Hammill Institute on Disabilities

Journal of Learning Disabilities
2021, Vol. 54(1) 66–78

DOI: 10.1177/0022219420941804
journaloflearningdisabilities.sagepub.com
SAGE

Danielson's Framework for Teaching: Convergence and Divergence With Conceptions of Effectiveness in Special Education

Hannah Morris-Mathews, PhD[1], Kristabel R. Stark, MSEd[1], Nathan D. Jones, PhD[1], Mary T. Brownell, PhD[2], and Courtney A. Bell, PhD[3]

Abstract

Danielson's Framework for Teaching (FFT) is currently used in more than 20 states to inform teacher evaluation and professional learning. To investigate whether FFT promotes instruction that appropriately responds to the needs of students with learning disabilities, we conduct a systematic content analysis of the instructional approach emphasized in the FFT's Instructional Domain (Domain 3) of Danielson's FFT. We frame our study using cognitive load theory and research regarding effective instruction for students with disabilities. We end by discussing implications regarding the evaluation and development of effective teaching for students with learning disabilities.

Keywords

professional development, instruction, teacher education/preparation

Over the past two decades, policy changes in general and special education have increased pressure on schools to provide high-quality learning opportunities for all students (Every Student Succeeds Act, 2015; Individuals with Disabilities Education Act, [IDEA] 2004, 34 CFR.300.39). One way that policy makers have attempted to improve the learning opportunities provided to students is by promoting the use of observation tools to evaluate teachers' instruction and inform professional development efforts (Donaldson & Papay, 2014). However, there is a tendency to treat observation tools as agnostic and universal, assuming that the same instructional approach is equally beneficial for all students. As a result, in most districts, all teachers are evaluated using the same tool, regardless of the teacher's role (e.g., Danielson's Framework for Teaching [FFT], Danielson, 2013; Classroom Assessment and Scoring System, Pianta, Hamre, et al., 2008; Pianta, LaParo, & Hamre, 2008), suggesting that the instructional approach supported by one tool would meet the needs of all students.

Observation tools can be a powerful mechanism for orienting teachers' practice to particular approaches to instruction. Consider this: If observation tools are driven by specific theories of teaching and learning, the pedagogical norms underlying these tools likely shape the ways teachers construct their practice, or how they "hold and use knowledge, coordinate instruction, mobilize incentives for performance, and manage environments" (Cohen et al., 2003, p. 124). As such, these norms are a powerful mechanism for shaping practice. With this in mind, it is possible that, when the norms underlying observation tools are misaligned with prevailing knowledge regarding students' instructional needs, the use of such tools could increase the likelihood that observers will incorrectly evaluate and misidentify teachers' professional development needs and overlook approaches and practices that are most effective or harmful for particular groups of students.

There is significant debate regarding the instructional approaches and practices that are most effective. However, research in cognitive science suggests that these should vary based on the needs of certain groups of students

[1]Boston University Wheelock College of Education & Human Development, MA, USA
[2]University of Florida, Gainesville, USA
[3]Educational Testing Service, Princeton, NJ, USA

Corresponding Author:
Hannah Morris-Mathews, PhD, Boston University Wheelock College of Education & Human Development, 2 Silber Way, #214, Boston, MA 02215, USA.
Email: hmmath@bu.edu

(Martin, 2016; Pressley et al., 2003). This is particularly evident with regard to students with learning disabilities (LDs), who have difficulty with the "basic psychological processes involved in understanding or using language, spoken or written" (IDEA, 2004, 34 CFR 300.8). Although students benefit from a range of instructional strategies, in their area of need, students with LD benefit most from instruction that is highly structured and supportive, and incorporates specific practices designed to help students overcome these barriers.

Given the widespread use of classroom observation tools in teacher evaluation, it is crucial to understand the extent to which commonly used tools reflect and uphold instruction that addresses the provision of this type of instruction for students with LD. One popular tool used to inform teacher evaluation and professional learning is Danielson's FFT (Danielson, 2013). To shed light on this question, we herein describe the results of a systematic content analysis of Domain 3 of Danielson's FFT (Instruction) and the extent to which this instrument promotes practices critical to the education of students with LD. We focus on Domain 3 because instruction is considered the "heart of teaching" (Sindelar et al., 2004, p. 220). As such, this domain serves an important function in defining, evaluating, and developing instructional practice. We purposefully focus our analysis on the needs of students with LD because they constitute 4.6% of the school-age population in the United States, and the majority of students with LD spend 80% or more of their school day in inclusive settings (U.S. Department of Education, & National Center for Education Statistics [NCES], 2017). Therefore, the question of whether this observation tool supports the instructional needs of students with LD has important implications for the evaluation and professional development of special and general educators.

Literature Review

Emerging from research regarding the nature and effects of classroom instruction (e.g., Brophy & Good, 1986; Gage & Needels, 1989), questions regarding what constitutes good teaching still dominate much of our current discourse (e.g., Jones & Brownell, 2014). In debating the merits of various approaches to instruction, scholars often take a dogmatic stance (Heward, 2003), claiming that if teachers would take up either *constructivism* or *direct instruction*, for example, all students would experience success. We assert that, in dichotomizing what is considered good teaching, scholars do little to improve the instructional opportunities provided to students (Mercer et al., 1996). Furthermore, unquestioned allegiance to any particular instructional approach *without careful consideration of students' needs* is detrimental to student learning and long-term outcomes (Al Otaiba et al., 2011; Connor et al., 2018; L. S. Fuchs et al., 2009).

Load Reduction Instruction (LRI)

We propose that one avenue for resolving this debate is through LRI (Pressley et al., 2003), which serves as the conceptual framework for the present study. Instead of privileging one approach over another, educational psychologists frame LRI as a continuum that responds to the cognitive demands of learning by encompassing both direct and constructivist approaches to instruction (Kirschner et al., 2006; Martin, 2016; Mayer, 2003; Mercer et al., 1996). Cognitive load theory suggests that, to decrease cognitive load, instruction for students with LD should be direct and explicit. This includes using a set of sequentially ordered teaching skills, routines, and strategies to structure learning, aid in recall and retention, and make the implicit explicit (Archer & Hughes, 2011; Rosenshine, 1997; Watkins & Slocum, 2003). By providing direct and explicit instruction, teachers reduce cognitive load, avoid overburdening the working memory, and facilitate productive interactions between long-term memory and working memory (Barrouillet et al., 2004; Martin, 2016; Mayer, 2003; Sweller, 2012). This type of direct, explicit instruction enables knowledge to be encoded in long-term memory where it can then be applied, transferred, and generalized to more complex problems (Martin, 2016).

Descriptions of LRI necessitate attending to two aspects of instruction: (a) how teachers orchestrate learning opportunities—including interactions between students, teachers, and content (Cohen et al., 2003)—and (b) the practices that teachers use to lessen cognitive load (Martin, 2016).

