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Review article

Deconflating the ZPD and instructional scaffolding: Retranslating and reconceiving the zone of proximal development as the zone of next development

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ABSTRACT

This article provides a reconception of what is known as Vygotsky's "zone of proximal development," particularly its improper conflation with the notion of "instructional scaffolding." The article introduces the essay's purpose and motivation; reviews and critiques Vygotsky's description of the ZPD and explains how it has come to be misinterpreted; summarizes Wood, Bruner, and Ross's introduction of the scaffolding metaphor; and provides a different, more accurate translation of the ZPD as the *zone of next development*, based on the documentary film *The Butterflies of Zagorsk*. Through this analysis, the author contends that the conflation of scaffolding with the ZPD has produced a trivialization of Vygotsky's greater body of work, reducing it to a briefly-mentioned pedagogical idea and resulting in the neglect of his more important project of generating a comprehensive cultural-historical-social theory of mediated human development.

1. Introduction

> Vygotsky proposed that in order for a student to learn a concept or skill, the concept or skill had to be within what he called the student's "zone of proximal development." The zone of proximal development is a theory used to determine what a student is capable of learning. If a concept or skill is something that a student could do with the help of a "more knowledgeable other," then that concept or skill is something they could perform on their own after learning it with support. Vygotsky called the support that students receive in order to learn "scaffolding."
>
> (Farr, 2014, n. p.)

This summary of L. S. Vygotsky's best-known, and I would argue most widely misunderstood, idea is wrong on many levels. First, it's hard to call something a "theory" when its author only refers to it on a handful of the many thousands of pages of writing he produced during his mercurial career. More critically, however, it's flat-out wrong to say that Vygotsky came up with the term "scaffolding." Wood, Bruner, and Ross (1976) are responsible for that invention, relying on the only available translation of Vygotsky's reference to the ZPD at the time, the deeply problematic 1962 version, and applying it to the one-on-one tutoring of very young children solving problems with manipulatives.

In this paper, I argue that the popular conflation of Vygotsky's notion of the ZPD and Wood et al.'s (1976) development of the scaffolding metaphor has obscured the far richer potential of Vygotsky's construct in understanding human development (cf. Chaiklin, 2003). This long-term attention to how people develop cultural concepts in the form of "higher mental functions," rather than the short-term problem of helping children learn how to solve problems for individual performance, was Vygotsky's primary

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concern as a developmental psychologist. His career coincided with the beginning of the Soviet Union and its deliberately Marxist psychology through which the singular "New Soviet Man" was designed to emerge from the culturally, ethnically, and linguistically diverse people assembled to comprise the newly-founded society and its stated egalitarian ideals.

Vygotsky's (1978) notion of the *zona blizhayshevo razvitiya*, like many key ideas, has become trivialized in much educational writing, I believe, for three reasons. First, people who refer to the ZPD have often only read selectively from Vygotsky's "greatest hits" collection *Mind in Society*, where it is referred to in a fairly local manner, with today's assisted learning producing tomorrow's independent performance. Second, because teachers tend to be concerned primarily with short-term learning rather than long-term human development, this notion of "scaffolding" learning is quite appealing because it concerns the immediate results of instruction, which teachers must be accountable for demonstrating. Third, when the ZPD gets explained in educational psychology textbooks, its presentation is (mis)presented to make it appear to be more of an information-processing, in-the-head phenomenon than the sociocultural, historically-grounded, socially-mediated developmental process that I believe Vygotsky intended.

As a result, at least in educational writing, the ZPD tends to be viewed in this very limited sense of learning with guidance today, doing independently tomorrow. This restricted understanding has governed how Vygotsky has been conceived in educational writing, reducing his immensely complex account of human psychology to this relatively minor point in the context of his career.

