

Keeping the Metaphor of Scaffolding Fresh—A Response to C. Addison Stone's "The Metaphor of Scaffolding: Its Utility for the Field of Learning Disabilities"

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Abstract

This author suggests three responses to Professor Stone's call for enriching the scaffolding metaphor: (a) repositioning the metaphor in its theoretical frame; (b) considering the ways in which contexts and activities, as well as individuals, scaffold learning; and (c) examining the relationship between scaffolding and effective teaching. The author describes research that has been conducted toward these ends.

Aristotle asserted, "It is from metaphor that we can best get hold of something fresh" (Aristotle, ca 330 B.C./1924, 1.1420). I believe that Addison Stone's (this issue) thoughtful critique of the metaphor of scaffolding serves to *refreshen*, in the sense that he calls for a sharpening of our thinking about how and why we use this metaphor. I have three responses in support of Addison's call for "enriching the scaffolding metaphor." The first is that we reposition the metaphor in its theoretical frame. The second is that we consider the ways in which contexts and activities—not just individuals—scaffold learning. The third response is a call to conduct research on the relationship between scaffolding and effective teaching. I would like to draw on various research efforts to illustrate these points, and although I will attempt to treat these issues separately, they are in fact inextricably interwoven.

Addison has suggested that the scaffolding metaphor creates "instant links to a theoretical and empirical tradi-

tion within the field of developmental psychology that brings with it, for better or worse, a good deal of theoretical flotsam." I think that it is the *atheoretical* use of scaffolding that has become problematic. There is a sense in which, as we have become increasingly comfortable using *scaffold* as a verb, we have stripped from the word its subject and object. To reembed scaffolding within a social-constructivist perspective is to recall that knowledge is a fruit of the constructive process of bringing personal meaning to experience. Hence, while scaffolding focuses our attention on the social nature of this construction, it is also the case that this process differs as a consequence of what each individual brings to the process. From this perspective, it is helpful to think of the teaching/learning process as one of negotiating meaning.

The negotiated nature of teaching and learning is helpfully framed with the use of the construct "zone of proximal development" (ZPD), thoughtfully reviewed in Addison's piece. One in-

teresting and ironic characteristic of the construct of ZPD, in this context, is that, like the construct of scaffolding, it is perhaps one of the most used and least understood constructs to appear in contemporary educational literature. Like scaffolding, the appeal of ZPD is its descriptive power and not its explanatory power (Minick, 1987; Stone, 1993; Wertsch, 1984).

There is a corollary to the ZPD: "regions of sensitivity to instruction" (Newman, Griffin, & Cole, 1987). This corollary is useful because it signals that scaffolded instruction must reflect the learner's current understanding and activity in ZPDs. Parents and teachers alike are keenly aware that one cannot make assumptions about these understandings and activity. I am reminded of our initial experiences introducing "strategy instruction to improve written expression" in the context of elementary school special education classes for children between the ages of 7 and 10 who were identified as learning disabled (Klenk, 1994; Klenk & Palincsar, in press; Palincsar,

Klenk, Anderman, Parecki, & Wilson, 1991). We entered those classrooms well-armed with the *technology* for scaffolding children's engagement in the writing process, informed principally by the literature on the cognitive demands of writing (e.g., Flower & Hayes, 1980).

Fortunately, we began our research with extensive observations across the school day. Our observations were motivated by questions about how reading and writing activities were organized in those classrooms, what resources the children brought to their literacy activity, and the relationships between those activities and the children's understandings about the nature of reading and writing and about themselves as readers and writers (cf. Luria, 1929; Scribner & Cole, 1981). What became patently clear over the course of those initial observations was that the children's principal activity engaged only fairly low-level skills, such as required for matching or copying tasks. These youngsters didn't use reading and writing for the purposes of conveying or achieving meaning. In turn, when we asked the children to tell us what writing is and why we use writing, their answers reflected their experiences: "Just a pencil and a piece of paper," "I don't know. We use it to do work, to write the months in the calendar." "You make an 'I.' Teacher will teach you how to do the ABC's." What struck us about the children's responses was how few of the children ascribed any instrumentality to writing. Luria (1929), among others, has argued that recognizing the instrumentality of writing is a precursor to writing.