Orchestrating learning opportunities. When using LRI, teachers' primary role is to orchestrate learning opportunities such that they lessen students' cognitive load and incrementally move students from novice to expert status (Martin, 2016). In LRI, teachers' instructional decisions are shaped by the content to be taught, the goals of instruction, and students' present knowledge and skills (Connor et al., 2011, 2013, 2018). When students are in the initial or novice stages of learning, teachers purposefully reduce task difficulty, provide direct support and scaffolding, and offer frequent opportunities for teacher-guided practice and appropriate feedback (e.g., Doabler et al., 2015; Kirschner et al., 2006; Sweller, 2012). As students develop fluency and automaticity, the teacher's role shifts to facilitator, with instruction including planned opportunities for active sensemaking and discovery (Pressley et al., 2003). When students demonstrate mastery, teachers incrementally decrease supports so that students can engage in independent learning (Martin, 2016; Mercer et al., 1996).

Practices that reduce cognitive load. LRI provides a bridge between constructivism and direct instruction. As such, in exploring the extent to which FFT supports the needs of

Table 1. Fundamental Practices in Special Education Applied in Directed Coding.

Practice	Definition
Intensive instruction	Intensive instruction includes alignment of instruction to students' needs (Vaughn et al., 2012). This encompasses collecting and using diagnostic and progress monitoring data (Stecker et al., 2005), engaging in cycles of opportunities to respond with feedback to identify support and/or maintain engagement (National Center on Intensive Intervention, 2013), working with students in small groups to address their individual needs (Elbaum et al., 2000), and providing multiple practice opportunities that align to student needs (Swanson et al., 1999).
Explicit instruction	Explicit instruction includes making content and disciplinary processes visible through naming, labeling, and demonstrating the skills and strategies employed by expert practitioners (Archer & Hughes, 2011). In explicit instruction, teachers externalize cognitive processes and make what is covert overt for students (Watkins & Slocum, 2003). It encompasses the explanations, instructions, and models that teachers use to support students in solving problems, enacting strategies, completing tasks, and classifying concepts and ideas (McLeskey et al., 2017). It includes the use of examples and non-examples and anticipating and correcting common misconceptions using modeling and think-alouds (Archer & Hughes, 2011).
Systematic instruction	Systematic instruction includes how teachers sequence lessons, make connections between lessons clear, and provide scaffolded supports from learning foundational to complex skills (McLeskey et al., 2017). Teachers divide complex tasks into "chunks" that are taught in a logical order and build toward mastery (Vaughn et al., 2012, p. 18).
Individualized instruction	Individualized instruction includes supporting students' particular learning needs (IDEA, 2004). This includes the use of planned accommodations and modifications for individual students (such as visual prompts and cues and response methods). It also includes in-the-moment restructuring of tasks and questions based on individual students' progress to focus on the specified instructional target. To address and respond to these individual needs, teachers might adjust the complexity of the task, remodel a skill, or review previously learned material (e.g., teacher provides students with clues when answering a question, teacher points to the words, or partially sounds out the word to assist while student reads).

Note. During instruction, these practices overlap. However, for coding, we delineated certain elements to specific practices. For example, opportunities to respond and feedback are part of explicit and intensive instruction. However, for analysis, we defined this only as a part of intensive instruction. IDEA = Individuals with Disabilities Education Act.

students with LD, we identified four practices that are fundamental to providing effective instruction. To reduce cognitive load and increase the likelihood that students with LD have the opportunity to develop fluency and automaticity prior to transfer, application, and generalization, teachers *must* ensure that instruction is systematic, explicit, intensive, and individualized (see Table 1).

One way that teachers reduce cognitive load is by using *intensive instruction* (D. Fuchs et al., 2014; Stecker et al., 2005). Delivering intensive instruction includes adjusting group size, increasing opportunities for students to respond and receive feedback, and increasing the frequency, length, and duration of an intervention (National Center on Intensive Intervention, 2013); these instructional decisions are based on data instead of being made in an ad hoc manner (Stecker et al., 2005). This type of instruction suggests an approach that is mediated by teachers; for students with LD, this type of intensive instruction is likely in addition to a Tier 1 instructional approach. It is designed to meet the needs of students for whom access to the general education curriculum alone is insufficient. Providing instruction in intensive, small groups is associated with positive effects for students with disabilities (Elbaum et al., 1999, 2000) and these small groups result in more frequent opportunities to respond and receive feedback that is specifically attuned to their needs (Doabler et al., 2015). When opportunities to respond and feedback are focused on clear objectives, exposure to distracting, superfluous information is decreased and students are better able to encode new learning into their long-term memory (Martin, 2016).

Explicit instruction reduces cognitive load for students with LD by segmenting complex skills into smaller tasks, demonstrating and labeling cognitive processes, and providing frequent opportunities for students to receive meaningful, corrective feedback on skills they are practicing (Archer & Hughes, 2011). Segmenting skills into smaller tasks reduces the demand on working memory and supports students with LD in processing new information to solve problems, applying strategies, and completing tasks (Vaughn et al., 2012). When teachers explicitly identify student misconceptions, provide models of how to correctly work through a skill or task, and allow students multiple practice opportunities, students build fluency and automaticity and encode new information into their long-term memory (Martin, 2016).

In *systematic instruction*, teachers work across lessons to break down skills into smaller segments. They reduce cognitive load by breaking down complex skills into discrete pieces, which they then teach in a carefully scaffolded sequence aimed toward mastery of the skill (Vaughn et al., 2012). When using systematic instruction, teachers also make explicit connections across lessons for students. By doing this, they activate prior knowledge. This helps students to connect working memory and long-term memory (Swanson & Siegel, 2011).

Individualized instruction—or the use of evidence-based practices with students for whom Tier 1 and Tier 2 instruction have not proven effective—is the foundation of special education law (IDEA, 2004). Individualized needs are identified through ongoing data collection and progress monitoring or data-based individualization (National Center on Intensive Intervention, 2013). Planned accommodations and modifications (such as visual prompts and cues, and response methods), as well as in-the-moment restructuring of tasks and questions based on students' progress, reduce cognitive load by guiding student attention to key aspects of content and lowering demands on working memory. By adjusting the complexity of the task, remodeling a skill, or reviewing previously learned material, teachers help students retrieve information from long-term memory and categorize new information in logical ways.

By delivering instruction that is intensive, explicit, systematic, and individualized, teachers provide students with learning opportunities that help them to develop fluency and automaticity and, ultimately, to engage in application, transfer, and generalization of skills to more complex problems. Together, these practices increase the likelihood that students with disabilities are provided the opportunity to meaningfully engage in learning.

