

**Task:** *Design an assignment where students write a 5-page essay on Vygotsky's Zone of Proximal Development in APA format. Provide directions and a rubric focusing on understanding, analysis, research, writing quality, and personal reflection. Incorporate AI tools for research and drafting assistance, emphasizing critical thinking and originality in their application of educational theories.*

*Identify the roles AI should play as part of the project. Remember, you may ask AI advice on what role AI should play and even how to make the assignment "AI-Proof."*

*If time permits, ask AI to create a rubric.*

The RICCE Framework is a methodical guide for creating effective prompts for Large Language Models (LLMs). It emphasizes clarity in the AI's role, precise instructions, contextual relevance, defined constraints to focus the AI, and examples to benchmark desired output quality. RICCE's systematic approach enhances LLMs' utility in educational settings, ensuring outputs that are specifically tailored to users' needs and learning objectives.

To use the RICCE Framework effectively:

1. **Role:** Define the AI's role clearly.
2. **Instructions:** Provide detailed, specific guidance for the AI.
3. **Context:** Set the scene with relevant background information.
4. **Constraints:** Impose limits like word count or content scope.
5. **Examples:** Offer sample responses to illustrate the expected outcome.

Component	Prompt Guide
Role	
Instructions	
Context	
Constraints	
Examples	

### ***Social Constructivism: assisted performance***

Unlike Piaget's rather individually oriented version of constructivism, some psychologists and educators have explicitly focused on the relationships and interactions between a learner and more knowledgeable and experienced individuals. One early expression of this viewpoint came from the American psychologist **Jerome Bruner** (1960, 1966, 1996), who became convinced that students could usually learn more than had been traditionally expected as long as they were given appropriate guidance and resources. He called such support **instructional scaffolding**- literally meaning a temporary framework, like one used in constructing a building, that allows a much stronger structure to be built within it. In a comment that has been quoted widely (and sometimes disputed), he wrote: "We [constructivist educators] begin with the hypothesis that any subject can be taught effectively in some intellectually honest form to any child at any stage of development." (1960, p. 33). The reason for such a bold assertion was Bruner's belief in scaffolding-his belief in the importance of providing guidance in the right way and at the right time. When scaffolding is provided, students seem more competent and "intelligent," and they learn more.

Similar ideas were proposed independently by the Russian psychologist **Lev Vygotsky** (1978), whose writing focused on how a child's or novice's thinking is influenced by relationships with others who are more capable, knowledgeable, or expert than the learner. Vygotsky proposed that when a child (or any novice) is learning a new skill or solving a new problem, he or she can perform *better* if accompanied and helped by an expert than if performing alone-though still not as well as the expert. Someone who has played very little chess, for example, will probably compete against an opponent better if helped by an expert chess player than if competing alone against an opponent. Vygotsky called the difference between solo performance and assisted performance the **zone of proximal development** (or **ZPD** for short)-meaning the place or area (figuratively speaking) of immediate change. From this perspective learning is like *assisted performance* (Tharp & Gallimore, 1991). Initially during learning, knowledge or skill is found mostly "in" the expert helper. If the expert is skilled and motivated to help, then the expert arranges experiences that allow the novice to practice crucial skills or to construct new knowledge. In this regard the expert is a bit like the coach of an athlete-offering help and suggesting ways of practicing, but never doing the actual athletic work himself or herself. Gradually, by providing continued experiences matched to the novice learner's emerging competencies, the expert-coach makes it possible for the novice or apprentice to **appropriate** (or make his or her own) the skills or knowledge that originally resided only with the expert.

In both the psychological and social versions of constructivist learning, the novice is not really "taught" so much as just allowed to learn. The social version of constructivism, however, highlights the responsibility of the expert for making learning possible. He or she must not only have knowledge and skill, but also know how to arrange experiences that make it easy and safe for learners to gain knowledge and skill themselves. These requirements sound, of course, a lot like the requirements for classroom teaching. In addition to knowing what is to be learned, the expert (i.e. the teacher) also has to break the content into manageable parts, offer the

parts in a sensible sequence, provide for suitable and successful practice, bring the parts back together again at the end, and somehow relate the entire experience to knowledge and skills already meaningful to the learner. But of course, no one said that teaching is easy!

