avoids the unpleasantness of highlighting weak writing produced by classroom students.

Another way in which teachers can use text models to support written expression is through writing frames (Nichols, 1980). Writing frames can help weaker writers incorporate appropriate text organization for communicating information in writing that adheres to a basic structure (e.g., compare-contrast). The frames prompt coherent organization by providing partially completed sentences or transition words that, over time, can be faded as students



become familiar with each frame and internalize relatively standard verbiage used to signal a text structure (see Knudson, 1991).

Component 5—Practice 5A: Using a Word Processor

Writing produced via a word processor enables easier transcription and revision, potentially greater collaboration in the writing process, and broader reach for most written products through sharing on the Internet. Moreover, computers and handheld devices with word processing capabilities are omnipresent. As such, teaching students how to use a word processor to plan, draft, revise, edit, and publish texts should be emphasized across grades. It is important to note that it is simply not enough to provide access to computer technology but to directly teach students how to use technology to write effectively (see MacArthur & Graham, 1987; Silver & Repa, 1993).

Component 5—Practice 5B: Technology Applications

Technology applications for writing can take many forms and can span applications that support transcription (e.g., spelling and grammar checkers, word prediction to bypass poor spelling) to applications that support the writing process (e.g., concept mapping software for planning, automated essay scoring with feedback for revising). Regardless of the technology application used, students will need comprehensive training in the use of advanced technologies to aid written expression with ample modeling, guided practice with feedback, and opportunities for independent practice using controlled exercises and authentic writing activities. Teachers should also be mindful of how students use native writing tools (e.g., handheld devices, speech-to-text software, multimedia authoring tools) and new authoring platforms (e.g., social media websites, blogging, texting) to capitalize on these during writing instruction and while introducing technology applications to help avoid reinforcing the digital divide that some posit



exists between home and school (see Carlson & Miller, 1996; Franzke, Kintsch, Caccamise, Johnson, & Dooley, 2005).

Component 6—Practice 6A: Utilizing Rubrics

Rubrics serve to evaluate written products and provide feedback to students about their writing. Holistic rubrics give an overall impression of the quality of the writing; trait-oriented rubrics provide more discrete information about aspects of writing, such as content, style, and conventions (using too many traits is not advised because the separate traits do not discriminate well); and genre-oriented rubrics identify how well the text captures the structure associated with a genre (e.g., story grammar elements or functional persuasive argument elements). Concrete and discrete feedback provided through the rubric will help students improve their writing. Having students help develop rubrics, use them to evaluate their own writing and that of others, and fine-tune rubrics to match their own writing needs are excellent ways to help students internalize the criteria expressed (see Andrade, Du, & Wang, 2008).

Component 6—Practice 6B: Feedback

The provision of feedback to students regarding the effectiveness of their writing by adults and peers is a powerful method for improving students' writing performance. Feedback should not be limited to written comments on a submitted paper but should entail frequent dialogue throughout the writing process about the student's application of knowledge, skill, and will to yield a successful piece of writing. Moreover, students should be expected to internalize the constructive nature of feedback and the valued characteristics of writing to provide feedback to other students. In all cases, feedback should be tailored to individual needs and prioritized to address the most pressing needs of the writer (see Boscolo & Ascorti, 2004).



Component 6—Practice 6C: Construct Representation and Scoring in Writing Assessment

The evaluation of writing performance must be based on multiple samples of varied types of writing to reliably estimate a student’s true writing ability because performance on any single writing task is heavily influenced by topic and genre knowledge, motivation, application of writing skills, task parameters, and so forth—variables that fluctuate across writing occasions and genres of writing (e.g., Hebert, Graham, & Harris, 2010; Purves, 1992; Williamson, 1993). Basing judgment about a student’s writing ability on one or two writing samples is like administering a math computation test with one or two items and judging the student’s competence to perform math calculations based on his or her test score. The effort teachers make to monitor their students’ progress in writing through frequent sampling and evaluation of writing products is beneficial to students’ writing achievements; such ongoing monitoring helps teachers quickly adjust instruction for individuals. However, teachers must keep in mind that without the use of consistent scoring methods and attempts to independently validate their scoring judgments (e.g., using other raters), the data yielded by their efforts will be of limited utility (see Engelhard, Gordon, & Gabrielson, 1991).