Theoretical Foundations of Danielson's FFT

In contrast to the explicit, teacher-directed instruction that is necessary in the initial stages of LRI, FFT is rooted in a constructivist approach to teaching (Danielson, 1997). Constructivism focuses on the ways in which teachers provide opportunities for students to make sense of information and integrate learning into existing mental frameworks (Brainerd, 1978; Piaget, 1970). It emphasizes student autonomy and initiative, critical thinking, and applied learning, with student responses seen as the primary source of instructional momentum (Munter et al., 2015). Thus, the teacher takes on the role of facilitator, prompting conversations and experiences that help students construct their own representations of skills, strategies, and content.

Although constructivist approaches to learning can benefit students with LD, cognitive load theory (Mayer, 2003) suggests that *without providing initial instruction that builds the fluency, automaticity, and foundational skills necessary to engage in more complex tasks and content* (Sweller, 2012), constructivist approaches are not appropriate for students with disabilities. In the present analysis, we explore whether and how FFT's constructivist foundations preclude the observation of more direct instructional approaches and supporting practices, thereby ignoring or even discouraging instruction that is crucial for students with disabilities.

Prior Work Examining Special Education Practice in Teacher Evaluation Rubrics

Although the literature base is not extensive, several research teams have taken up the issue of alignment between teacher evaluation rubrics and the needs of students with disabilities (Gilmour et al., 2019; Jones & Brownell, 2014). However, the present study differs from prior work in important ways. First, although Jones and Brownell (2014) focused on Domain 3 of FFT and considered the extent to which practices relevant to instruction for students with disabilities were addressed within FFT, their approach did not incorporate systematic coding of the instrument. Instead, they made a conceptual argument for research, addressing the validity and reliability of the instrument when used with special educators. In an article analyzing state teacher evaluation rubrics including FFT, Gilmour and colleagues (2019) reported the results of a systematic content analysis with a focus on classroom management practices. They found that content relevant to classroom management was represented to varying degrees across the rubrics and that this coverage often included vague statements that were not directly observable. They also found that some practices were rarely included in rubrics (e.g., how to respond to negative or inappropriate behavior). Building on the issue raised in these articles—a lack of explicit attention to the types of practices crucial to the education of students with disabilities—and zooming in on evaluations of instructional practice, our study focuses on the extent to which, and ways in which, FFT highlights practices relevant to the instructional needs of students with disabilities.

The Present Study

With this small body of literature as background, in the present study we report the results of a systematic analysis of Domain 3 of FFT, concentrating on the ways that FFT addresses LRI. We address the following questions:

> **Research Question 1:** What assumptions about instructional quality are embedded in Domain 3 of Danielson's FFT?
>
> **Research Question 2:** To what extent does Domain 3 of Danielson's FFT make systematic, explicit, intensive, and individualized instructional practices visible?

Method

In this article, we share the results of a qualitative content analysis of Domain 3 of FFT. Content analysis is a family of methods in which researchers systematically analyze text data to classify and describe themes and patterns (Hsieh & Shannon, 2005). Content analysis begins with multiple readings and open coding to increase familiarity with the text, but includes any of three approaches: conventional, where no a priori codes are used; directed, where codes are built on existing theory; and summative, where quantitative methods such as frequency counts are used as the basis for code development (Hsieh & Shannon, 2005). The structure of the instrument and our research questions necessitated the use of all three approaches.

Data Source

FFT organizes the work of teaching into four domains:

1. Planning and Preparation;
2. Classroom Environment;
3. Instruction; and
4. Professional Responsibilities.

We focused our analysis on text data on Domain 3 (Instruction) of FFT because of its role in defining, evaluating, and developing "good teaching" and because the pedagogical norms underlying Domain 3 could be a source of dissonance for teachers providing instruction to students with disabilities (Jones & Brownell, 2014; Jones et al., 2013). Our approach to coding reflects these concerns by considering definitions of good teaching and also the extent to which FFT promotes or upholds practices relevant to the instructional needs of students with disabilities. Domain 3, Instruction, comprises five components: (a) Communicating with students, (b) Using questioning and discussion techniques, (c) Engaging students in learning, (d) Using assessment in instruction, and (e) Demonstrating flexibility and responsiveness. For each of these five components, the rubric includes a definition of the component with elements and indicators, and a 4-point rubric (i.e., unsatisfactory, basic, proficient, and distinguished) that includes score definitions, critical attributes for each score, and possible examples that illustrate each score. The instrument provides a vision of good teaching in the proficient and distinguished sections of the rubric and also in the definition, elements, and indicators that describe the component in the manual.

Development of Codes

We set up our coding procedures to provide two sets of results: an analysis of where our four practices for students with LD appear in the instrument and a description of instruction at each point across the scale.

Given our focus on identifying the frequency and location of specific instructional practices in FFT, we stored and manipulated data using Dedoose (Dedoose Version 7.0.23, 2016), an online application for qualitative analysis. Our analysis included three iterative phases. First, we used conventional analysis to unearth the ways that FFT describes instructional quality and then used summative analysis to develop codes for the constructs most frequently discussed in FFT. Finally, we used directed analysis to assess the extent to which Domain 3 promoted systematic, explicit, intensive, and individualized instruction. In this phase, we drew on research and policy in special education to identify the practices critical to effective instruction in special education; we developed the definitions in Table 1 to guide the directed coding phase of analysis.

In all phases, we unitized data at the sentence level. As such, we were able to account for multiple concepts present in each unit while retaining a small unit of analysis. This grounded our findings in the data. Because each unit (i.e., sentence) contained multiple concepts, it was possible to apply multiple codes to each unit. We coded each sentence for its assumptions about effective instruction (i.e., the outcomes of instruction and the responsibilities of students and teachers). In addition, we coded each sentence to determine whether it represented the four critical practices. In all, Domain 3 includes 387 sentence units.

In the first phase, we took a conventional approach to coding (Hsieh & Shannon, 2005). By nature, this phase was inductive; we made this decision to keep us close to the data and limit the extent to which our own biases might influence derived codes. We read through each component multiple times and, following our first pass through the data, met to discuss the organization of the instrument and identify emerging questions. We then reread and labeled the data with process (or gerund) and in vivo codes (Marshall & Rossman, 2014). We used process codes to identify the action and sequence in the data (Glaser, 1978) and to preserve the content of the instrument. We used in vivo codes to identify prominent concepts and categories present in the text and to note the specific words and phrases taken up in FFT (e.g., engagement, complex, and discussion). After comparing and contrasting codes, we developed a codebook. We reread the instrument, applying the codes to the data. For an excerpt of the codebook, see Table 2.