I have found this conception of the ZPD to be problematic for several decades now (e.g., Smagorinsky, 1995), along with Mercer and Fisher (1992), Chaiklin (2003), and others. I have been influenced by such scholars as Wertsch (1984), who was concerned that superficial, uninterrogated use of the ZPD as an explanatory construct will lead it to "be used loosely and indiscriminately, thereby becoming so amorphous that it loses all explanatory power" (p. 7). Like Wertsch, I rely instead on more socioculturally-driven understandings such as Moll's (1990), in which the ZPD is commensurate with social contexts and how they have come into being. Moll departs significantly from those who consider the ZPD as a "cognitive region," as claimed by Wilhelm, Baker, and Dube (2001; n. p.). Vygotsky was by no means a cognitivist, and his career project could be said to be a fight against biological and cognitive understandings of human psychology. Instead, he was primarily concerned with how human environments are established and perpetuated through social practices designed to guide action toward cultural goals. In other words, the ZPD is more than simply what a teacher can do to help a student become more independent by first working collaboratively. It is far broader, deeper, and more complex than that conception. It has a developmental, historical, cultural, social, and future-oriented character that cannot be reduced to isolated learning episodes in classrooms.

In the following sections, I review Vygotsky's brief account of the ZPD, then provide Wood et al.'s (1976) introduction of the scaffolding metaphor, and finally explore a more expansive sense of the ZPD. This broader conception involves a retranslation of the zone of proximal development as the *zone of next development*, a shift that produces an understanding much more in line with his cultural, historical, and social conception of human development over time. In this essay, I undertake to relocate Vygotsky's notion from the assisted-learning-today, independent-performance-tomorrow version popularized in much educational writing, and shift it to the sort of socially-channeled developmental view of human life that is available through the additional thousands of pages he produced in his short, intensely productive life and career.

2. Vygotsky's account translated as the zone of proximal development

Chaiklin (2003), presumably working from outside what is available in English, has found 8 occasions when Vygotsky refers to the *zona blizaishevo razvitiya*. He also identifies a formulation of the construct written two years before its first appearance in Vygotsky's writing, in his 1931/1997 assertion that "*the circle of available imitation coincides with the circle of the actual development possibilities of the animal*" (p. 95; emphasis in original). This sort of deep reading across Vygotsky's body of work, I believe, is rare among those who reference his account of the ZPD.

Speakers of English have access to, from what I can locate, three instances when the ZPD is referenced in a highly productive career lasting about a decade before his death at age 37. Vygotsky produced *Mind in Society* (a post-hoc work of U.S.-based editors rather than a deliberately organized collection), 6 large volumes of *Collected Works* (of which Volume 1 includes *Thinking and Speech* along with other essays), a book on educational psychology, a book distinguishing people from primates, a book on *The Psychology of Art* based on his doctoral dissertation, a host of additional lectures and essays collected in a variety of both English-language volumes and collections in other languages, and much more that has yet to be translated into English. In spite of occupying a relatively microscopic amount of his published scholarship as a developmental psychologist, the ZPD has come to be synonymous with his name and, by referencing, has become easily his most prominent contribution to educational literature.

For English speakers, the ZPD appears in his posthumously published (1935) essay "Mental Development of Children and the Process of Learning," translated as "Interaction between Learning and Development" in *Mind in Society* in 1978. Both of these titles emphasize human development, a facet of the ZPD that gets little attention in most educational references I see, yet the fundamental organizing principal of virtually everything Vygotsky wrote. He also refers briefly to the ZPD in Chapter 6, Part 4.4 of *Myshlenie i rech': Psikhologicheskie issledovaniya* by Vygotsky (1934). This volume has been translated as *Thought and Language* by Vygotsky (1962, 1986) and more properly as *Thinking and Speech* by Vygotsky (1987, and my source for all references to this volume) because the terms emphasize actions rather than abstractions, and thus more faithfully depict the dynamic nature of Vygotsky's understanding of the human mind. Vygotsky (1987) mentions the ZPD as part of his discussion of scientific concepts, i.e., the academic learning emphasized in schools. His central concern of concept development is fundamentally related to lifelong psychological developmental processes, which get sacrificed in most ZPD references oriented to short-term learning in classrooms. Finally, he mentions the ZPD in section 3 of "The Problem of Age" by Vygotsky (1998), published in Volume 5 of the *Collected Works* focused on *Child Psychology*.

The ZPD has become Vygotsky's most widely referenced notion, in the process becoming all things to all people. Cazden (1996)

has argued that most references to his work are selective, employed to fortify an author's pre-existing beliefs rather than to re-conceptualize prior understandings through a careful and extensive reading of his work. I have found her observation to be accurate, particularly in the way in which Vygotsky's fundamental concern—long-term, socially-mediated human development—is elided in spite of its centrality in the title of the essay in which the ZPD is introduced in *Mind in Society*.