It soon became clear that our scaffolding technology, premised on the use of writing for communicative purposes, was quite inappropriate. Introducing these children to strategies that would support planning and organizing of their writing was foolhardy because these students did not share a conception of writing that admitted a reason or occasion for planning and organizing. If we were asserting that

working in ZPDs was predicated on some joint understanding of the nature of the task, then we needed to first develop this shared understanding. In the redesign of our work, we took a developmental approach (cf. Teale & Sulzby, 1986), in which a wide range of writing would be acknowledged and treated as communication. Our conceptions of the children's ZPDs were modified to include the broad range of strategies children used; for example, their drawings, the rebuses they chose to represent words, and their emergent spellings were all treated as meaningful attempts to communicate, inform, or amuse.

In turn, the specific forms of scaffolding were substantially modified from our initial plans. Holding children's ideas in mind as they attempted to translate them, sounding out words, and reminding children to use the print around them became important means of enabling the children to experience the whole enterprise of writing—which in turn influenced their understandings of this enterprise.

Finally, we also needed to attend to the contexts in which to promote ZPDs. Given that oral and written language develop as students are engaged in meaningful experiences in which they see the need to communicate, we set about designing these kinds of opportunities. For example, we began a class newspaper, wrote a handbook for new class members, and wrote letters to family members and authors of favorite books.

The case studies of the children in these classes that we completed enabled us to characterize the dynamics of constituting and providing scaffolding within ZPDs while accounting for individual differences among the children (Palincsar et al., 1991). We observed, for example, that the cognitive resources each child brought to the literacy activity had significant implications for how he or she responded to supportive assistance. To illustrate, children who were confident in their ability to write the letters of the al-

phabet, responded quite differently to our encouragement than did children for whom individual letters did not have stable meaning. We concluded that it was essential that we understand the child's definition of the task in order to fine-tune assistance (see, also, Litowitz, 1993), and that we find ways of incorporating the child's definition of the task into the activity. In short, the "unconsidered" issues identified by Addison—the cognitive, linguistic, and interpersonal demands of effective scaffolding—necessarily became the centerpiece of this research.

In addition to stripping it from its theoretical framework, perhaps another way in which we have hobbled the use of scaffolding is by attributing scaffolding only to interactions that occur between individuals, and typically between individuals of significantly different expertise. In keeping with Addison's call for enriching the metaphor, it is helpful to recall that ZPDs include not only people but also artifacts, and that ZPDs are embedded in activities and contexts. In this regard, I think that some of the most exciting illustrative research is the project entitled "Fostering Communities of Learners" (Brown et al., 1993). The purpose of that work was redesigning classrooms to enable children to learn to learn. Specifically, the children were engaged in research activities in which they pursued a particular theme (for example, interdependence and adaptation in a biological community). Using an artificial combination of benchmark lessons in which key ideas were introduced; small-group activities in which children collaboratively pursued specific topics through reading, writing, discussing, and interviewing experts; and other activities through which children developed individual expertise that they then could contribute to the class, children were enculturated into the community practice of scholars.

Brown et al. (1993) referred to their work in classrooms as constituting "overlapping zones of proximal development" (p. 194), in the sense that

the participants in the class could engage in learning via different routes; at different rates; and with the use of a broad array of artifacts, such as books, videos, computers, and class-generated documents. In their classrooms, peers provided scaffolding for one another and the activities themselves served as an important mechanism for scaffolding. Furthermore, all members of the class were regarded as engaging in "mutual appropriation" (p. 191), in reference to the process by which learners of all ages and levels of expertise contribute ideas and knowledge to the learning environment, for the appropriation of others. This notion of mutual appropriation is especially useful in response to the criticism that scaffolding is too often approached as a process of "handing over," or "instilling" knowledge—a process in which there is little room for the learner's agenda and insufficient recognition of the processes of negotiating meaning (cf. Brandt, 1990).

The ideas presented above can be especially liberating for those of us who study the learning environments of children identified as learning disabled. Suggesting that there are multiple routes to understanding and multiple forms of expertise to be valued in a learning community affords the opportunity to find alternative ways in which children who are less successful with the traditional classroom skills (e.g., reading and writing) can successfully contribute to the work of the community.