In the second phase, we used summative coding (Hsieh & Shannon, 2005). Using an online text analyzer, we generated frequency counts to determine the most prevalent abstract nouns included in Domain 3 and to select those most frequently used but not explicitly defined to further analyze. This included four codes: learning, understanding, thinking, and engagement. We coded the root form of each term in Dedoose (i.e., learn*, understand*, think*, and engag*). We read each set of excerpts and extracted words and phrases that helped us define each term, determine other words with which the term was paired (e.g., understand* was frequently paired with conceptual, extend, and deepen), and identify when, where, or how the term was present in instruction. We developed a memo for each set of text, which provided the basis for the characterization of teaching and learning at each level of performance in FFT.

Table 2. Excerpt From the Codebook: Conventional Coding.

Code	Definition	Examples[a]
Teacher responsibilities	Statements that define or describe the actions teachers take up to fulfill their function or role in the classroom Includes explicit and implicit statements of responsibility	*The teacher provides suitable scaffolding and challenges students to explain their thinking* (p. 69). *Virtually all students are intellectually engaged in challenging content through well-designed learning tasks and activities that require complex thinking by students* (p. 69).[b]
Student responsibilities	Statements that define or describe the actions students take up to fulfill their function or role in the classroom Includes explicit and implicit statements of responsibility	*Students contribute to the correct use of academic vocabulary* (p. 57). *Students understand what they are expected to do during a lesson* (p. 55).
Outcome of instruction	Statements that identify the intended outcomes (results) of instruction for students	*Most learning tasks have multiple correct responses or approaches and/or encourage higher order thinking* (p. 69). *Students are developing their understanding through what they do* (p. 65).

[a]All examples are from Danielson (2013). [b]In this example, the teachers' role is implicit but understood: They should provide well-designed learning tasks and activities that require complex thinking.

Finally, using directed content analysis (Hsieh & Shannon, 2005), we drew on the literature in special education to identify four critical practices in special education: systematic, explicit, intensive, and individualized instruction. Using the operational definitions provided in Table 2, we reread each component and applied one or more codes to units in which elements of the practice(s) were confirmed or supported. For a code to be applied, it was only necessary for one element of the practice to be present in the unit. After we applied these codes, we developed a memo for each practice that included the elements of each practice supported by FFT (e.g., explicit instruction includes multiple elements, including anticipating and correcting common misconceptions) and the location of the practice in the instrument (i.e., definition or rubric). If the practice was present in the rubric, we noted the level and location on the scale (i.e., descriptions of levels of performance, critical attributes, or possible examples).

Enhancing Credibility

We used multiple strategies to enhance the credibility of our findings. These included structured peer debriefing, careful calibration exercises, and assessing disconfirming evidence (Brantlinger et al., 2005). After each round of coding, we met to discuss memos, raise questions, and identify concerns. We then shared our questions with colleagues with expertise in teacher quality, measurement, and evaluation. In these meetings, we reviewed the codebook, shared data excerpts, and discussed coding difficulties. We met consistently throughout the process from conceptualization through development of assertions. To ensure accurate coding, we coded Component 3a together as a calibration exercise. We then each coded two of the remaining four components, meeting to discuss coding questions, restructure the codebook definitions, and then recoding as needed. Following the development of assertions, two members of the author team read through Domain 3 to search for disconfirming evidence.

Results

In this section, we report the results of a systematic content analysis of Domain 3 of FFT. When considering assumptions about instructional quality across the instrument, we find that FFT explicitly privileges instruction that (a) is motivated by students' ideas and input, and (b) is focused on making sense of complex content. Practices known to reduce cognitive load for students with LD—explicit, intensive, systematic, and individualized instruction—appear rarely in the rubrics. However, one noteworthy finding is that these practices, when present, appear on the upper ends of the scale. Regardless, it is likely that when observers are faced with an observation tool that overwhelmingly privileges constructivist pedagogy, feedback on these practices is minimal and cursory.

Characterization of Teaching Across the Scale

Drawing on a combination of conventional and summative codes, systematic analysis revealed that two key assumptions regarding the ways that teachers coordinate interactions among themselves, their students, and the content distinguishes between levels of performance on FFT. The first assumption underlying Domain 3 is that teacher-directed instruction is of lower quality than student-directed instruction. Instruction marked by teachers' "mediating" learning (Danielson, 2013, p. 62)—meaning that teachers are actively and purposefully directing classroom discussion instead of having students' ideas determine the direction of

Table 3. Distribution of Special Education (SE) Units by Component.

Component	Units	SE units	% SE units of total
3a. Communicating with students	96	14	14.6
3b. Using questioning and discussion techniques	82	2	2.4
3c. Engaging students in learning	85	0	0
3d. Using assessment in instruction	70	8	11.4
3e. Demonstrating flexibility and responsiveness	53	3	5.7
Total units in Domain 3	386	27	6.9

the lesson—is situated at the unsatisfactory and basic levels of performance. Conversely, at the proficient and distinguished levels, teachers "step . . . aside when it is appropriate to do so" (p. 63) and allow students to guide their own learning or mediate instruction for their peers. The instructional path is almost fully guided by students as the teacher builds upon students' ideas and responses regarding both the content and the structure of the lesson (e.g., suggestions for modifying learning tasks, grouping, and materials). These impromptu actions emphasize "seiz[ing] an opportunity to enhance learning," reflecting the importance of "teachable moments" (p. 79). It is important to highlight that, at the high end of the scale, FFT includes a nod toward differentiation, stating that teachers may draw on a repertoire of strategies "seeking approaches for students who have difficulty learning" (p. 79).

The second assumption underlying Domain 3 is that the quality of instruction is predicated on the extent to which teachers engage students in a particular kind of learning: developing conceptual understanding. A teacher scoring at the unsatisfactory or basic levels of performance provides students with activities deemed to be of "low cognitive challenge" or activities that "lead students through a single path of inquiry" (Danielson, 2013, p. 62). This includes tasks and activities that are procedural or require students to respond to rote or recall questions. At the low end of the scale, students are not required to explain, justify, or defend their thinking. In contrast, at the high end of the scale, students are expected to wrestle with or make sense of "important and challenging content" (p. 69). In FFT, high-quality instruction is marked by opportunities to make sense of complexity by prompting students to discern patterns, make predictions, engage in discourse and debate, and make their thinking visible. Although at the high end of the scale teachers allow students to determine the instructional path, when teachers do ask direct questions, they are primarily open-ended questions that call for multiple, varied responses.

Prominence of Practices That Reduce Cognitive Load

A key tenet of LRI is that before learners can independently construct new knowledge and apply that knowledge to novel problems, they must build their expertise. Thus, in the early stages of learning, students with LD benefit from instruction that is teacher-mediated and explicit, intensive, individualized, and systematic. Given that FFT privileges constructivism (Danielson, 1997), we used directed coding to determine the extent to which these four practices are present in FFT.

