Page 1: What Is Instructional Scaffolding?

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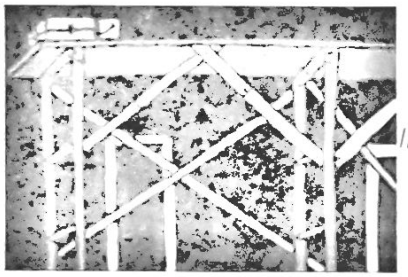
If you were Ms. Price, what could you do to help your students when they struggle with a task?



Instructional scaffolding is a process through which a teacher adds supports for students in order to enhance learning and aid in the mastery of tasks. The teacher does this by systematically building on students' experiences and knowledge as they are learning new skills. Just like the scaffold in the picture to the left, these supports are temporary and adjustable. As students master the assigned tasks, the supports are gradually removed.

To gain a better understanding of scaffolding, consider the analogy of a child learning to walk. First, a parent holds the child up. His feet barely touch the floor as he mimics walking. Slowly, the child is allowed to support more and more of his own weight. Next, he might support himself by holding on to an object like a coffee table while his parents watch. Finally, the child is ready to take steps, though his parent's hand might still be just inches away. Soon enough, the child is walking—and running—on his own. Like the parents in this example, teachers teaching new tasks initially have complete control and support their students fully. Gradually, when the students are ready, support is withdrawn until the students are able to stand on their own.

Providing support, or scaffolding, is a critical component in teaching new tasks with multiple steps. Likewise, scaffolding is a critical element in the teaching of instructional strategies (see the IRIS Module *SRSD: Using Learning Strategies to Enhance Student Learning*). Many teachers do this naturally when teaching a new task or strategy, whereas others need to purposefully incorporate scaffolding into their teaching styles. It is important to remember, however, that even when students have learned the purpose of a strategy and have memorized its steps, they may still not be ready to use the strategy independently.

Students with learning disabilities are often not actively engaged in the learning process when being taught a new skill. Instead, they are only going through the motions of the task. This is so because students with learning disabilities often don't understand the underlying concepts to which they should be attending during each step. For this reason, teachers should observe their students closely to ensure that they understand the information being demonstrated. Having students demonstrate the task independently will help teachers to determine whether the students are learning.

Keep in Mind

Teachers should remember several important facts about instructional scaffolding:

- Scaffolding is most useful for teaching new tasks or strategies with multiple steps.
- Any student at any grade level, including high school, can benefit from instructional scaffolding.
- Scaffolding can be applied to any academic task.

Page 2: How Do I Scaffold Instruction?

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If you were Ms. Price, what could you do to help your students when they struggle with a task?

There are no hard-and-fast rules for how to scaffold instruction. In fact, how a teacher chooses to go about it will much depend on the task or strategy in question and the students' needs. The teacher should use common sense, teaching experience, and the students' needs to assess what type of scaffolding or support will be required by the students.

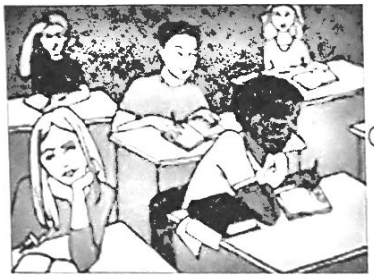
Although a teacher may scaffold instruction in a number of ways, it is nevertheless important to note that there are two critical elements to keep in mind when using instructional scaffolding:

- **Modeling**: Throughout the learning process, students should be able to watch their teacher model, or demonstrate, each step in the task or strategy multiple times. Such modeling and repetition allow students to understand both how to perform each step and why each step is important. Knowing *how* and *why* leads to students' successful performance of the task or strategy.
- **Practice**: Students, either individually or as a group, must have the opportunity to work collaboratively with the teacher to practice the task or the strategy.

In the following examples, compare a parent's teaching a child to ride a bike using scaffolding to another parent's trying the same without scaffolding. Note that in the example containing scaffolding, the two critical elements of modeling and practice are present.

Example with scaffolding	Example without scaffolding
When I taught my daughter to ride her bike, I sat on the bike to demonstrate how to ride. I started her out with training wheels. Then I gradually raised the training wheels. Once she was ready to remove the training wheels, I steadied her with my hand and walked beside her, and only then did I let her take off on her own.	When I taught my daughter to ride her bike, I explained to her how to do it. Then I put her on the bike and gave her a shove.

Adapted from audio by Robert Reid.



Of course, students' skill levels and needs vary dramatically, as does the difficulty of individual tasks or strategies. As such, students may require different types (or levels) of scaffolding. In fact, Ms. Price, the fourth-grade science teacher from the Challenge, discovers that her students are experiencing different types of problems with the writing assignment. Many of her students, including Sasha, are struggling because they are unable to organize their thoughts. Although they write sentences fairly well, their lack of organization makes their papers choppy and difficult to read. On the other hand, another of her students, James, is experiencing a more basic difficulty: He is unable to identify main ideas for his paper.

