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Explicit Instruction: Historical and Contemporary Contexts

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Over the past 20-plus years, the instructional approach referred to as "explicit instruction" has been increasingly mentioned as an instructional method in the learning disabilities literature. Explicit instruction is not a unitary intervention, but can be a combination of over a dozen teaching behaviors or components used to design and deliver instruction. This multicomponent aspect likely contributes to the variability of the descriptions and definitions of explicit instruction found in journals, books, and other published documents. Because explicit instruction has become a prominent and often discussed topic in special education, we attempt to define and describe the term more precisely in order to increase the clarity and consistency of its use in both research and practice. In addition, we expand our discussion to include a brief historical perspective of the evolution of explicit instruction from earlier programs and research efforts such as "Direct Instruction" and "direct instruction," as well as providing a summary of its effectiveness, especially for students with learning disabilities.

We were asked to provide a broad overview of explicit instruction, given its role in the interventions used in the other articles included in this special issue. In doing so, we found in the literature both similarities as well as differences regarding how it was defined and described. There was also some confusion about distinctions between explicit instruction and other related approaches (e.g., Direct Instruction, direct instruction, Explicit Direct Instruction). Thus, a major purpose of this article is to provide a functional and delineated definition of explicit instruction by identifying and describing the most consistently used instructional elements or components found in a selection of the literature on the topic. Additionally, we briefly examine explicit instruction's connections to earlier approaches to teaching. Finally, we provide a summary of research supporting explicit instruction and discuss theories from a number of perspectives as to why it is effective for teaching a variety of academic skills to diverse student populations, including those with learning disabilities (LD).

Since the early 1990s, the term "explicit instruction" has become an increasingly used term for an instructional design and delivery approach characterized as unambiguous, structured, systematic, and scaffolded (Archer & Hughes, 2011; Goeke, 2009; Hall & Vue, 2004). In the last decade, explicit instruction has been included frequently in a variety of educational outlets, including Institute of Education Science (IES) Practice Guides (Gersten et al., 2009; Kamil et al., 2008), refereed journals in special and general education (e.g., Marin & Halpern, 2011; Mason & Hedin, 2011; Nelson-Walker et al., 2013; Smith, Spooner, & Wood, 2013), and educational psychology (e.g., Lorch et al., 2010). Additionally, explicit instruction has been identified as a key component of current education initiatives such as response to intervention (RTI; e.g., tier 2 instruction; Fien et al, 2015) and intensive instruction (Fuchs, Fuchs, & Malone, in press). Most recently, explicit instruction was identified as one of 22 "High-Leverage Practices" in special education by the Council for Exceptional Children (McLeskey et al., 2017).

WHAT IS EXPLICIT INSTRUCTION?

To answer this question, we explored selected literature where explicit instruction was a primary focus—either as an intervention in a study or group of studies, or as a main topic of discussion. Google Scholar, Proquest, and ERIC were used to identify journal articles and other resources using the descriptors "explicit instruction," "explicit teaching," "explicit direct instruction," and "learning disabilities." We also conducted a search of nine journals that frequently publish on the topic of LD (e.g., *Journal of Learning Disabilities*, *Journal of Learning Disabilities Research and Practice*, *Learning Disability Quarterly*) in order to identify articles related to explicit instruction that were published between 2000 and 2016. When an identified journal article, book, or document (e.g., an IES Practice Guide) was identified, it was searched electronically using the key words; and if found, passages where explicit instruction was described and/or defined were cut and pasted into a table. Through this process, we found 86 sources published between 2000 and 2016 that included a definition or a list of teaching components specifically describing explicit instruction.

We reviewed the table, keeping a tally of how many times a component of explicit instruction was mentioned (i.e., the total number of articles in which "eliciting frequent responses" or a close variant [e.g., opportunity to respond]

was used). None of the publications included identical sets of components or definitions; however, there was frequent overlap across publications with regard to some components (e.g., just over 90 percent of the articles characterized explicit instruction as using models or think-alouds). We continued until we were confident that we had gathered a majority of the key explicit instruction components identified in the literature (i.e., when no new/unique descriptors were identified in 10 consecutive publications). Thus, analysis ceased after 68 publications were reviewed.