To illustrate, my colleague Shirley Magnusson and I recently collaborated with teachers in the conduct of *guided inquiry* (Magnusson & Palincsar, 1995). Briefly, in guided inquiry, children and teachers engage in investigations pursuing topics that are conceptually rich, flexible with regard to developmental issues, and relevant to children's lives. An example of such a topic is, How do animals, including humans, communicate with one another as a function of their structure and their habitat? The inquiry includes

both firsthand investigations of physical phenomena (e.g., studying the activity of crickets in their habitats) as well as information-gathering from books, videos, and experts. The purpose of the inquiry is for the children to identify the patterns they observe and work to construct and revise their explanations for these patterns over time.

The classrooms in which we have worked are inclusive classrooms, and we have been especially interested in the ways in which guided inquiry accommodates the diversity of learners in these classrooms. We have found that in these contexts, children with learning disabilities are provided a broader array of learning opportunities and ways of demonstrating their learning. For example, there is a legitimate and valued role for depicting understanding through illustrations, oral argument, and computer-generated graphics. In other words, there are multiple forms of literacy that are integral to the work of the community. In addition, although these elementary (especially primary) teachers were initially concerned that the guided inquiry curriculum would detract from the time traditionally spent on the teaching of reading and writing, they—and we—were delighted to observe that indeed more of the school day was spent reading and writing. This is not to romanticize the nature of this work; it is incumbent upon those of us doing this kind of classroom research to determine that children with special learning needs are, in addition to being provided with alternative ways of constructing knowledge, also being provided the support they need to become proficient readers and writers.

This leads to the third and final point in my response. The multiple dimensions to which Addison calls our attention in his evaluation of the metaphor serve as a powerful reminder that scaffolding is not simply a matter of providing more or less of the same kind of assistance. It is time to bring together the knowledge base

regarding scaffolding with the knowledge base regarding effective teaching. Clearly, not every instructional interaction serves to scaffold learning. Addison has been very generous in his descriptions of reciprocal teaching, and, indeed, reciprocal teaching was designed as a form of instruction that would promote scaffolding. However, one of the most salient findings emerging from multiple studies of reciprocal teaching is that there is enormous diversity in the ways in which teachers provide scaffolding within this instructional procedure (cf. Palincsar, 1986; Palincsar, Brown, & Campione, 1993).

We need to understand both how effective teachers engage in scaffolded instruction and how to enhance teachers' engagement in providing effective scaffolded instruction. Historically, our attention in this regard has focused on instructional strategies (hence the interest in the nature of scaffolding within instructional approaches such as POSSE, semantic mapping, and reciprocal teaching—all cited in Addison's paper). However, the literature on teachers' knowledge and beliefs suggests that in addition to knowledge of instructional strategies, *general pedagogical knowledge* also encompasses fundamental information about how learners learn (Borko & Putnam, in press). These forms of general pedagogical knowledge are complemented by *content knowledge*, which is flexible and thoughtful understanding of the subject matter being taught (Grossman, 1989). Finally, effective teachers know how to represent the subject matter in a way that makes it comprehensible to others, using *pedagogical content knowledge* (Shulman, 1987).

Historically, researchers in special education have focused their efforts on contributing to general pedagogical knowledge, especially knowledge about how learners learn; however, if scaffolding is to remain a useful construct, we must examine it in a more holistic way, and view it as one aspect of effective teaching.

In conclusion, Addison has provided a cogent and well-reasoned argument regarding why we might consider preserving, with refinement, the metaphor of scaffolding. His rationale encompasses the rich history of this metaphor, the potential it affords for elaboration without doing injustice to its basic tenets, and the focus it places on the role of others in guiding children's learning. To these three reasons I would like to add yet another. Scaffolding is a very accessible metaphor, and accessibility is not something to be treated lightly, especially by those of us who conduct research for the purpose of making a difference in educational practice. I have noticed that educators readily appropriate this metaphor when it is introduced in conversations about teaching and learning, perhaps in part because it captures multiple dimensions reflective of teaching/learning processes, providing an instructional context that is at once supportive, flexible enough to accommodate individual differences among learners, and designed to cede increasing responsibility to the learner. My thanks to Addison for suggesting ways in which the metaphor of scaffolding can take on new life.