Component 6—Practice 6D: Presentation Effects on Writing Assessment

The degree of legibility and mechanical correctness (i.e., spelling, capitalization, punctuation, and grammar); the writer’s identity; and the quality of papers scored prior to a given student’s paper are presentation factors that influence writing assessment. Papers that are more legible and exhibit better control of writing conventions are scored more favorably than less legible papers and papers with more mechanical errors when other aspects of writing are held constant. Also, teachers may be biased while scoring papers by (a) their knowledge of a student and (b) the quality of papers earlier in a set (e.g., several good papers preceding an average paper may result in that average paper receiving a lower score than it otherwise would have). The last



two issues—masking students’ identities while scoring writing samples and randomly ordering papers to be graded—are relatively easy to fix. Although having students word process their papers eliminates the influence of legibility on scoring decisions (and may make editing for writing conventions easier to accomplish), computer-generated papers will underestimate students’ true writing abilities if students are not experienced with word processing. Moreover, teachers tend to judge writing produced on the computer more harshly simply because errors in spelling, capitalization, punctuation, and grammar tend to be more salient, and the affordances of a word processor raise expectations for mechanical correctness. Teachers must understand how factors outside writing can unduly bias their judgments and attempt to minimize the impact of these factors, although it may not be possible to do so completely (see Russell & Tao, 2004).

Component 7—Practice 7A: Transcription Skills Instruction

Most students at most grade levels need focused instruction in transcription skills (i.e., spelling) and/or how to physically produce texts (i.e., handwriting and typing) because they exhibit weaknesses in these areas or, as in the case of spelling, because there is a protracted course of development due to complexity and nuance (see Berninger et al., 2002).

Component 7—Practice 7B: Grammar and Usage Instruction

Much like transcription skills instruction, teaching grammar and usage (i.e., capitalization and punctuation) is a concern among all teachers at all grades, especially because unique grammatical structures and usage conventions are associated with text types used in different disciplines. Although the empirical support for grammar and usage instruction as a means to improve writing quality is relatively weak, the key to positive benefits lies in authentic opportunities to use existing grammatical knowledge to improve text quality (versus decontextualized practice routines) with less emphasis on esoteric terminology and rules. Traditional grammar instruction focused on developing extensive meta-linguistic knowledge



about grammatical structure and rules is clearly not a means to improve writing, or even grammatical knowledge for that matter (see Campbell, Brady, & Linehan, 1991).

Component 7—Practice 7C: Sentence-Combining Instruction

Instruction in sentence combining involves teaching students to use the generative combinatory nature of syntax to combine simple kernel sentences into more sophisticated ones (e.g., the kernel sentences, “My dog is a standard poodle” and “He is energetic and needs lots of love” can be combined to form the more sophisticated sentence, “My energetic male standard poodle needs lots of love”) and, sometimes, to deconstruct unnecessarily complex sentences (Saddler, 2012; Saddler & Graham, 2005). This instruction, combined with instruction to assist students with recognizing and producing the four basic sentence types (i.e., simple, compound, complex, and compound-complex) can result in student writing that is more complex and varied with respect to sentence structure. Typically, both kinds of instruction capitalize on controlled practice opportunities with teacher-selected sentences plus student-generated sentences from written texts to develop flexibility with sentence construction skills (see Kanellas, Carifio, & Dagostino, 1998).

Component 7—Practices 7D and E: Decreasing Spelling and Grammar/Usage Errors

Helping students identify and correct their errors in spelling, grammar, and usage (i.e., proofreading) with strategy instruction; computer applications (e.g., spelling and grammar checks); editing checklists; and/or other means, coupled with instruction aimed at helping students appreciate the impact such errors have on their readers, significantly reduces the number of errors students make in their papers (see McNaughton et al., 1997).