### ***Implications of constructivism for teaching***

Fortunately there are strategies that teachers can use for giving students this kind of help—in fact they constitute a major portion of this book, and are a major theme throughout the entire preservice teacher education programs. For now, let me just point briefly to two of them, saving a complete discussion for later. One strategy that teachers often find helpful is to organize the content to be learned as systematically as possible, because doing this allows the teacher to select and devise learning activities that are more effective. One of the most widely used frameworks for organizing content, for example, is a classification scheme proposed by the educator Benjamin Bloom, published with the somewhat imposing title of *Taxonomy of Educational Objectives: Handbook #1: Cognitive Domain* (Bloom, et al., 1956; Anderson & Krathwohl, 2001). **Bloom's taxonomy**, as it is usually called, describes six kinds of learning goals that teachers can in principle expect from students, ranging from simple recall of knowledge to complex evaluation of knowledge. (The levels are defined briefly in Table 2.3 with examples from *Goldilocks and the Three Bears*.)

Bloom's taxonomy makes useful distinctions among possible kinds of knowledge needed by students, and therefore potentially helps in selecting activities that truly target students' "zones of proximal development" in the sense meant by Vygotsky. A student who knows few terms for the species studied in biology unit (a problem at Bloom's *knowledge* and *comprehension* levels), for example, may initially need support at remembering and defining the terms before he or she can make useful comparisons among species (Bloom's *analysis* level). Pinpointing the most appropriate learning activities to accomplish this objective remains the job of the teacher-expert (that's *you*), but the learning itself has to be accomplished by the student. Put in more social constructivist terms, the teacher arranges a zone of proximal development that allows the student to compare species successfully, but the student still has to construct or appropriate the comparisons for him or herself.

Category or Type of Thinking	Definition	Example (with apologies to Goldilocks and her bear friends!)
<b>Knowledge</b>	Remembering or recalling facts, information, or procedures	List three things Goldilocks did in the three bears' house.
<b>Comprehension</b>	Understanding facts, interpreting information	Explain why Goldilocks liked the little bear's chair the best.
<b>Application</b>	Using concepts in new situations, solving particular problems	Predict some of the things that Goldilocks might have used if she had entered your house.
<b>Analysis</b>	Distinguish parts of information, a concept, or a procedure	Select the part of the story where Goldilocks seemed most comfortable.
<b>Synthesis</b>	Combining elements or parts into a new object, idea, or procedure	Tell how the story would have been different if it had been about three fishes.

<b>Evaluation</b>	Assessing and judging the value or ideas, objects, or materials in a particular situation	Decide whether Goldilocks was a bad girl, and justify your position.
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Table 2.3: Bloom's taxonomy of educational objectives: cognitive domain

A second strategy may be coupled with the first. As students gain experience as students, they become able to think about how they *themselves* learn best, and you (as the teacher) can encourage such self-reflection as one of your goals for their learning. These changes allow you to transfer some of your responsibilities for *arranging* learning to the students themselves. For the biology student mentioned above, for example, you may be able not only to plan activities that support comparing species, but also to devise ways for the student to think about how he or she might learn the same information independently. The resulting self-assessment and self-direction of learning often goes by the name of **metacognition**-an ability to think about and regulate one's own thinking (Israel, 2005). Metacognition can sometimes be difficult for students to achieve, but it is an important goal for social constructivist learning because it gradually frees learners from dependence on expert teachers to guide their learning. Reflective learners, you might say, become their own expert guides. Like with using Bloom's taxonomy, though, promoting metacognition and self-directed learning is important enough that I will come back to it later in more detail (especially in Chapter 9, "Facilitating complex thinking").

By assigning a more visible role to expert helpers-and by implication also to teachers-than does the psychological constructivism, social constructivism is seemingly more complete as a description of what teachers usually do in classrooms, and of what they usually hope students will experience there. As we will see in the next chapter, however, there are more uses to a theory than whether it describes the moment-to-moment interactions between teacher and students. As I explain there, some theories can be helpful for planning instruction rather than for doing it. It turns out that this is the case for psychological constructivism, which offers important ideas about the appropriate sequencing of learning and development. This fact makes the psychological constructivism valuable in its own way, even though it (and a few other learning theories as well) seem to "omit" mentioning teachers, parents, or experts in detail. So do not make up your mind about the relative merits of different learning theories yet!

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