Ms. Price decides to use a word-web strategy to help all of her students with their writing assignments. Ms. Price selects this strategy because she has used it in the past to teach about ecological systems, and she thinks the strategy will help her students with their writing assignments. Before she begins, however, she needs to learn more about the different approaches she can use to scaffold instruction. The following three approaches for instructional scaffolding are discussed on the subsequent pages of this module:

- Content Scaffolding
- Task Scaffolding
- Material Scaffolding

Page 3: Content Scaffolding

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How might Ms. Price provide help to meet the individual needs of all her students, including those with disabilities?

One type of instructional scaffolding is referred to as *content scaffolding*. For this type of scaffolding, the teacher selects content that is not too difficult or unfamiliar for students learning a new skill. Doing so allows students to focus on the skill being taught and not get bogged down in the content. Three content scaffolding techniques are described below.

Use Familiar or Highly Interesting Content

Teachers often find that it is much easier to teach a new strategy to students when they begin with content that is familiar or highly interesting. Students taught a new strategy in this way tend to be more motivated to learn. Over time, the teacher will introduce content that is less and less familiar and will ask the students to apply the newly learned strategy to the content.

As was mentioned above, Ms. Price has decided to teach her students a word-web strategy to help them to organize their thoughts on paper. She realizes that this will take some time away from her science curriculum but believes that, in the long run, it will actually save time and provide her students with an effective writing strategy. She begins by drawing a web on the board that helps her students to select their essay topics and the content of their three supporting paragraphs. Ms. Price decides to start the students off with an essay about themselves so that they do not have to struggle with the content but can instead focus on the task at hand: identifying the main topics of their essays. She models the strategy on the board, using herself as an example. Later, she models how to transform the information in the web into a five-paragraph essay. Once the students have mastered all the steps of the strategy with this familiar content, she will instruct them to use the strategy to write their science-fair essays.

Use Easy Content

This technique involves using content that is easy for the students in order to teach a new task or strategy at hand. This allows the students to better focus on the strategy. For example, say another teacher wishes to explain a reading-comprehension strategy to one of his students. He will initially use a text that is one or two grade levels below the student's current reading level. This allows the student to use all of her energy to master the comprehension strategy. Then, after the student has developed confidence in the strategy, the teacher will gradually increase the difficulty of the passages.

Start With the Easy Steps

One simple way to scaffold instruction is for the teacher to perform and model the more difficult steps of a task while letting students do the easier steps. Gradually, the students should take responsibility for completing the more difficult steps. During the learning process, the teacher continues to model and help the students with any problems they might have. For example, imagine that a first-grade reading specialist is teaching phonics to a student. She asks the student to read simple stories aloud. When he comes to a word with which he is having difficulty, the reading specialist will model sounding out the word. Next, she asks the student to read the sentence, including the difficult word, once again. As he masters the phonics strategy, the student will be expected to take more and more responsibility for sounding out new or unfamiliar words.

Page 4: Task Scaffolding

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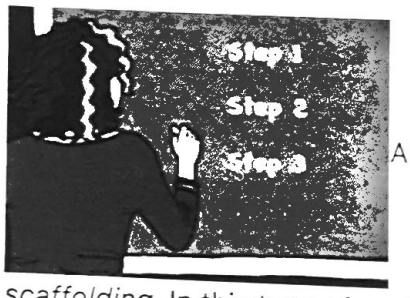
How might Ms. Price provide help to meet the individual needs of all her students, including those with disabilities?



Another type of instructional scaffolding is referred to as *task scaffolding*. In this type of scaffolding, a teacher begins by specifying the steps in a task or instructional strategy. He or she then models the steps in the task, verbalizing his or her thought processes for the students. In other words, the teacher thinks aloud and talks through each of the steps he or she is completing. Once students are able to understand the steps in the task or instructional strategy, they practice the task independently. The teacher observes their performance and may coach students who experience problems. Even though students have watched their teacher demonstrate a task, they may not yet actually understand how to perform it independently. For this reason, it is critical for teachers to scaffold by continuing to model the steps or procedures until correct independent performance is achieved.

Task scaffolding is quite straightforward: The teacher simply gives the students more and more responsibility for steps in a strategy or task. In the example presented below, Mrs. Gardner, a colleague of Ms. Price's, demonstrates how to use COPS, a strategy for editing paragraphs. As she teaches this new strategy to her students, she scaffolds instruction by providing support at each step.