Component 8—Practice 8A: Taking Notes

Note-taking proficiency influences the quality of one’s writing, especially in content-area classrooms where one must integrate multiple source materials to demonstrate understanding of



key concepts and information. Teaching students how to effectively take notes (e.g., either unstructured or structured with the use of graphic organizers or outlines) helps them organize and summarize voluminous source texts they must read, digest, and recast. In addition, research indicates that note taking improves comprehension of material read (see Denner, 1987; Hattie, Biggs, & Purdie, 1996).

Component 8—Practice 8B: Summarization Instruction

Teaching students how to effectively summarize improves both reading comprehension and written expression. Perhaps at the heart of producing a good summary is the ability to synthesize and translate (i.e., a summary is not a retelling or paraphrasing) main ideas, often encapsulated in topic sentences, and relevant supporting details from the source text. When topic sentences are present in a text, students should be able to identify them via their characteristics (i.e., the most important sentence in a paragraph or segment, all other sentences refer to it and elaborate upon it, and if omitted, the paragraph or segment would not make sense). When topic sentences are not present, students must be able to invent them to serve as mental hooks for details (e.g., writing newspaper headlines and chapter titles can serve as practice exercises). After students combine the main ideas and supporting details from the paragraphs or sections of text, underlining important details associated with each main idea in the text will help students create an initial summary. The deletion of trivial and redundant information and the substitution of superordinate category labels for subordinate items (e.g., *farm animals* for pigs, cows, and horses) will transform an initial summary that reads like a paraphrase into a true summary of the gist of the content. Of course, checking the summary against the original text helps ensure accuracy and completeness (see Chang, Sung, & Chen, 2002; Faber, Morris, & Lieberman, 2000).



Component 8—Practice 8C: Inquiry Instruction

The major goal of inquiry instruction in the context of writing is to help students derive content for a paper via data obtained through observation, experimentation, textual analysis, and presentations. Inquiry instruction is most effective when it is characterized by (a) authentic student-centered questions that drive inquiry activities, (b) collaborative and cooperative learning approaches to inquiry, (c) application of inquiry findings to real-world problems, (d) integration of the scientific process into inquiry activities, and (e) purposeful teacher facilitation and guidance to achieve learning objectives (see Hillocks, 1979).

Component 8—Practice 8D: Write in Response to Text

A common goal of content area and English language arts instruction and writing instruction is to help students acquire proficiency in responding to disciplinary texts. Response to texts improves comprehension of what is read and is a key mode of response in many disciplinary-based writing assignments. There are several very simple ways to help students read and respond to texts (see Saunders & Goldenberg, 1999):

- The teacher can ask students at the end of each lesson to produce on an index card a 1-minute closing paper; students should pose a genuine question about the topic studied that day, identify the key point from the content materials reviewed, summarize a discussion, or develop a question that may be used for a class test with a correct answer.
- A content-area journal (unlike one for free writing) can be used to help students respond to texts. In science class, for example, students may be asked to describe what was done, why it was done, what happened, and why it happened. In math, students may record the problem-solving procedures they employed for the problems assigned, explain why these were effective or ineffective, and share advice they



would offer to other students faced with the same math problems. In social studies, students can use their accumulating knowledge of a historical character to write a first-person fictionalized account of the individual's life.