While writing this essay, I used Harzing's *Publish or Perish* software to look up the frequencies of citations to Vygotsky's publications. The precise figures are always rising, but the percentages are very revealing. Vygotsky has been referenced over 130,000 times in published scholarship. Of these, over 80,000 cite *Mind in Society*. Although this collection includes other well-referenced essays such as "The Role of Play in Development," the lion's share of these references undoubtedly serve to cite the ZPD; and over 3000 more citations directly reference the chapter "Interaction between Learning and Development" and its ZPD attention. The ZPD thus accounts for about 65% of all references to Vygotsky, a remarkable amount given his own scant attention to the construct.

Vygotsky's (1978) most widely-referenced account of the ZPD, one extracted from his "greatest hits" collection *Mind in Society*, which in spite of its influence has been critiqued for the interpretive nature of its translation, describes it as

> the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers. The zone of proximal development defines those functions that have not yet matured but are in the process of maturation, functions that will mature tomorrow but are currently in an embryonic state. These functions could be termed the "buds" or "flowers" of development rather than the "fruits" of development…what is in the zone of proximal development today will be the actual developmental level tomorrow—that is what a child can do with assistance today she will be able to do by herself tomorrow.
>
> (Vygotsky, 1978, pp. 86–87).

Vygotsky (1987), in *Thinking and Speech*, makes similar points, arguing that "*The teacher must orient his work not on yesterday's development in the child but on tomorrow's*" (p. 211; emphasis in original).

I believe that this account of the ZPD, as translated into English, sends mixed messages, only one of which appears to have made an impression on the English-speaking reader. Ignored, and at great expense, is his use of metaphors suggesting a long-term developmental process. The functions, he emphasizes, are *embryonic*, a profoundly developmental notion requiring long-term growth toward the *maturation* that he describes as the goal of instruction. There's quite a lot that occurs between embryos and mature states. Further, he refers metaphorically to the *buds* or *flowers* of *development*. Here, he implicitly refers to his project of human development, rather than next-day independent learning, using maturational metaphors to provide the continuum from buds to flowers, a process taking a season of growth in plants.

I believe that Vygotsky's (1978, 1987) account of the ZPD has been reduced to short-term learning due to readers' greater attention to *today* and *tomorrow* than to his growth-oriented developmental metaphors. My suspicion that these terms were metaphorical, rather than literally referring to assisted-learning-today, independent-performance-tomorrow, has been confirmed by Russian scholars working in the US. Anna Stetsenko of The City University of New York (personal communication, July 17, 2017) wrote me in response to my inquiry about Vygotsky's meaning of "tomorrow," saying, "It is 100% metaphorical, not 24 hours. 'Tomorrow' is often used [in Russian] in this sense, meaning 'the future', or more precisely (and depending on context as is the case here in this quote) 'soon in the future'."

I believe that I can then argue with confidence that Vygotsky's account of the ZPD has been misinterpreted because the literal English-language meaning of "tomorrow" has dominated how his statement has been applied in research, theory, and instruction. The other metaphors emphasizing long-term development have been overlooked, while the short-term instructional prospect of teaching for (literally) tomorrow's independence has come to represent Vygotsky's career and abundant output as a developmental psychologist. As I will detail shortly, that literal reading of "tomorrow" has become embedded in the metaphor of instructional scaffolding, leading many of the tens of thousands of references to the ZPD to refer to the wrong thing.

A developmental, metaphorical understanding of "tomorrow," in conjunction with Vygotsky's greater body of work (including the full volume of *Thinking and Speech* in which it gets negligible attention), lead to a very different conception of what he was proposing. Isolating his brief attention to the instructional possibilities of assisting learners in their move toward independence from this far more compelling, rich, and social view of how people learn to think is only possible if the remainder of his oeuvre is either left unconsulted or simply ignored to focus on short-term learning.