We used this information (frequency of included instructional components of explicit instruction) to identify the most common components used to describe explicit instruction in our sample of the literature. We identified five instructional behaviors or components included in at least 75 percent of the 68 publications, and describe them as "essential" components. An additional seven components were identified in 50 to 74 percent of the publications, and are considered by us as "common" components of explicit instruction.

FIVE ESSENTIAL COMPONENTS OF EXPLICIT INSTRUCTION

The five components identified as essential are represented in Figure 1 as "pillars" to indicate their prominence in our sample of literature on explicit instruction, as well as providing a graphic representing the components as instructional supports for struggling students when they learn content they could not learn on their own, or through the use of less guided and supportive methods (e.g., discovery learning).

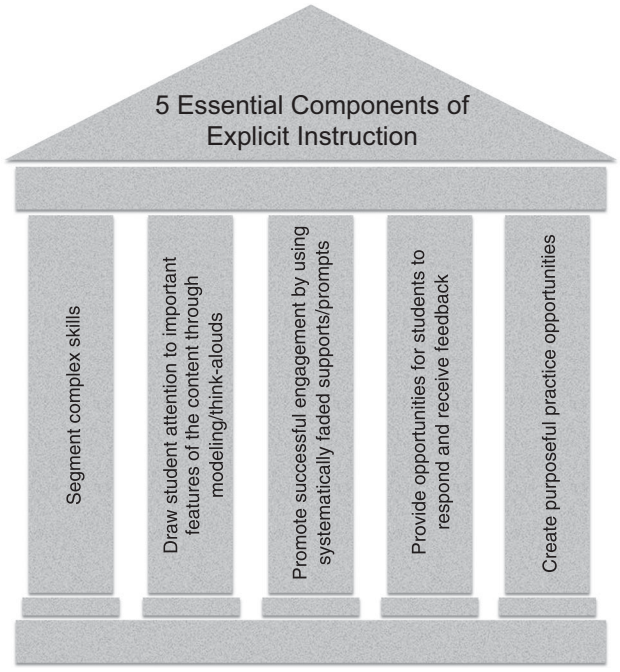

FIGURE 1 Five essential components of explicit instruction.

Segment Complex Skills

The most frequently mentioned component was breaking down (segmenting/chunking) complex tasks and strategies into smaller, more "manageable" units of instruction. "Chunks" are taught separately, in a logical sequence, to reduce cognitive complexity and load (Archer & Hughes, 2011; Doabler et al., 2012). Students are required to master the first chunk or subskill before moving to the second, and so on. When possible, the previous subskill is incorporated (e.g., practiced) with the new chunk in a cumulative fashion, so that at the end of the instructional chain all the subskills are practiced as a whole with authentic tasks. Chunking is often used when teaching multistep strategies whereby each step is taught one at a time, as described above (Hughes, 2011; Swanson & Deshler, 2003; Swanson & Hoskyn, 2001).

Draw Student Attention to Important Features of the Content through Modeling/Think-Alouds

This component focuses on providing students with clear, concise, and consistent descriptions and demonstrations of how the skill or strategy is performed. Teachers use modeling/think-alouds to make key external and internal processes of what is being learned explicit by "showing" (i.e., key physical actions) and "telling" (i.e., thinking aloud) students how to solve a problem or complete a task. Demonstrations and descriptions are presented using words students understand (i.e., clear), avoiding unnecessary words (i.e., concise), and, if necessary, using the same key words throughout the lesson (i.e., consistent). Clear language during instruction has been identified as having high impact on learning for students with and without LD (Hattie, 2009; Hollo & Wehby, 2017).

