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Explicit Instruction as the Essential Tool for Executing the Science of Reading

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Abstract

Every decade it seems that we have a new version of debates about how to teach reading. Recently, the issues have focused on the science of reading and how teachers can ensure that they are using it to provide informed and effective instruction for their students (Castles et al., 2018). You may be wondering, as are many educators, "What is the science of reading, and how do I know if I am using it in my instruction?"

To address this question, it is important to understand that the science of reading is based on cumulative, evolving evidence which is derived from numerous studies that reflect a scientific process of inquiry and use scientific methods of investigation. In this respect, science in education is like science in other fields, such as physics, chemistry, and the social sciences (Shavelson & Towne, 2002). As defined in Shavelson and Towne (p.52), there are six guiding principles that ensure the scientific process:

- Pose significant questions that can be investigated empirically
- Link research to relevant theory
- Use methods that permit direct investigation of the question
- Provide a coherent and explicit chain of reasoning
- Replicate and generalize across studies
- Disclose research to encourage professional scrutiny and critique

Studies that utilize scientific methods incorporate: (a) rigorous designs, e.g., randomized control trials or other designs that reduce bias, (b) ways to protect findings from bias or contamination, (c) reliable and valid measures, (d) methods that allow for replication by other researchers, and (e) interpretation in ways that are trustworthy. In the scientific process, the research questions and methods stem from theory, and the results are subjected to public scrutiny through peer review by other scientists and through publication of the results. Evidence that is gathered in this way allows educators and key stakeholders to make informed decisions about what to teach and, in many cases, how to teach. There is no single study that conclusively establishes the evidence about how children learn to read. That is not

the way scientific knowledge develops. Instead, in a pains-taking and cumulative fashion, studies over time and across multiple disciplines (including instruction, neuroimaging, and cognitive psychology) converge on evidence that increases our understanding about how students learn to read. Multiple studies and replication of findings allow the field to confidently establish the reliability of the knowledge gained about how children learn to read and why some struggle.

Because of this reliability, it is reasonable to expect that every reading teacher would use the knowledge gleaned from these studies to inform their instruction. Evidence from the research has established that there are five major elements of reading instruction that contribute to the successful acquisition of reading. These elements are sometimes referred to as *the big five:* phonological/phonemic awareness, phonics, fluency, vocabulary, and comprehension. These are not the only elements that contribute to reading success. Evidence also supports the reciprocal connection between learning to read and learning to spell and write. The emphasis on each of these elements varies based on the different needs of the reader. Most learners benefit from organized, deliberate, and explicit instruction in the critical elements of reading.

The science of reading has established that *explicit instruction* is associated with beneficial outcomes for students and may be the secret sauce of instructional success (Fletcher et al., 2019; Foorman et al., 2016). This explicitness includes modeling new skills, giving students ample practice with feedback, and providing structured opportunities for review and practice. In this paper, we present a description of explicit instruction, provide examples of explicit versus vague instruction, and offer guidelines for improving explicit instruction in the classroom to benefit all learners-but particularly those who find learning to read more difficult. Explicit instruction in reading requires an understanding of key reading terms (see Sidebar). We do not make specific contrasts with approaches we would consider less explicit, but note that such approaches are often based on the view of learning to read as a natural process that is as easy as learning to talk and which sees the teacher as a facilitator or guide to the child's discovery of reading. When these less explicit approaches have phonics components, they are considered incidental and not explicit (Student Achievement Partners, 2020). We provide many examples of explicit instruction in this paper, but no lesson plans. Specific lesson plans incorporating explicit instruction for word work, comprehension, and fluency across age ranges can be downloaded from our website (www.texasldcenter.org).

What is Explicit Instruction?

Explicit instruction is essential for students who struggle to learn to read, write, and do math, and The Council for Exceptional Children (McLeskey et al., 2017) identified it as a high-leverage practice. Explicit instruction in reading requires an understanding of certain terms (see Sidebar) and knowledge of its critical elements (see Table 1). We describe the principles of explicit instruction from the perspective of the science of reading, focusing on five essential components: (1) segmenting complex skills into smaller manageable tasks; (2) modeling or thinking-aloud to address the important features of the content; (3) promoting successful engagement using faded supports and prompts; (4) providing feedback; and (5) creating purposeful practice opportunities. Explicit instruction is teacher-driven, intentional,

focused on individual student needs, and requires judgment even if a program is highly scripted. However, explicit instruction does not have to be scripted, manualized, or prescriptive, as long as the lesson plan is organized and students receive support geared to their individual needs. Table 1 highlights critical elements of explicit instruction. Explicit instruction is a broad construct that represents a set of instructional routines that specify tasks and behaviors in a continuously defined manner. It is also a way to make instruction clearer, more responsive to learners' needs, and success oriented. Explicit instruction is learner-focused in that the instruction becomes more explicit in response to students demonstrating increasing learning challenges. As one of many examples, Hughes et al. (2017) provided an overview of the history of explicit instruction, revealing that it has been described and advanced since the 1990s and is embedded in approaches to implementing interventions within a Response to Intervention (RTI) or Multiple Tiered System of Supports (MTSS approach) (Fien et al., 2015; Fuchs et al., 2018); we go over these findings below.

Segmenting Complex Skills Into Manageable Tasks

Segmenting complex skills involves breaking down or chunking complex tasks into more manageable units, then teaching each of the individual tasks/units one by one, and finally integrating them so that students can more readily acquire the complex task. This process requires an analysis of a complex task in order to isolate the multiple components into smaller units, which has the effect of making instruction more explicit. The tasks are organized so that students acquire the first chunk before moving to the next, reviewing and integrating until the more complex skill is readily achieved. For example, when teaching word reading, first ensure that students know the sounds of the letters needed to read the words. Next integrate multiple sounds that include a consonant and a vowel, and then move to reading c/v/c words (e.g., man, fun, sit). This type of task analysis, which involves chunking, can also occur when teaching comprehension strategies. For example, when we teach students to get the *gist* or *main idea* of a passage, we first ask them to determine the most important *who* or *what* in the passage. After students can answer this question accurately, we then ask them to provide several key words that describe what the most important thing is about the who or what. When they can do both of these steps well, we ask them to say what the text is about in their own words. Finally, we ask students to write the gist, or main idea.

Using Modeling or Think-Alouds

The second of the essential components is to use *modeling or think-alouds* to address the important features of the content. Modeling, or showing students in an organized and clear manner how to do something (e.g., read sentences to figure out the meaning of a word), can be an effective tool for ensuring students can reproduce and then apply the same practice. Modeling may involve the teacher thinking aloud while also providing explanations of the processes utilized. For example, when reading a science text, a teacher could model how to go back and reread a section to gain understanding of an unknown word, and then talk about why they reread the section and what they were thinking while they did so. "Because I didn't understand *mitosis,* I needed to reread these two sentences where mitosis is explained. Rereading helped me to get a better idea of the meaning." In many ways,