Table 4. Distribution of Special Education (SE) Units by SE Fundamental Instructional Practice.

Practice	SE units *n* (%)	% SE of total units across Domain 3
Systematic	5 (18.5)	1.2
Explicit	10 (37.0)	2.6
Intensive	7 (25.9)	1.8
Individualized	5 (18.5)	1.3
Total	27 (100.0)	6.9

We found that aspects of these four fundamental practices are conveyed in 27 of the 386 sentence units comprising Domain 3, or 7% of all units. Table 3 shows the representation of these practices within each component, as well as the overall representation of special education practices across Domain 3; note that the fundamental practices are not equally distributed. Explicit instruction is represented more frequently than intensive instruction, and twice as frequently as systematic and individualized instruction (see Table 4). However, considering that representation of the most frequently referenced practice (i.e., explicit instruction) encompasses only 2.6% of the Domain 3 units, these differences could be insubstantial.

As shown in Table 5 (where fundamental practices fall across the scale), they are located at the upper end of the scale. Of the special education units that fall within the rubric (i.e., not in the definition; $n = 20$), 40% are located at the proficient level and 55% are located at the distinguished level. This suggests that, although the practices are infrequently represented in Domain 3, when they are present, they are upheld as effective instruction.

Finally, we wanted to consider whether the mentions of each practice noted the various elements or teaching behaviors comprise the broader practice. Although some elements of each practice are explicitly noted in the tool, others are

Table 5. Distribution of Special Education (SE) Fundamental Instructional Practices Across the Rubric.

Practice	Unsatisfactory *n* (%)	Basic *n* (%)	Proficient *n* (%)	Distinguished *n* (%)
Systematic	—	—	2 (10)	1 (5)
Explicit	—	—	3 (15)	4 (20)
Intensive	—	—	2 (10)	3 (15)
Individualized	—	2 (5)	1 (5)	3 (15)
Total	—	2 (5)	8 (40)	11 (55)

Note. These findings are limited to SE units located in the rubric and excludes units in the other narrative text. Therefore, this includes a total of 20 units as opposed to the 27 units in other tables.

Table 6. Elements of Special Education (SE) Fundamental Practices Upheld in FFT.

Practice	Frequency
Intensive instruction	
Align instruction to student needs	0
Collect and use diagnostic and progress monitoring data	4
Engage in cycles of OTR/FB to identify needs and maintain engagement	2
Work in small groups to address needs and maintain engagement	1
Provide multiple practice opportunities	0
Explicit instruction	
Externalize cognitive processes relative to skills and strategies	0
Anticipate and correct common misconceptions	3
Use examples and non-examples during models and think-alouds	1
Use models to support students in task completion	5
Use instructions and explanations to support students in task completion	2
Systematic instruction	
Develop concepts/skills as a foundation for more complex learning	0
Allocate time to do this and adjust pacing based on student performance	1
Activate prior knowledge	1
Make connections between lessons explicit and show how lessons fit together	5
Sequence lessons that build on each other	0
Individualized instruction	
Target and respond to students' individual needs	1
Use planned accommodations and modifications for individual students	0
Restructure tasks or questions to focus on specified instructional target	2
Adjust complexity of task to address individual needs	0
Remodel skills and strategies to address individual needs	0
Review previously learned material to address individual needs	2

Note. FFT = Framework for Teaching; OTR = opportunities to respond; FB = feedback.

not. For example, no units in Domain 3 address multiple practice opportunities, a key element of intensive instruction, nor does FFT explicitly address adjusting the complexity of the task according to individual student needs, which is a key element of individualized instruction (see Table 6).

Discussion

Observation tools generally, and FFT specifically, are a major part of the decades-long effort to reform instruction for *all* students (Papay, 2012). However, there is a dearth of research regarding the degree to which FFT characterizes and promotes effective instruction for students with LD. Building on prior scholarship (Brownell & Jones, 2015; Jones, 2016; Jones & Brownell, 2014; Jones et al., 2013), the current analysis provides substantive evidence that FFT, as currently conceived, is likely not an appropriate mechanism for promoting instruction that meets the need of students with LD. Indeed, our findings suggest that FFT's dichotomized characterization of constructivist teaching as high quality and direct instruction as low quality—compounded by the lack of explicitness regarding practices that are a crucial aspect of instruction for students with LD—could promote norms that are counter to the instructional needs of students with LD. In the following sections, we discuss the implications of our main findings and introduce a model that might more effectively incorporate LRI into teacher evaluation systems broadly defined and FFT in particular.

Constructivist Interactions Are Privileged

From this analysis, it is evident that the roles of teachers, students, and content shift from the low- to the high-performance levels of FFT. Consistent with the instrument's foundation (Danielson, 1997), this shift privileges constructivist teaching in support of developing conceptual understanding. This is problematic for two reasons. First, in setting up the tool in this way, FFT assumes that teachers *should* step aside and that *all students* have the expertise necessary to design and direct their own learning. Yet, scholars in special education assert that to effectively move the needle on student achievement, teachers should use student data to identify and then directly respond to students' needs through carefully coordinated learning activities that target prerequisite skills prior to engaging in sensemaking or knowledge construction (e.g., Al Otaiba et al., 2011; Connor et al., 2011, 2013, 2018). Following this targeted instruction, teachers can gradually and systematically increase students' independence in constructing knowledge.

Second, our analysis of Domain 3 suggests that FFT uses constructivist teaching as a proxy for high-quality instruction. We would argue that for learners who have not developed the fluency and automaticity necessary to engage meaningfully with new content (Martin, 2016; Mercer et al., 1996), this emphasis on conceptual learning results in little more than superficial involvement or participation. To promote meaningful interactions between teachers, students, and content, it is necessary that observation tools represent the full range of learners' needs (Mercer et al., 1996). This includes supporting access to instruction that builds fluency and automaticity prior to asking learners to engage in tasks that require application, transfer, and generalization of learning to new problems (Mayer, 2003). Although deep, conceptual understanding is a worthy goal, without a firm grasp on foundational skills (including instruction that supports the development of rote, recall, and procedural skills), struggling learners will likely experience failure, a lack of engagement, and, over time, decreased motivation to engage in learning (Martin, 2016).

Key Practices for Students With LD Are Ancillary

A significant challenge to the utility of Domain 3 is the underdevelopment of key practices proven to be effective for students with LD (i.e., intensive, explicit, systematic, and individualized instruction). Although these practices are referenced in Domain 3, they are barely visible, constituting only 7% of the total sentence units. This is surprising, given the inclusive nature of our coding scheme. When they are present, the instrument does not represent the practices in full. Compared with the literature base in special education, FFT gives short shrift to the practices most central to the instructional needs of students with LD. The lack of attention paid to these fundamental practices suggests that they are ancillary—an option for tackling students' learning difficulties when other approaches might have been unsuccessful. Yet, decades of research regarding instruction for students with disabilities underscores that explicit, intensive, systematic, and individualized instruction is directly linked to student achievement (Al Otaiba et al., 2011; Connor et al., 2013; L. S. Fuchs et al., 2009). For teachers who work with students with disabilities, it is imperative that these practices be upheld as an essential part of effective instruction.