- A jigsaw content learning group (Aronson & Patnoe, 1997) is another cooperative learning strategy for writing in the content areas. It can be coupled with double-entry journals (Cox, 1996) for an effective and efficient means of learning from multiple source materials on a topic. The steps for these activities are as follows:
 - Students are assigned to home groups, and each person in a group reads a different source text (e.g., a magazine article about exercise and cardiovascular health, a newspaper clipping about new medical procedures and drugs that can help reduce the risk of heart attacks, a consumer brochure outlining healthy eating tips for promoting cardiac health, a textbook chapter about the human circulatory system).
 - Then, while reading the assigned source text, each student completes a double-entry journal. This is a journal in which the student records an important piece of information from the source text on the left side of the journal page (with an accompanying page number) and a response, question, or evaluative comment on the right side. After completing their double-entry journals, students disperse to expert groups (i.e., groups in which everyone else must read the same source text). Members of the expert groups share their journal entries and summarize the material using graphic organizers.
 - Finally, students return to their home groups to teach the other members about the content information they learned from their text and to discuss how this



information relates to that covered by the other texts. The double-entry journal could be expanded to a triple-entry journal by having students within the expert groups respond in a third column to others' responses, questions, or evaluations.

Component 8—Practice 8E: Writing to Learn

The use of writing tasks to improve students' acquisition of content area knowledge and understanding of science, math, and social science concepts arises from the belief that writing affords students extended opportunities to think about, manipulate, and transform ideas and to reflect on their existing knowledge, beliefs, and confusions. Because writing is permanent and promotes more concrete and precise thinking processes, it offers a unique mechanism for extending learning beyond presentations, inquiry activities, and discussion (see Rivard, 1996).

Component 9—Practice 9A: Self-Regulation and Metacognitive Reflection

Teaching students to regulate the quality and productivity of their writing or their content-area learning through monitoring, reflection, and evaluation of behaviors and performance has a positive impact on student achievement. One way of helping students to become more reflective about their learning and writing is through visualization of performance over time with graphs or other visual displays. In combination with setting goals (see Practice 9B below), students can develop self-directed learning behaviors and greater independence when they are explicitly taught how to regulate their thoughts, feelings, and actions related to writing (see Glaser & Brunstein, 2007; Montague & Leavell, 1994).

Component 9—Practice 9B: Setting Product Goals

Setting goals enhances attention, motivation, and effort and facilitates strategic behavior (e.g., planning before writing) through the valuation of goal attainment. In other words, if goals are sufficiently important, students will do all that is necessary to attain them. For goals to have the most beneficial impact on writing behavior and performance and to encourage students to



marshal sufficient effort, they should be challenging (i.e., just beyond the student's current level of writing skill); proximal (i.e., attainable within a short period of time); concrete; and self-selected or collaboratively established (because real or perceived control boosts achievement motivation). Goals can focus on a writing process or an aspect of the product. For writing product goals, quality and quantity goals can be established and explicitly linked. Examples of process goals may include

- complete a planning sheet/graphic organizer using words or short phrases before writing (the use of single words or phrases to note planning ideas helps students feel less wedded to their initial plans because these plans do not become first drafts of whole texts);
- revise at least three times, once with a checklist, once with a peer, and once during a conference with the teacher before turning in the paper (setting up multiple passes at a composition with different tools and individuals helps establish an expectation that meaningful changes to one's goals, plans, and text will be made); and
- use the spell checker on the computer plus backward read-aloud to correct spelling mistakes, followed by use of a peer editor (spell-checkers catch a fairly limited number of spelling errors made by struggling writers, and backward reading decouples orthographic recognition from linguistic processing, which tends to filter information and make mistakes harder to detect) so re-reading the text aloud and asking a peer to check for mistakes can facilitate editing (see Page-Voth & Graham, 1999; Wolfe, 1997).

Examples of product goals (i.e., quality goals linked with quantity goals aimed to make the quality goals more concrete) may include



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- increase content score by two points—include five main ideas in an informational text with at least two supporting details for each main idea;
 - increase word choice score by two points—include at least 15 action helpers, descriptive words, or transition words per page; and
 - increase conventions score by one point—have no more than three errors per page on the final copy.