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REFERENCES

- Aristotle. (1924). *Rhetorica* (W. R. Roberts, Trans.). In W. D. Ross (Ed.), *The works of Aristotle* (Vol. 11, pp. 1354-1420). Oxford: Clarendon Press. (Original work written ca. 330 B.C.)
- Borko, H., & Putnam, R. (in press). Learning to teach. R. C. Calfee & D. C. Berliner (Eds.), *Handbook of educational psychology*. Washington, DC: American Educational Research Association.
- Brandt, M. E. (1990). Getting social about critical thinking: Power and constraints of apprenticeship. *The Quarterly Newsletter of the Laboratory of Comparative Human Cognition*, 12(2), 56-62.
- Brown, A. L., Ash, D., Rutherford, M., Nakagawa, K., Gordon, A. & Campione, J. (1993). Distributed expertise in the classroom. In G. Salomon (Ed.), *Distributed cognitions: Psychological and educational considerations* (pp. 188-229). Cambridge, MA: Harvard University Press.
- Flower, L. S., & Hayes, J. R. (1980). The dynamics of composing: Making plans and juggling constraints. In L. W. Gregg & E. R. Steinberg (Eds.), *Cognitive processes in writing* (pp. 31-50). Hillsdale, NJ: Erlbaum.
- Grossman, P. L. (1989). A study in contrast: Sources of pedagogical content knowledge for secondary English. *Journal of Teacher Education*, 40(5), 24-31.
- Klenk, L. (1994). Case study in reading disability: An emergent literacy perspective. *Learning Disability Quarterly*, 17, 33-56.
- Klenk, L., & Palincsar, A. S. (in press). Enacting responsible pedagogy with students in special education. In M. Pugach & C. Warger (Eds.), *What's worth knowing: How curriculum trends affect the reform of special education*. New York: Teachers College Press.
- Litowitz, B. (1993). Deconstruction in the zone of proximal development. In E. Forman, N. Minick, & C. A. Stone (Eds.), *Contexts for learning: Sociocultural dynamics in children's development* (pp. 184-196). New York: Oxford University Press.
- Luria, A. R. (1929). The development of writing in the child. In *Problems of Marxist education* (Vol. 1, pp. 143-176). Moscow: Academy of Communist Education.
- Magnusson, S. J., & Palincsar, A. S. (1995). The learning environment as a site of science education reform. *Theory Into Practice*, 34(1), 43-50.
- Minick, N. (1987). Implications of Vygotsky's theory for dynamic assessment. In C. S. Lidz (Ed.), *Dynamic assessment: An interactional approach to assessing learning potential* (pp. 116-140). New York: Guilford Press.
- Newman, D., Griffin, P., & Cole, M. (1987). *The construction zone: Working for cognitive change in school*. Cambridge, England: Cambridge University Press.
- Palincsar, A. S. (1986). The role of dialogue in providing scaffolded instruction. *Educational Psychologist*, 21(1 & 2), 73-98.
- Palincsar, A. S., Brown, A. L., & Campione, J. C. (1993). First-grade dialogues for knowledge acquisition and use. In E. Forman, N. Minick, & C. A. Stone (Eds.), *Contexts for learning: Sociocultural dynamics in children's development* (pp. 43-57). New York: Oxford University Press.
- Palincsar, A. S., Klenk, L., Anderman, E., Parecki, A., & Wilson, A. (1991). Exploring zones of proximal development for literacy acquisition with young children identified as learning disabled. *Exceptionality Education Canada*, 1(3), 105-125.
- Scribner, S., & Cole, M. (1981). *The psychology of literacy*. Cambridge, MA: Harvard University Press.
- Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57, 1-22.
- Stone, C. A. (1993). What's missing in the metaphor of scaffolding? In E. Forman, N. Minick, & C. A. Stone (Eds.), *Contexts for learning: Sociocultural dynamics in children's development* (pp. 169-183). New York: Oxford University Press.
- Teale, W. H., & Sulzby, E. (1986). *Emergent literacy: Writing and reading*. Norwood, NJ: Ablex.
- Wertsch, J. W. (1984). The zone of proximal development. In B. Rogoff & J. V. Wertsch (Eds.), *Children's learning in the zone of proximal development. New directions for child development*, No. 23 (pp. 7-18). San Francisco: Jossey-Bass.