Without a firm footing in these fundamental practices, the rubrics may not effectively differentiate between levels of performance for teachers of students with LD. Although our findings suggest that the rubric may point raters in the right direction regarding the practices, it may not effectively differentiate between teachers who are successfully employing intensive, systematic, explicit, and individualized instruction and those who demonstrate a need for support, developing their use of one or more of these fundamental practices. Moreover, when combined with the constructivist norms made explicit in Domain 3, FFT provides minimal incentive for teachers to use or for administrators to reinforce and reward teachers' use of explicit, intensive, systematic, or individualized instruction. With this in mind, it could be that in the context of professional development efforts the practices most critical to meeting the needs of students with LD are deemphasized and, therefore, remain unimproved.

Although FFT occasionally includes mention of explicit, intensive, systematic, and individualized practices at the high end of the scale, the instrument very clearly situates teacher-directed instruction in foundational content at the low end of the scale. Why might this be problematic and how can we reconcile these findings? Consistent with Cohen and colleagues' (2003) model of effective instructional environments, we assert that observers cannot ascertain instructional quality by the presence or absence of discrete practices alone. Instead, practices are one aspect of how a teacher coordinates interactions between teachers, students, and content. Our analysis suggests that in FFT—although Domain 3 includes reference to fundamental practices for students with LD—the norms regarding the teachers' role may sway teachers' ratings and feedback in a way that could have harmful consequences for students with LD.

A Note Regarding General Educators

Although these implications are important with reference to special educators, it is crucial to connect these findings to the practice of *all educators* working with students with LD and other struggling learners in K–12 settings. General educators more than likely share the instructional responsibility for the education of students with disabilities (Jones, 2016; U.S. Department of Education & NCES, 2017). Furthermore, if we consider the needs of struggling learners who might not be eligible for special education services, the importance of critiquing the practice promoted through FFT broadens. Prior research suggests that teachers who work with lower achieving students systematically receive lower ratings on FFT (Campbell & Ronfeldt, 2018; Steinberg & Garrett, 2016). Based on the diverse needs present in contemporary classrooms and the research regarding LRI (Martin, 2016), it is possible that teachers who work with vulnerable learners outside of special education could be disincentivized to adjust instruction to be less constructivist. It is also possible that, when considering appropriate directions for professional development, observers using FFT would direct these teachers to practices that would likely serve as a barrier to equitable and efficient learning opportunities.

Incorporating the Continuum of Student Needs Into Teacher Evaluation

What might these findings mean for the use of observation tools as a support for teachers who work with students with LD? Based on this analysis, we suggest that the scale for Domain 3 be expanded in ways that align with what we know from cognitive LRI (Clark et al., 2012; Kirschner et al., 2006; Martin, 2016; Mayer, 2003; Sweller, 2012). However, the present study does not suggest an expansion to include additional levels of performance. . Instead, within each point on the scoring scale, the tool should clearly attend to the *needs of the learners along a continuum* (i.e., students' current location on the continuum from less to more proficient). In other words, the tool's definition of *proficient* on any one component should depend on their students' level of expertise. Expanding the scale for each component to reflect practices relevant to this continuum could prompt the observer to track the interaction between the students' needs and the teacher's instruction. For example, when working with students who have yet to develop fluency and automaticity, these expanded scales could prompt observers to assess the extent to which instruction is explicit, intensive, systematic, and individualized; conversely, when working with students who demonstrate that they are able to use skills, strategies, and content with fluency and automaticity, these expanded scales could prompt observers to evaluate the extent to which the teacher's instruction incorporates opportunities for guided discovery learning that focuses on application, transfer, and generalization. Considering the tool in this way—as a rating of instruction *relevant to students' needs* as opposed to a singular approach to instruction (Heward, 2003; Mercer et al., 1996; Pressley et al., 2003)—could be a path toward improving the signal provided by FFT and fostering instruction that effectively meets the needs of students with LD.

Limitations

Our analysis is limited by its focus on *the instrument* as a tool that consistently informs and upholds certain norms regarding instruction. Our intent was to systematically analyze the instrument free from questions of context and rater cognition. These findings are relevant to understanding the instrument, formulating hypotheses regarding how FFT might operate in practice, and considering the messages that readers might take up from the instrument. Yet, the present analysis does not provide insight into the ways that raters make use of the tool.

In addition, this analysis may be limited by our focus on Domain 3. Underlying assumptions about the nature of high-quality instruction may also be made evident through analysis of other domains. For instance, in the section of FFT intended to evaluate planning and preparation, Domain 1, the instrument acknowledges that "factual and procedural knowledge" may be a learning outcome (Danielson, 2013, p. 12) and that distinguished lesson plans "differentiate for individual student needs" (Danielson, 2013, p. 20), both of which theoretically support LRI. However, plans that incorporate these measures do not necessarily translate into observable practice, and in some states where FFT is used, Domain 1 is not included in the rubric (e.g., Rhode Island Department of Education, 2015).

Finally, our analysis foregrounds the needs of students whose disability influences cognitive processing (i.e., students with LD). Although this constitutes a large proportion of the students eligible for special education services (U.S. Department of Education & NCES, 2017), this does not explicitly speak to the needs of all students with disabilities. It could be that the framework of practices included in the present study (i.e., explicit, intensive, systematic, and individualized instruction) should be augmented or modified to more specifically address the needs of particular student groups.

Future Research

The present analysis highlights directions for future research in teacher evaluation, including the importance of content analysis as a methodology to understand measurement of teacher quality and the applied use of teacher evaluation rubrics. Together with Gilmour and colleagues' (2019) systematic content analysis of state teacher evaluation rubrics, this study demonstrates that systematic content analysis of evaluation rubrics is a useful methodology for understanding these instruments' underlying assumptions about teaching and their limitations in effectively evaluating special educators. As recommended by Holdheide (2013), future research could use this methodology to further explore assumptions embedded in observation instruments regarding teachers' roles and responsibilities across all four domains. Furthermore, given the focus on text data in our analysis, future investigations should query how observers use and make sense of the rubrics to better understand the processes through which they arrive at ratings and determine directions for professional development. Understanding observers' sensemaking will help researchers and practitioners to understand how evaluators navigate conflict between observed practice and the norms underlying the instrument. This could provide insight into how to guide evaluators through negotiating these interpretive challenges. In addition, researchers should examine associations between student outcomes and the use of particular instruments to ensure that teachers whose practices result in growth for students with disabilities are recognized as effective professionals.