Promote Successful Engagement by Using Systematically Faded Supports/Prompts

After a new skill or strategy has been modeled, the teacher provides initial practice opportunities and promotes student accuracy and confidence by using appropriate levels of guidance or scaffolding through use of prompts (physical, visual, and/or verbal). The level or strength of prompts is gradually withdrawn as students continue to demonstrate accuracy and understanding. Finally, fading continues until learners are ready to practice with no prompts but under close teacher monitoring. Monitoring student responses to unprompted tasks allows the teacher to verify when students are ready to practice independently (e.g., seatwork, homework).

Provide Opportunities for Students to Respond and Receive Feedback

Throughout an explicit lesson, frequent student responses are elicited to increase learner attention and engagement, as well as providing teachers with information about how well students are understanding/performing what is being

taught. Close teacher monitoring of student responses allows teachers to provide timely affirmative or corrective feedback, and to decide whether to make adjustments to instruction (Heward & Wood, 2013). Student responses can be either group, partner, or individual; can require different modalities (oral, written, action); and can indicate different levels of understanding or knowledge (e.g., factual, procedural, conceptual, conditional). As with many explicit instruction components, the requirements for responding can be scaffolded if needed (e.g., use of writing frames, sentence starters, simplifying level of questioning).

Create Purposeful Practice Opportunities

Independent practice activities follow a lesson and are critical for retaining and generalizing new skills and knowledge, and are most effective when created and completed in a deliberate and purposeful manner (Hattie, Marsh, Neill, & Richards, 1997; Kame'enui et al., 2002) especially for students with LD (Fuchs, Fuchs, Schumacher, & Seethaler, 2013; Swanson & Deshler, 2003; Swanson & Hoskyn, 2001). Practice activities can be used for a variety of purposes (e.g., initial acquisition, fluency, retention, recall, transfer), using a variety of effective practice formats (e.g., distributed, cumulative, interleaved, worked solutions, retrieval/testing; Dunlosky, Rawson, Marsh, Nathan & Willingham, 2013), and in a variety of student arrangements, including individual, paired, or in groups (e.g., Fuchs & Fuchs, 2005; Slavin, 1984). Regardless of purpose, format, or arrangement, practice is more effective when followed by affirmative and corrective feedback—sometimes, up to three times more effective (Hattie & Yates, 2014).

ADDITIONAL "COMMON" COMPONENTS OF EXPLICIT INSTRUCTION

In addition to the five "key" components, seven other instructional components were found in over half of the analyzed published sources used in our search. As noted in Figure 2, these include: (1) select critical content, (2) logically sequence skills, (3) ensure students have prerequisite skills and knowledge, (4) provide clear statement of learner goals and expectations, (5) present a wide range of examples and nonexamples, (6) maintain a brisk pace, and (7) present information in ways that help students understand how it is organized.

Select Critical Content

Critical content refers to academic facts, skills, strategies, concepts, and rules that students need to know, in the present and in the future, in order to be academically successful. When possible, critical content should be broad, overarching, and useful for a wide range of content areas (e.g., teaching general learning strategies that can be used in many situations, rules that apply for many examples as opposed to teaching one example at a time, and/or the "big ideas" of a content area).

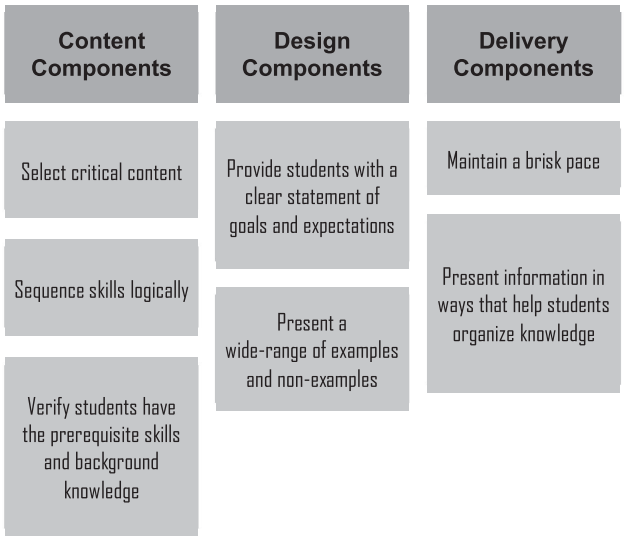

FIGURE 2 Additional important explicit instruction components.