Component 10—Practice 10A: Peer Collaboration

Establishing routines that permit students to frequently work with their peers to plan, draft, revise, and/or edit compositions, such as when writing group papers, creates a positive writing environment. Students feel less competitive with one another and learn to seek and value their classmates' input to improve their written expression (see Pressley, Gaskins, Solic, & Collins, 2006; Pressley, Raphael, Gallagher, & DiBella, 2004; Pressley, Yokoi, Rankin, Wharton-McDonald, & Mistretta, 1997).

Component 10—Practice 10B: Conferencing

Peer and teacher conferencing, whether one-on-one, in small groups, or live versus virtual, is frequently used to engineer better student papers. Research has demonstrated that feedback regarding text clarity can facilitate changes in the revising behavior of students (Beach & Friedrich, 2006; MacArthur, Schwartz, & Graham, 1991; Stoddard & MacArthur, 1993). However, conferencing between students and teachers often has the flavor of typical instructional discourse (i.e., teacher-controlled and centered on assignment requirements and teacher expectations) rather than egalitarian conversations regarding writing craft and composition content, especially when the teacher is clearly more knowledgeable about the writing topic (e.g., Morse, 1994; Nickel, 2001). Moreover, peer respondents during peer conferencing activities often provide vague and unhelpful comments and suggestions to authors



unless the peers are trained to give meaningful feedback (e.g., Fitzgerald & Stamm, 1990).

Thus, the positive impact of conference feedback on the quality of students' papers is most likely due to the fact that they benefit from attention to even the most global aspects of composition, such as text structure and form, and notably improve their texts with even limited revision because they are so qualitatively weak in the first place (Fitzgerald & Stamm, 1990). To maximize the effectiveness of writing conferences, instructors should aim to

- establish a conversational stance to understand students' goals and ideas before discussing textual issues;
- prioritize the most problematic issues to discuss in the context of students' rhetorical goals and perspectives;
- provide frequent and varied opportunities for conferencing about pieces of writing;
- explicitly teach students conferencing routines and ways in which to provide descriptive, constructive feedback if peer conferencing is to be used;
- encourage flash drafting, a technique in which smaller segments of text (e.g., the climax of a story) are drafted, examined through conferencing, and revised to help students feel less invested in a completed draft of the whole paper;
- collaboratively establish concrete goals and next steps for revision; and
- give weaker writers more high-quality conference time (see Beach & Friedrich, 2006; Martin & Certo, 2008).

Component 10—Practice 10C: Teacher Modeling

Teachers who demonstrate enthusiasm for writing and regularly display the writing skills, strategies, and processes they wish students to emulate help students internalize these values and habits. In addition, when the teacher is considered by students to be a “writer,” students view the



teacher's input as more authentic because the teacher actively participates in the community of learners (see Pressley et al., 1997, 2004, 2006).

Component 10—Practices 10D and 10E: Authentic and Relevant Writing Tasks and Motivation

Because writing is a high-effort, high-cost activity, students must view their assigned writing tasks as purposeful and relevant to their lives in and out of school; otherwise, they will exert minimal effort to meet basic requirements. Identifying authentic tasks and audiences can be challenging for teachers who rely on prompt-driven instruction, which implies that prompts should be used sparingly. Students must have opportunities to choose the topics about which they write, to whom they write, and to what ends, as long as writing assignments present reasonable levels of challenge that help students grow as writers. Interesting tasks that connect with students' background experiences yet encourage further exploration will likely motivate students to expand their writing abilities (see Pressley et al., 1997, 2004, 2006).

Component 10—Practice 10F: Adaptations

For students who struggle with writing, teachers may consider differentiated instruction through strategic instructional grouping arrangements (i.e., whole class, small group, and individual teaching during writing conferences); the application of Universal Design for Learning principles (providing multiple means of representation, expression, and engagement); and learner-centered adaptations. Such adaptations include accommodations in the learning environment (e.g., providing a quiet and comfortable work space); instructional materials (e.g., individualized spelling lists, using picture cues to augment text associated with the steps of a planning strategy); and teaching strategies (e.g., re-teaching skills and strategies) as well as more significant modifications to task demands (e.g., using text frames as a scaffold for writing complete sentences or passages) and actual writing tasks (e.g., assigning a role for a group



composition, asking for annotated drawings in lieu of a standard text to reduce transcription demands). Effectively selecting, implementing, and monitoring the impact of any adaptation will rely heavily on the advice of educators, such as literacy coaches, remedial tutors, special education teachers, speech-language pathologists, and school psychologists, with expertise in writing instruction for students who struggle (see Pressley et al., 1997, 2004, 2006).