Finally, in the absence of a rubric that provides a clear vision of a continuum of instructional practice, such as LRI, evaluators likely need access to other models with which they can build their understanding of effective practices and guide their interpretation of observed special educator behavior. Future research should locate, document, and examine high-quality instantiations of LRI to help observers understand how to attend to markers of instructional quality.

Conclusion

Research regarding the appropriateness of observation tools for use with specific populations of teachers and students has important implications for policy and practice. These tools inform how educators, administrators, and policy makers think about the work of teaching and, when applied to professional development efforts, how these various stakeholders shape the educational opportunities provided to students. The present analysis highlights that FFT, an instrument widely used in American public schools, may not be an appropriate mechanism through which to support a continuum of effective instruction for students with LD and other struggling learners. Departing from the decades-old dichotomization of practice that likely works to the detriment of students with disabilities, a model based in cognitive load reduction introduces a new way of thinking about teacher evaluation that would recognize a continuum of practice that is responsive to the needs of students throughout their learning process.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was supported in part by a grant from the Institute of Education Sciences (Award #R324A150231).

References

Al Otaiba, S., Connor, C. M., Folsom, J. S., Greulich, L., Meadows, J., & Li, Z. (2011). Assessment data-informed guidance to individualize kindergarten reading instruction: Findings from a cluster-randomized control field trial. *Elementary School Journal*, *111*(4), 535–560. https://doi.org/10.1086/659031

Archer, A. L., & Hughes, C. A. (2011). *Explicit instruction: Effective and efficient teaching*. Guilford Press.

Barrouillet, P., Bernardin, S., & Camos, V. (2004). Time constraints and resource sharing in adults' working memory spans. *Journal of Experimental Psychology: General*, *133*, 83–100. https://doi.org/10.1037/0096-3445.133.1.83

Brainerd, C. J. (1978). The stage question in cognitive-developmental theory. *Behavioral and Brain Sciences*, *1*(2), 173–182. https://doi.org/10.1017/S0140525X00073842

Brantlinger, E., Jimenez, R., Klingner, J., Pugach, M., & Richardson, V. (2005). Qualitative studies in special education. *Exceptional Children*, *71*, 195–207. https://doi.org/10.1177/001440290507100205

Brophy, J. E., & Good, T. L. (1986). Teacher behavior and student achievement. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 328–375). Macmillan.

Brownell, M. T., & Jones, N. D. (2015). Teacher evaluation in special education: Approaches, supporting research, and challenges confronted. *Journal of Special Education Leadership*, *28*(2), 63–73.

Campbell, S. L., & Ronfeldt, M. (2018). Observational evaluation of teachers: Measuring more than we bargained for? *American Educational Research Journal*, *55*(6), 1233–1267. https://doi.org/10.3102/0002831218776216

Clark, R. E., Kirschner, P. A., & Sweller, J. (2012). Putting students on the path to learning: The case for fully guided instruction. *American Educator*, *36*(1), 6–11.

Cohen, D. K., Raudenbush, S. W., & Ball, D. L. (2003). Resources, instruction, and research. *Educational Evaluation and Policy Analysis*, *25*, 119–142. https://doi.org/10.3102/01623737025002119

Connor, C. M., Mazzocco, M., Kurz, T., Crowe, E. C., Tighe, E. L., Wood, T. S., & Morrison, F. J. (2018). Using assessment to individualize early mathematics instruction. *Journal of School Psychology*, *66*, 97–113. https://doi.org/1016/j.jsp.2017.04.005

Connor, C. M., Morrison, F. J., Fishman, B., Crowe, E. C., Al Otaiba, S., & Schatschneider, C. (2013). A longitudinal cluster-randomized controlled study on the accumulating effects of individualized literacy instruction on students' reading from first through third grade. *Psychological Science*, *24*, 1408–1419. https://doi.org/10.1177/0956797612472204

Connor, C. M., Morrison, F. J., Schatschneider, C., Toste, J. R., Lundblom, E., Crowe, E. C., & Fishman, B. (2011). Effective classroom instruction: Implications of child characteristics by reading instruction interactsions on first graders' word reading achievement. *Journal of Research on Educational Effectiveness*, *4*(3), 173–207.

Danielson, C. (1997). *Enhancing professional practice: A Framework for Teaching*. Association for Supervision and Curriculum Development.

Danielson, C. (2013). *The Framework for Teaching evaluation instrument, 2013 instructionally focused edition*. The Danielson Group.

Dedoose Version 7.0.23, web application for managing, analyzing, and presenting qualitative and mixed methods research data (2016). *SocioCultural Research Consultants*, LLC. www.dedoose.com

Doabler, C. T., Baker, S. K., Kosty, D. B., Smolkowski, K., Clarke, B., Miller, S. J., & Fien, H. (2015). Examining the association between explicit mathematics instruction and student mathematics achievement. *The Elementary School Journal*, *115*, 303–333. http://dx.doi.org/10.1086/679969

Donaldson, M. L., & Papay, J. P. (2014). Teacher evaluation for accountability and development. In H. F. Ladd & M. E. Goertz (Eds.), *Handbook of research in education finance and policy* (pp. 174–193). Routledge.

Elbaum, B., Vaughn, S., Hughes, M., & Moody, S. W. (1999). Grouping practices and reading outcomes for students with disabilities. *Exceptional Children*, *65*, 399–415. https://doi.org/10.1177/001440299906500309

Elbaum, B., Vaughn, S., Hughes, M., & Moody, S. W. (2000). How effective are one-to-one tutoring programs in reading for elementary students at risk for reading failure? A meta-analysis of the intervention research. *Journal of Educational Psychology*, *92*, 605–619. https://doi.org/1037//0022-0663.92.4.605

Every Student Succeeds Act of 2015, Pub. L. No. 114-95 § 114 Stat. 1177 (2015-2016).

Fuchs, D., Fuchs, L. S., & Vaughn, S. (2014). What is intensive instruction and why is it important? *Teaching Exceptional Children*, *46*(4), 13–18. https://doi.org/10.1177/0040059914522966

Fuchs, L. S., Powell, S. R., Seethaler, P. M., Cirino, P. T., Fletcher, J. M., Fuchs, D., Hamlett, C. L., & Zumeta, R. O. (2009). Remediating number combination and word problem deficits among students with mathematics difficulties: A randomized control trial. *Journal of Educational Psychology*, *101*(3), 561–576. https://doi.org/10.1037/a0014701

Gage, N. L., & Needels, M. C. (1989). Process-product research on teaching: A review of criticisms. *The Elementary School Journal*, *89*, 253–300.