Sequence Skills Logically

When teaching bodies of knowledge consisting of related and sequential skills (e.g., phonics, math), a general rule is to teach easier skills before harder ones. This ensures that students are taught skills that build on each other (e.g., prerequisite skills needed to learn new content). Additionally, similar skills or concepts should be separated in an instructional sequence to reduce possible confusion (Engelmann & Carnine, 1982; Watkins & Slocum, 2003).

Verify Students Have Prerequisite Skills and Background Knowledge

Activating prior knowledge by helping students access what they know about the upcoming topic is an oft-recommended activity when beginning lessons. While the process of activating knowledge that currently exists in the learner is an important scaffold (Hattie, 2009; Mayer, 2004), it is based on the assumption that the learner does, in fact, know something about the new content. For students with LD, this is not always the case. They may enter the lesson or activity without prior knowledge or prerequisite skills and for them to be successful, some background information needs to be taught or retaught "up-front." This requires *verifying* whether *all* students have the prerequisite knowledge to benefit from learning the new skill prior to beginning a lesson.

Provide Students a Clear Statement of Goals and Expectations

When beginning a lesson, and as part of providing an advance organizer (Swanson, 2001), teachers tell students, explicitly, what they will be learning, and, if appropriate, discuss how

the new information is related to old. This is often followed by a discussion of why the skill or information is important to learn, and where and when they can use the information. Finally, a short statement about behavioral expectations is communicated (e.g., contribute to a discussion, take notes).

Present a Wide Range of Examples and Nonexamples

When teaching rules, strategies, or vocabulary requiring conditional knowledge (i.e., when to use them and when not to use them), examples and nonexamples are presented to students (Roberts, Torgesen, Boardman, & Scammacca, 2008). For example, when teaching a rule about how and when to add suffixes to root words ending in a v-c-e pattern, an *example* might be to present the word "give" and instruct students to add the suffix "ing." If students perform this example correctly (apply the rule), they will drop the "e" before adding the "ing." A *non-example* might be presenting the word "hoe" and instructing students to add "ing." In this case, the word ends with a c-v-e pattern, and thus the "e" would not be dropped. Providing students with a wide range of examples is important for reducing undergeneralization of a rule, strategy, or vocabulary usage, while a wide range of nonexamples is important for reducing overgeneralization (Archer & Hughes, 2011).

Maintain a Brisk Pace

In addition to increasing content coverage, brisk pacing maintains student attention. While "not talking too fast or slow" contributes to adequate pacing, other variables can also negatively impact pacing, including teacher digressions, classroom disruptions, and lack of lesson preparation. A brisk pace is most appropriate when presenting information; however, a slower pace can be appropriate for other instructional situations—for example, providing adequate "thinking" time for students to respond when asked to explain their position on an issue, or when piecing together evidence for their assertion that a character in a book is untrustworthy.

Present Information in Ways That Help Students Organize Knowledge

A common, and effective, intervention used to help students with LD recognize how content knowledge is organized and related is graphic organizers (graphic organizers are often used as part of advance organizers). Graphic organizers help students understand the organization and relationships between facts and concepts through visual displays along with verbal explanations (Dexter & Hughes, 2011). For students with LD, graphic organizers are most effective when they are explicitly taught to fill them out and use them (e.g., as study tools, organizing writing assignments; Dexter & Hughes, 2013; Stull & Mayer, 2007). Graphic organizers can be used before a lesson (often as part of an advance organizer), during the lesson (students fill them out during a presentation of content), and/or after the lesson (as a study tool, etc.).

A Definition of Explicit Instruction

As a summary for this section on "What is Explicit Instruction," we offer a conceptual definition of explicit instruction that is inclusive of many of the often-included components described in this article.