Conclusion

The list of 36 evidence-based writing instruction and assessment practices across the 10 component categories, taken together, should not be construed as an exhaustive inventory of all possible practices used to implement a complete writing curriculum; there may be other effective practices that do not have sufficient associated research evidence to be included in this paper, and there is no guarantee that any given practice identified here will be effective with every student. Educators who feel ill-prepared to teach writing (e.g., Cutler & Graham, 2008) should have ample professional development opportunities that address content and pedagogical knowledge about writing development, instruction, and assessment to help deepen their understanding of how to employ these practices (and others supported by emerging research) across diverse contexts and with diverse learners. Examining pre-professional and in-service professional development materials (e.g., course syllabi) for content associated with the listed EBPs using the associated IC matrix (see Appendix) can help identify where gaps in content may exist and the degree to which participants will develop proficiency with application in context.

Research evidence is limited in several areas and can constrain effective implementation of documented EBPs. First, the dynamic relationships between reading and writing and how these change in the context of child development and instruction are not well understood. Thus, we do not know how to leverage instruction to foster knowledge, skill, and strategy transference between them, which would maximize instructional efficiency and impact. Second, potential



explanatory factors for individual responsiveness to writing instruction have not been fully explored. Future studies must ascertain the relative contributions of oral language ability; reading ability; topic and genre knowledge; information processing skills (e.g., attention, perception, memory); transcription capabilities; strategic behavior; and motivation to predicting achievement gains and long-term outcomes in writing as well as to predicting each other. This information is necessary for developing specialized interventions for struggling writers who receive strong writing instruction in their general education classrooms, non-native English language learners, and older students who continue to struggle with basic writing skills. Third, we only know the impact of a handful of adaptations on students' writing performance; the effects of many other plausible adaptations have yet to be studied. Without this knowledge, it is difficult for educators to identify valid adaptations for writing problems and to purposefully integrate a wide array of adaptations into their classrooms.

It is important to view the EBPs noted here in the context of new standards for written expression and language use (e.g., the Common Core State Standards for Writing and Language [CCSS-WL]) because research suggests that standards (and the assessments designed to determine students' attainment of those standards) impact classroom instruction (e.g., Stecher, 2002; Stecher, Barron, Chun, & Ross, 2000). However, new standards are not likely to greatly affect teaching and learning without substantial investments in capacity, willingness, and expertise to upgrade the seriously troubled state of writing instruction in schools (Graham & Harris, 2013). Moreover, a recent study by Troia and Olinghouse (2013) found that the CCSS-WL signpost or signal for educators between 13 (36%) and 17 (47%) of the practices in this paper in at least one grade within each of four grade bands (i.e., K-2, 3-5, 6-8, and 9-12). Although the CCSS-WL are not intended to designate instructional practices, and there is no



current evidence to suggest standards with lower proportions of EBPs signaled are any worse than those with higher proportions signaled, the findings from this study do suggest that educators cannot rely on standards alone to point them to how to teach writing—other resources, such as this paper, must be consulted if educators are to be well informed about what works in the teaching and assessment of writing.