Gilmour, A. F., Majeika, C. E., Sheaffer, A. W., & Wehby, J. H. (2019). The coverage of classroom management in teacher evaluation rubrics. *Teacher Education and Special Education*, *42*(2), 161–174. https://doi.org/10.1177/0888406418781918

Glaser, B. G. (1978). *Theoretical sensitivity*. Sociology Press.

Heward, W. L. (2003). Ten faulty notions about teaching and learning that hinder the effectiveness of special education. *The Journal of Special Education*, *36*(4), 186–205. https://doi.org/10.1177/002246690303600401

Holdheide, L. (2013). *Inclusive design: Building educator evaluation systems that support students with disabilities* (Special Issues Brief). Center on Great Teachers and Leaders. https://gtlcenter.org/sites/default/files/GTL_Inclusive_Design.pdf

Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, *15*(9), 1277–1288. https://doi.org/10.1177/1049732305276687

Individuals With Disabilities Education Act, 20 U.S.C. § 1400 (2004).

Jones, N., & Brownell, M. (2014). Examining the use of classroom observations in the evaluation of special education teachers. *Assessment for Effective Intervention*, *39*(2), 112–124. https://doi.org/10.1177/1534508413514103

Jones, N. D. (2016). Special education teacher evaluation: An examination of critical issues and recommendations for practice. In J. A. Grissom & P. Youngs (Eds.), *Improving teacher evaluation systems: Making the most of multiple measures* (pp. 63–76). Teachers College Press.

Jones, N. D., Buzick, H. M., & Turkan, S. (2013). Including students with disabilities and English learners in measures of educator effectiveness. *Educational Researcher*, *42*(4), 234–241. https://doi.org/10.1177/1534508413514103

Kirschner, P. A., Sweller, J., & Clark, R. E. (2006). Why minimal guidance during instruction does not work: An analysis of the failure of constructivist, discovery, problem-based, experiential, and inquiry-based teaching. *Educational Psychologist*, *41*, 75–86. https://doi.org/10.1207/s15326985ep4102_1

Marshall, C., & Rossman, G. B. (2014). *Designing qualitative research*. Sage.

Martin, A. J. (2016). *Using load reduction instruction (LRI) to boost motivation and engagement*. British Psychological Society.

Mayer, R. E. (2003). Memory and information processes. In W. M. Reynolds & G. E. Miller (Eds.), *Handbook of psychology* (pp. 47–58). John Wiley.

McLeskey, J., Council for Exceptional Children, & Collaboration for Effective Educator Development, Accountability and Reform. (2017). *High-leverage practices in special education*. Council for Exceptional Children.

Mercer, C. D., Lane, H. B., Jordan, L., Allsopp, D. H., & Eisele, M. R. (1996). Empowering teachers and students with instructional choices in inclusive settings. *Remedial and Special Education*, *17*(4), 226–236. https://doi.org/10.1177/074193259601700405

Munter, C., Stein, M. K., & Smith, M. S. (2015). Dialogic and direct instruction: To distinct models of mathematics instruction and the debates surrounding them. *Teachers College Record*, *117*, 1–32.

National Center on Intensive Intervention. (2013). *Data-based individualization: A framework for intensive instruction. American Institutes for Research*. https://intensiveintervention.org/sites/default/files/DBI_Framework.pdf

Papay, J. (2012). Refocusing the debate: Assessing the purposes and tools of teacher evaluation. *Harvard Educational Review*, *82*(1), 123–141. https://doi.org/10.17763/haer.82.1.v40p0833345w6384

Piaget, J. (1970). *Science of education and the psychology of the child*. Orion Press.

Pianta, R. C., Hamre, B. K., Hayes, N., Mintz, S., & LaParo, K. M. (2008). *Classroom Assessment Scoring System—Secondary (CLASS-S)*. University of Virginia.

Pianta, R. C., LaParo, K. M., & Hamre, B. K. (2008). *Classroom Assessment Scoring System (CLASS): Manual, Pre-K*. Brookes.

Pressley, M., Roehrig, A. D., Raphael, L., Dolezal, S., Bohn, C., Mohan, L., Wharton-McDonald, R., Bogner, K., & Hogan,

K. (2003). Teaching processes in elementary and secondary education. In W. M. Reynolds & G. E. Miller (Eds.), *Handbook of psychology* (pp. 153–176). John Wiley.

Rhode Island Department of Education. (2015). *Rhode Island model evaluation & support system*. https://www.ride.ri.gov/Portals/0/Uploads/Documents/Teachers-and-Administrators-Excellent-Educators/Educator-Evaluation/Guidebooks-Forms/Teacher_Guidebook_2015-16.pdf

Rosenshine, B. (1997, March 24–28). *The case for explicit, teacher-led, cognitive strategy instruction*. American Education Research Association. http://www.formapex.com/telechargementpublic/rosenshine1997a.pdf

Sindelar, P. T., Daunic, A., & Rennells, M. S. (2004). Comparisons of traditionally and alternatively trained teachers. *Exceptionality*, *12*, 209–223. https://doi.org/10.1207/s15327035ex1204_3

Stecker, P. M., Fuchs, L. S., & Fuchs, D. (2005). Using curriculum-based measurement to improve student achievement: Review of research. *Psychology in the Schools*, *42*, 795–819. https://doi.org/10.1002/pits.20113

Steinberg, M. P., & Garrett, R. (2016). Classroom composition and measured teacher performance: What do teacher observation scores really measure? *Educational Evaluation and Policy Analysis*, *38*(2), 293–317. https://doi.org/10.3102/0162373715616249

Swanson, H. L. (1999). Instructional components that predict treatment outcomes for students with learning disabilities: Support for a combined strategy and direct instruction model. *Learning Disabilities Research & Practice*, *14*(3), 129–140.

Swanson, H. L., & Siegel, L. (2011). Learning disabilities as a working memory deficit. *Experimental Psychology*, *49*(1), 5–28.

Sweller, J. (2012). Human cognitive architecture: Why some instructional procedures work and others do not. In K. R. Harris, S. Graham, T. Urdan, C. B. McCormick, G. M. Sinatra, & J. Sweller (Eds.), *APA Educational Psychology Handbook: Vol. 1. Theories, constructs, and critical issues* (pp. 295–325). American Psychological Association.

U.S. Department of Education, & National Center for Education Statistics. (2017). *Digest of education statistics, 2016* (NCES 2017-094). https://files.eric.ed.gov/fulltext/ED580954.pdf

Vaughn, S., Wanzek, J., Murray, C. S., & Roberts, G. (2012). *Intensive interventions for students struggling in reading and mathematics: A practice guide*. RMC Research Corporation, Center on Instruction. https://files.eric.ed.gov/fulltext/ED531907.pdf

Watkins, C., & Slocum, T. A. (2003). Elements of direct instruction. *Journal of Direct Instruction*, *3*, 4–32.