> *Explicit instruction is a group of research-supported instructional behaviors used to design and deliver instruction that provides needed supports for successful learning through clarity of language and purpose, and reduction of cognitive load. It promotes active student engagement by requiring frequent and varied responses followed by appropriate affirmative and corrective feedback, and assists long-term retention through use of purposeful practice strategies.*

Many readers will recognize that the components of explicit instruction are not new and that explicit instruction is not a new instructional approach, but rather is a recent iteration of earlier teaching approaches. In the next section, we briefly describe two of these earlier approaches and their relationship and impact on the more recent term, explicit instruction.

THE ROOTS OF EXPLICIT INSTRUCTION: Direct Instruction and direct instruction

Direct Instruction (sometimes referred to as "big DI" due to the capitalization of both words) is an instructional model first developed in the 1960s under the leadership of Siegfried Engelmann and Wesley Becker at the University of Illinois Institute for Research on Exceptional Children. Direct Instruction is based on an analysis of three knowledge systems (Engelmann & Carnine, 1982). Analysis of communications between teacher and student were used to develop the clarity of language by which teachers present concepts in ways that allow students to identify critical attributes or features of the content and how related content is similar or different. A second analysis examined how knowledge is organized, and used this information to select the scope and sequence of the curriculum so that students learn both effectively and efficiently (e.g., teaching skills that are generalizable, focusing on big ideas). Finally, applied behavior analysis was used to identify universal principles about how the environment influences behavior. The process of using these analyses as the basis for designing and delivering instruction is described in greater detail by Engelmann and Carnine (1982) and Watkins and Slocum (2003).

Over the next five decades, and continuing in the present, Engelmann and his colleagues developed curricula for a variety of academic areas (e.g., reading, math, science, social studies), although by far the most widely used are the curricula that teach beginning reading. These curricula use

most of the explicit instruction components described above (e.g., clear models, active participation/frequent responses followed by feedback, guided and independent practice, use of examples and nonexamples).

While Direct Instruction and explicit instruction share similar instructional components, Direct Instruction is different in that it includes scripted lessons and displays very highly organized and carefully sequenced progression through curriculum content. Thus, Direct Instruction includes both curriculum (what to teach) and instruction (how to teach), whereas explicit instruction focuses primarily on how to teach.

Most of the research on Direct Instruction was conducted in the 1970s, 1980s, and 1990s. Recently, Hattie (2009) reviewed over 300 studies of Direct Instruction that included over 40,000 students. Hattie calculated an overall effect size of .59, putting Direct Instruction in the high range in terms of its effect on learning.

Another similar instructional approach, also referred to as "direct instruction" (but using lower-case letters), was developed as a result of a number of large-scale, national research efforts conducted during the 1970s and 1980s. Unlike big "DI," little "di" does not involve scripted instruction or packaged curricula. Instructional components of direct instruction were initially identified through correlational research (e.g., observations of what effective teachers do when they teach), and were followed by experimental research to verify the effectiveness of the identified teaching behaviors. These studies and their findings were summarized in the 1980s by Brophy and Good (1986) as well as others (e.g., Gage & Needles, 1989; Rosenshine & Stevens, 1986), and were followed by discussions of implications for special education (e.g., Christenson, Ysseldyke, & Thurlow, 1989; Gersten, 1998; Gersten, Baker, Pugach, Scanlon, & Chard, 2001).

Explicit instruction and direct instruction overlap greatly, and some might argue that they are basically the same thing. So when and why did much of the field move from "direct" to "explicit?"

THE EMERGENCE OF EXPLICIT INSTRUCTION

It is impossible to identify exactly *when* or *why* the term "explicit instruction" became more commonly used than "direct instruction." As to *when* it began to appear in the literature as an alternate term for "direct instruction," it seems to have appeared in the 1990s, and became the term of choice in special education in the 2000s. As to *why*, perhaps, as with many other educational "innovations," there is a tendency to put "old wine in new bottles" to give the impression of being "cutting edge." Or, possibly it resulted from some educators' criticism of the term "*direct* instruction" based on a philosophical perspective about a method of teaching and learning that eschews a "teacher-directed or -centered" approach, and thus a newer term such as "explicit" may be more broadly acceptable or less emotionally charged. Additionally, it may be that the terminology changed as the knowledge base of effective instruction grew over the last 20+ years, and explicit instruction was viewed as a more encompassing and/or a more descriptive term incorporating new findings in areas such as procedures for providing students with opportunities to respond (e.g., peer interactions), refining how and when corrective and affirmative feedback are provided, or being more deliberate in designing effective practice activities to promote retention of newly acquired skills.