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Appendix

Innovation Configuration/IC Matrix

Essential Component	Grades K-2	Grades 3-6	Grades 7-12
1. Writing Is an Essential Part of the Curriculum^{12,14,16} Time is devoted daily to explicit writing instruction and practice, including free writing.			
1A. Providing Extra Time for Writing: Duration and/or frequency of sustained student writing are increased (e.g., write frequently).	X	X	
1B. Free Writing: Students to write about their choice of topic without concern for grading (e.g., journaling).	X	X	X
2. Varied Approaches to the Teaching of Writing^{1,4,6,7,12,13,15,16} There are diverse approaches to teaching writing, including process instruction, strategy instruction, and comprehensive instruction.			
2A. Process Writing Instruction: An instructional approach with a focus on writing processes that involves (1) writing for real/authentic/multiple purposes and audiences (other than the teacher); (2) engaging in cycles of planning, translating, and reviewing; and (3) personal responsibility and ownership of writing projects (e.g., student choice, student-directed decision making).	X	X	X
2B. Comprehensive Writing Instruction: An instructional approach with a focus on writing process plus strategy instruction, skill instruction, and/or text structure instruction.	X	X	X
2C. Strategy Instruction: An instructional approach in which students are explicitly and systematically taught (through modeling and guided practice with feedback) one or more strategies for planning, drafting, revising, and/or editing text with the goal of independent strategy usage.	X	X	X
3. Instruction Focused on Process Elements^{12,13,18} Activities and routines are established to help students successfully apply the writing process in an iterative and recursive fashion.			
3A. Teaching Prewriting, Planning, and Drafting: Teach using activities (e.g., using graphic organizers, brainstorming ideas or strategies) that are designed to help students generate and/or organize ideas prior to writing and/or writing a first draft that will later be reworked.	X	X	X
3B. Teaching Revising and Editing: Teach checking routines (e.g., read-aloud to locate and correct errors) or other means by which to correct errors in written work, including usage, capitalization, punctuation, and spelling mistakes.	X	X	X



Essential Component	Grades K-2	Grades 3-6	Grades 7-12
4. Instruction Focused on Product Elements ^{12,13,16,18} Activities and routines are established to help students incorporate conventional structural elements and creativity in their compositions.			
4A. Paragraph Structure Instruction: Teach students how to organize information into paragraphs.	X	X	X
4B. Text Structure Instruction: Teach students how different types of texts are structured and formed.	X	X	
4C. Vocabulary Instruction: Teach students genre- and topic-specific vocabulary to use in their compositions.		X	X
4D. Creativity/Imagery Instruction: Teach students to use visual images or other means to enhance creativity in writing.	X	X	X
4E. Text Models: Students read and analyze examples of one or more texts in order to recognize and emulate the patterns or forms in these examples in their own writing.	X	X	X
5. Utilizing Technology in Writing Instruction ^{1,2,5,8,12,13,17,18,19,20} Computer tools and software are incorporated throughout the writing process to support the production of text.			
5A. Utilizing a Word Processor: Students use a word processor as a primary tool for the production (including composition, editing, formatting, and possibly printing) of text.	X	X	X
5B. Technology Applications: Students use computers that are packaged with other software or hardware, such as spelling and grammar checkers, that support the writer software for formatting text; speech synthesis (i.e., typed text is converted to speech); speech recognition (i.e., writers' speech is converted to typed text); planning and outlining software; software for prompting students while writing; and software that provides feedback on aspects of the written text.	X	X	X
6. Effective Assessment and Feedback for Writing ^{8,9,10,12,16} Concrete feedback regarding student writing is given by other students and the teacher to support writing improvement. Factors that influence the reliable and valid assessment of writing are understood.			
6A. Utilizing Rubrics: Teach students to apply the criteria embodied by the scale or series of question on the rubric and formulate possible revisions or ideas for revisions.	X	X	X
6B. Feedback: Verbal or written information, including praise, from peers and/or adults in response to an author's work or a group's efforts at any point in the writing process.	X	X	X
6C. Construct Representation and Scoring in Writing Assessment: Evaluations of writing performance must be based on multiple samples of varied types of writing using consistent scoring methods and multiple raters.		X	X