Click on each movie below to watch Mrs. Gardner scaffold instruction when teaching the COPS strategy. During these lessons, she will focus on the first step, capitalization.

Lesson 1

Mrs. Gardner:

- Names the strategy step
- Describes the step
- Models its use

Lesson 2

The students:

- Name the step

Mrs. Gardner:

- Describes the step
- Models its use

Lesson 3

The students:

- Name the step
- Describe the step

Mrs. Gardner:

- Models its use

Lesson 4

The students:

- Name the strategy step
- Describe the step
- Model its use

Credit

The audio in the movie clips was adapted from a video provided by Torri Lienemann, Director of Concordia University, Nebraska's Graduate Special Education Program.

Page 5: Material Scaffolding

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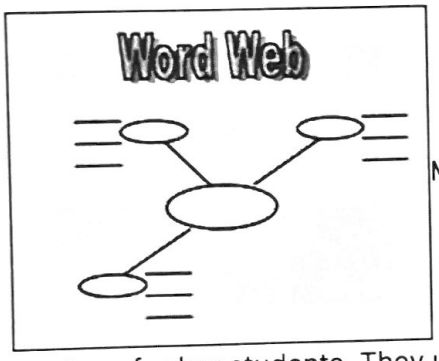
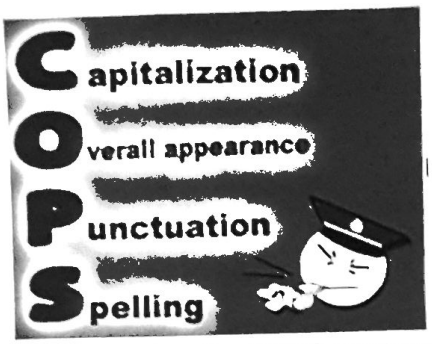
How might Ms. Price provide help to meet the individual needs of all her students, including those with disabilities?

Material scaffolding involves the use of written prompts or cues to help the students perform a task or use a strategy. This may take the form of cue sheets or guided examples that list the steps necessary to perform a task. Students can use these as a reference, to reduce confusion and frustration. Ideally, the prompts and cues should be phased out over time as students master the steps of the task or strategy.



Ms. Price has created a handout outlining the word-web strategy for her students. They use it to organize their thoughts for their essays about themselves. Now Ms. Price thinks they will be able to use the same handout and strategy to organize their essays about the science fair. Once the students master this step and are able to organize their thoughts without the prompt, Ms. Price plans to phase it out for future writing assignments.

During this process, however, Ms. Price discovers that James still needs more support than the rest of the students. When given a blank word-web handout, he is unable to identify the main ideas for his science fair essay. Ms. Price is somewhat surprised that James is having difficulty because he was able to complete the autobiographical essay. After reflecting, Ms. Price realizes that James was able to complete the essay about himself because he used the ideas that she had outlined on the board. Therefore, Ms. Price decides that she needs to provide more support for James by helping him to think through the main ideas of this new essay. She models this process by thinking aloud. This experience reinforces for Ms. Price the importance of checking for students' understanding during instructional scaffolding.



In another example of material scaffolding, Mrs. Gardner, the teacher using the COPS strategy, hangs a poster on the wall to display its steps. This poster serves as a prompt for her students as they edit their papers. Once the students have memorized the steps of the strategy, she will remove the poster, but she will continue to prompt them to use the strategy throughout the year.

Page 6: Scaffolding Tips

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How might Ms. Price provide help to meet the individual needs of all her students, including those with disabilities?

Ms. Price has now learned about three different approaches to instructional scaffolding. The tips below may help her to implement them in a more creative and effective manner.

Error Detection and Correction

Teachers should model the process of error detection and correction as part of the scaffolding process. This is beneficial for several reasons:

- 
Students understand what they should be doing.
- Teachers can model "stuckness." They simulate getting stuck and model how to talk themselves through the problem rather than simply giving up.
- Students learn that it's okay to make a mistake, so long as they understand why they made it and determine how to correct it.

Use With Other Techniques


As we have learned, scaffolding can be used in almost any instructional area (i.e., math, language arts, science). It can also be used across age groups to teach skills that range from printing letters, to writing in cursive, to writing a five-paragraph essay, to writing a research paper. Scaffolding can also be combined with other successful instructional techniques, such as those involving cooperative groups or peer tutors. For example, a teacher might create heterogeneous reading groups in which she would intentionally include students of various reading levels. Those students with a better understanding of the strategy would provide support, or scaffolding, for those who were

experiencing difficulty. The group as a whole would be responsible for using the strategy. The same procedure could be used with peer tutors. In either case, teachers should remember that it is critical to provide support and model steps when needed.