Another possible reason for the shift in terminology may be due to how research findings regarding academic instruction resulted in major shifts in teaching approaches that were being promoted. For example, in the 1980s, the field of LD began to shift away from using instructional approaches that focused on remediating underlying psychological (and, in some cases, physical) processes as a way to improve academic performance, and moved toward promoting a more direct approach to teaching academic skills. This shift toward more direct teaching was bolstered in the late 1990s and early 2000s, when Swanson and his colleagues published a series of articles in which they presented meta-analyses of published research on teaching students with LD in order to identify effective teaching behaviors (e.g., Swanson, 1999, 2001; Swanson & Sachse-Lee, 2000). What emerged from these and other analyses (e.g., Vaughn, Gersten & Chard, 2000) was that instructional components associated with direct instruction were the most effective except for what Swanson labeled as "strategy instruction." According to Swanson, the major variables that made an instructional approach a "strategy" (as opposed to direct instruction) were that: (1) the skill being taught was complex (e.g., students learned a sequence of steps for a higher-order task) while direct instruction focused on basic, simple, and discrete academic skills and facts, and (2) elaborated modeling was used. However, he and his colleagues also found that the combination of strategy instruction and direct instruction was more effective than either approach in isolation. It should be noted that the distinctions used to separate the two forms of instruction are arguable, given that explicit instruction also includes modeling and has been used to teach "higher-order" skills in addition to more "basic" skills (Rosenshine, 1997).

Another major intervention shift around the same time was the development and validation of "cognitive" learning strategies and strategy instruction, whereby students with LD are explicitly taught a series of steps to follow as they solve problems and complete tasks. In addition to learning to use the steps of the strategy, instruction also focused on explicitly teaching self-regulation procedures (e.g., goal setting, self-monitoring, self-evaluation; Hughes, 2011). The two major learning strategy approaches that emerged and are still in use are the Self-Regulated Strategy Development program, which focuses on writing strategies (Graham & Harris, 2009) and the Strategic Intervention Model's Learning Strategies Curriculum that includes strategies for a variety of academic and academically related tasks (e.g., reading, writing, and math strategies as well as memory, assignment-completion, and test-taking strategies; Deshler & Schumaker, 1986). These two curricula use similar instructional components to teach students the targeted strategies, and include most of the explicit instruction components presented earlier in this article. It is possible, given the distinctions between

direct instruction and strategy instruction suggested by Swanson, along with other reasons mentioned above, that a newer, more inclusive term with a less divisive meaning began to make headway into the academic conversation. Regardless, it is clear that the roots of explicit instruction come directly from Direct Instruction and direct instruction, both of which have a history of effectiveness, especially for students with, and at-risk for, LD.

IS EXPLICIT INSTRUCTION EFFECTIVE?

The fact that the number of explicit instructional components used in an intervention often vary across research studies (e.g., one study might use four explicit instruction components while another uses six) makes a precise answer difficult. It is also difficult to parse out which components are directly related to the outcome; the impact of a particular component may vary due to the nature of what content is being taught, to whom it is being taught, and whether a component is being underused, overused, or misused (Doabler et al., 2016). For example, while providing feedback can be an effective component of instruction (Hattie, 2009), how the feedback is delivered (frequency, duration, timing) and whether it is given appropriately (focusing on how to improve, specifying what made something "good") may impact its contribution to the learning outcome.