Essential Component	Grades K-2	Grades 3-6	Grades 7-12
6D. Presentation Effects on Writing Assessment: Handwriting, spelling, and grammar errors have a significant detrimental impact on the evaluation of students' writing quality and/or content.		X	X
7. Instruction Focused on Writing Skills ^{8,12,13,16,18} Activities and routines are established to help students develop and apply knowledge about the conventions of written English and writing skills, including spelling, handwriting, keyboarding, capitalization, punctuation, and grammar.			
7A. Transcription Skills Instruction: Teach students spelling, handwriting, and keyboarding (i.e., typing) skills to improve quality of writing.	X	X	X
7B. Grammar and Usage Instruction: Teach students correct application of capitalization, punctuation, and grammatical knowledge in the context of composing text.		X	X
7C. Sentence-Combining Instruction: Teach students to construct more complex and sophisticated sentences through exercises in which two or more basic kernel sentences are combined into a single sentence.	X	X	X
7D. Decreasing Spelling Errors: The use of varied means to help students identify and correct spelling errors in their written work and understand that misspelled words influence readers' judgments about the message and the person who wrote it.		X	X
7E. Decreasing Grammar/Usage Errors: The use of varied means to help students identify and correct grammar and usage errors in their written work and understand that grammar and usage errors influence readers' judgments about the message and the person who wrote it.		X	X
8. Learning Through Writing ^{1,3,11,13,16} Instruction that aims to help students use textual and other sources of information as content for writing and to use writing as a means of deepening content and literary knowledge.			
8A. Taking Notes: Teach students to take notes on texts, possibly using structured formats (e.g., flowchart, outline, concept map), to support note taking.		X	X
8B. Summarization Instruction: Teach students how to summarize text through explicit and systematic instruction that focuses on either strategies for summarizing text or activities designed to improve students' text summarization skills.		X	X
8C. Inquiry Instruction: Teach students to develop content for writing by analyzing data derived from investigations/experimentation, textual/source analysis, or already provided information.	X	X	X



Essential Component	Grades K-2	Grades 3-6	Grades 7-12
8D. Write in Response to Text: Teach students to read and respond to texts through brief responses (e.g., questions and answers) and more extended responses (e.g., reactions, interpretations).		X	X
8E. Writing to Learn: Writing is used as a mechanism for learning content-area or topical information using active, personal, and constructive processes that are refined by feedback.	X	X	X
9. Promoting Independent and Reflective Writers ^{12,13,18} Goal setting, performance monitoring, and self-evaluation are key behaviors of accomplished writers.			
9A. Self-Regulation and Metacognitive Reflection: Teach students to regulate the quality and productivity of their writing or their content learning through monitoring, reflection, and evaluation of behaviors and performance through tracking (e.g., graphing).	X	X	X
9B. Setting Product Goals: Teachers or students set observable, specific, and individual goals for what students are to accomplish in their writing (e.g., how much students should write).	X	X	X
10. Promoting a Supportive Writing Environment ^{12,13,14} Students feel comfortable with writing independently and cooperatively and are encouraged to take risks because they have ample support from enthusiastic teachers. Teachers assign motivating writing tasks and make adaptations for individual needs.			
10A. Peer Collaboration: Students cooperatively work with their peers to plan, draft, revise, and/or edit their compositions.	X	X	X
10B. Conferencing: Discussion with teacher (or peer) about the writer's goals, thoughts, and behaviors; the writing process; the writing task; or the written product to promote growth as a writer.		X	X
10C. Teacher Modeling: Teachers demonstrate enthusiasm for writing and regularly display the writing skills, strategies, and processes they want students to emulate.		X	X
10D. Authentic and Relevant Writing Tasks: Writing activities are personally relevant for students and are undertaken for authentic purposes and audiences.		X	X
10E. Motivation: Teachers reinforce positive student attitudes and beliefs toward writing, partly by encouraging a sense of ownership and pride in one's writing through sharing, public displays, and more formal publishing opportunities.		X	X