Remember, too, that various scaffolding techniques described in this Module can be used in combination. For example, material scaffolding can be used in conjunction with task scaffolding. As you saw in this Module, Mrs. Gardner introduced the COPS strategy through task scaffolding. She also implemented material scaffolding when she hung the COPS poster on the wall as a visual reminder and guide. Similarly, Ms. Price combined content scaffolding with material scaffolding. She first taught her students how to write essays by using a word-web strategy and familiar content. For later essays, she provided a handout of a blank word web for them to use. There are other ways to combine these approaches, depending on factors such as the needs of the teacher and the students, as well as the task or strategy being taught.

Page 7: References & Additional Resources

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Resources

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Dickson, S. V., Collins, V. L., Simmons, D. C., & Kameenui, E. J. (1998). Metacognitive strategies: Instruction and curricular basics and implications. In D. Simmons & E. Kameenui (Eds.), *What reading research tells us about children with diverse learning needs: Bases and basics* (pp. 361–380). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Harris, K. R., & Pressley, M. (1991). The nature of cognitive strategy instruction: Interactive strategy instruction. *Exceptional Children, 57*, 392–403.

Additional Resources

Articles

Reid, D. K. (1998). Scaffolding: A broader view. *Journal of Learning Disabilities, 31*, 386–396.

This article considers scaffolding in a broad context, examining "the historical context of learning disabilities, the emerging focus on learners' activity, the reification of learning disabilities, and the unintended effects that frequently occur as a by-product of injudicious (and often unintentional) scaffolding." The book explores theory, real-life intervention, and how each affects the other.

Stone, C. A. (1998). The metaphor of scaffolding: Its utility for the field of learning disabilities. *Journal of Learning Disabilities, 31*, 344–364.

In order to better understand the application of scaffolding strategies on atypical learners, the book offers a critical analysis of the concept of scaffolding as a metaphor for how to "guide children's learning and development." The book opens with information about the origins and early applications of the metaphor; it then shifts its focus to criticisms.

Books

Byrnes, J. P. (2001). *Cognitive development and learning in instructional contexts* (2nd ed.). Needham Heights, MA: Allyn & Bacon.

Organized in two parts, the book seeks to describe children's learning capabilities at

different ages. One part of the book focuses on background information, such as principles of learning. The other section examines developmental trends that are apparent as children acquire skills in different content areas.

Hogan, K., & Pressley, M. (Eds.). (1997). *Scaffolding student learning: Instructional* approaches and issues. Cambridge, MA: Brookline Books.

This book is composed of a variety of original papers discussing the topic of scaffolding. Both theory and practice are addressed in the book, as are practical tips and success rates for one-on-one tutoring.

Pressley, M., & Associates (1995). *Cognitive strategy instruction that really improves children's academic performance* (2nd ed.). Cambridge, MA: Brookline Books.

This second-edition discusses strategies for teaching a variety of elementary and middle-school content areas, such as reading comprehension, mathematics, and science. Covering background and practical topics, the book features current perspectives, explanations of the logic behind strategies, and details on how to apply research-validated strategies.

Reid, R., & Lienemann, T. (1995). *Cognitive strategy instruction for students with learning disabilities*. New York: Guilford Publications.

Scaffolding is one important component of strategy instruction, and this book provides practical examples of how to scaffold instruction. Additionally, it includes information on specific scaffolding techniques and how they can be used with students who have learning disabilities.

Turnbull, A., Turnbull, R., Shank, M., & Smith, S. J. (2004). Exceptional lives: Special education in today's schools (4th ed.). Upper Saddle River, NJ: Prentice Hall.

Intended to aid teachers in addressing the goals of the Individuals with Disabilities Education Act (IDEA) of 1997, the book examines methods for implementing best practices. The four major categories covered in the book are universal design for learning, inclusion, collaboration, and multicultural responsiveness. The book also features examples of real students with real disabilities.

Online Resources

Funderstanding [Online] http://www.funderstanding.com/vygotsky.cfm

A group of product development consultants focusing on youth, Funderstanding has posted a page about Vygotsky and social cognition on its Website. The page defines social cognition, lists discussion points, looks at how Vygotsky impacts learning, and suggests additional readings on the subject. The site also features information on other learning theories, as well as links to sections on education history, resources, influences, among others.

San Diego City Schools: Technology Challenge Grants
http://projects.edtech.sandi.net/staffdev/presentation/scaffolding.htm

Part of the San Diego City Schools Technology Challenge Grants program, the Web page "Scaffolding Strategy" provides numerous links to examples of three types of scaffolding: reception, transformation, and production. For instance, visitors can link to a page with a picture glossary intended as a scaffold for learning vocabulary. Dr. Bernie Dodge of San Diego State University originally created "A Scaffolding Strategy" as a presentation for the Computer-Using Educators (CUE) Convention in spring 2000.