Despite the above caveats, the effectiveness of explicit instruction is supported by the existence of a large volume of convergent research, conducted over almost five decades, and emanating from a variety of disciplines and theories. There have been numerous descriptive literature reviews, syntheses, and meta-analyses published in peer-reviewed journals that identify effective instructional approaches used with students with LD across a variety of content areas. These reviews all identified explicit instruction as effective for teaching students with LD in the areas of math, reading, and writing (e.g., Christenson et al., 1989; Gersten, 1998; Graham & Harris, 2009; Graham, McKeown, Kiuhara, & Harris, 2012; Kroesbergen & Van Luit, 2003; Mastropieri, Scruggs, Bakken, & Whedon, 1996; Solis et al., 2012; Swanson, 2001; Vaughn et al., 2000).

Additionally, over the last decade a number of publications demonstrating the effectiveness of explicit instruction were published in IES Practice Guides. In addition to describing and synthesizing previous and recent intervention research, these IES Practice Guides identify, evaluate, rate, and recommend intervention approaches used with normally achieving students as well as with students characterized as struggling learners. The reports listed below all recommend use of explicit instruction for teaching a variety of literacy skills (Baker et al., 2014; Herrera, Truckenmiller, & Foorman, 2016; Kamil et al., 2008), as well as single areas of literacy such as reading comprehension in the primary grades (Shanahan et al., 2010), and writing (Graham et al., 2012). Furthermore, there are a number of practice guides supporting the use of explicit instruction in math, and specifically in math for young children (Frye et al., 2013), mathematical problem solving in grades 4 through 8 (Woodward et al., 2012), RTI for students struggling with mathematics in elementary and middle schools (Gersten et al., 2009), effective fractions instruction (Siegler et al., 2010), and algebra for middle and high school students (Star et al., 2015). While many of these guides summarized research with general education students, they often included discussion regarding the effectiveness of students with and at-risk for disabilities.

WHY IS EXPLICIT INSTRUCTION EFFECTIVE?

Studies examining the effectiveness of explicit instruction have been conducted by researchers from a variety of disciplines (e.g., education, behavioral psychology, educational psychology). Thus, it is not surprising that different theoretical perspectives are used to explain why explicit instruction works. For example, some researchers (e.g., Clark, Kirschner, & Sweller, 2012; Smith, Sáez, & Doabler, 2016) focus on how explicit instruction components (e.g., clear and explicit models, guided practice using visual and verbal prompts such as worked solutions) reduce cognitive load and its resulting stress on working memory for students who lack background knowledge and/or automaticity in recalling prerequisite knowledge and skills related to what is being taught.

Joseph, Alber-Morgan, and Neef (2016) contend that many teaching behaviors included in explicit instruction (e.g., modeling, prompting, frequent opportunities to respond accompanied with feedback) are aligned with applied behavior analysis principles such as positive reinforcement (feedback), carefully arranging examples, consistent use of terms (stimulus control), and modeling (orienting attention to critical stimuli). Still others (e.g., Berliner, 1980; Brophy & Evertson, 1976) describe how explicit instruction and direct instruction components (e.g., clear presentations, dynamic models, frequent responding, guided practice with feedback) address basic prerequisites of learning such as academic learning time (Gettinger & Seibert, 2002) and opportunity to respond (Heward & Wood, 2013). It is instructive to note that while theories and perspectives on why explicit instruction is effective vary, the instructional behaviors and components do not to a great degree.

Explicit instruction has become a commonly used term in the special education literature over the past 25 years. This article describes its lineage from other similar instructional approaches, specifically Direct Instruction and direct instruction. In this brief overview of explicit instruction, we addressed questions such as "What is it?" "Where did it come from?" "Is it effective?" And, "Why does it work?" As with most educational topics, there is always more research needed—for example, continuing to compare the effectiveness of explicit instruction with constructivist approaches such as discovery and inquiry learning (e.g., Klahr & Nigam, 2004; Kroesbergen, Van Luit, & Maas, 2004) to ascertain if explicit instruction can be used in lieu of, or in concert with, these other, less guided approaches. Also needed is additional research identifying which explicit instruction components add the most to learning (Doabler et al., 2016).

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