Vygotsky (1987) himself suggests the inappropriateness of looking at the dyad, or other limited social group, independent of how they are situated historically, culturally, and socially. He asserts that "our research demonstrates that these sensitive periods [in which instruction is most likely to have effect] are associated with the social processes involved in the development of the higher mental functions" (p. 213). These higher mental functions take many years to develop through extensive experience with a culture's values and practices. In my own work (Smagorinsky, 2013), I have argued that many of the cultural concepts produced by the development of higher mental functions are actually impossible to reach, given the lack of agreement on what comprises socially-constructed ideas such as "effective teaching."

One of my earliest influences in reconceptualizing the ZPD was Moll's (1990) view that the ZPD is commensurate with "social contexts…for mastery of and conscious awareness in the use of…cultural tools" (p. 12). Moll's account pushed me to think outside the popular learn-today, do-tomorrow version of the ZPD and forced me to understand how any attention to immediate activity must take into account how the present has been formed by, and distills the culture of, the past. Doing so requires that, as Moll phrased it, "the ZPD is a characteristic not solely of the child or of the teaching but of the child engaged in collaborative activity within specific social environments. The focus is on the *social system* within which we hope children learn, with the understanding that this social system is mutually and actively created by teachers and students" (p. 11; emphasis in original). Moll and Whitmore (1993) further propose that

understanding learning in classrooms requires attention to social contexts, "on the sociocultural system within which children learn, with the understanding that this system is mutually and actively created by teachers and students. What we propose is a 'collective' zone of proximal development" (p. 20).

This expansion of the ZPD to account for the historical dimensions of any instructional episode (cf. Newman, Griffin, & Cole, 1989) is necessary to take what I consider to be a fully Vygotskian perspective. Simply putting teacher and learner together will not produce learning, as is well-documented in Moll's (1990) own work studying immigrant students' struggles to fit with school structures based on individual competition when the students' home cultures emphasize the whole social group's prosperity (cf. Portes & Smagorinsky, 2010). Without intersubjectivity—the degree to which people interpret social situations in the same way—teaching and learning can produce deficit conceptions of the student as easily as it can promote new understanding. This long-term process of achieving intersubjectivity—requiring adjustments on the part of the learner and the teacher—is part of the developmental emphasis of the whole of Vygotsky's career project.

3. Scaffolding

Vygotsky was first translated for English-speaking readers in a highly impressionistic version of one of Vygotsky's most widely referenced works, unfortunately translated in 1962 and 1986 as involving the abstract notions of *Though and Language*. Virtually everyone I know who speaks Russian prefers the more dynamic *Thinking and Speech*, the title of the 1987 version, which puts thought and language into action. Bruner and colleagues' knowledge of Vygotsky came from the first, and most problematic, of these three translations. Although Vygotsky's (1971) little-read *The Psychology of Art* had been translated in an incomplete version when Wood et al. (1976) developed the scaffolding metaphor, that volume was more a work of literary criticism than the sort of clinical research that produced Vygotsky's later revolutionary ideas on the cultural, historical, and social products and practices that shape human thinking (see Smagorinsky, 2011, for a perspective on this volume).

Wood et al. (1976) came up with the term "instructional scaffolding" in the context of tightly-controlled studies of tutoring sessions held for 30 3–5-year-old children. Tutors followed a common protocol for assisting the children's completion of tasks involving manipulatives like blocks. Wood et al. applied the scaffolding metaphor to the tutors' guidance of the children in completing the tasks successfully, describing it as a

> process that enables a child or novice to solve a problem, carry out a task or achieve a goal which would be beyond his unassisted efforts. This scaffolding consists essentially of the adult "controlling" those elements of the task that are initially beyond the learner's capacity, thus permitting him to concentrate upon and complete only those elements that are within his range of competence. The task thus proceeds to a successful conclusion…the learner cannot benefit from such assistance unless one paramount condition is fulfilled. In the terminology of linguistics, *comprehension of the solution must precede production*. That is to say, the learner must be able to *recognize* a solution to a particular class of problems before he is himself able to produce the steps leading to it without assistance.
>
> (p. 90; emphasis in original)

Wood et al. (1976) assert that "Well executed scaffolding begins by luring the child into actions that produce recognizable-for-him solutions" that allow the tutor to "interpret discrepancies to the child…the tutor stands in a confirmatory role until the tutee is checked out to fly on his own" (p. 96). They conclude that effective scaffolding involves a series of "functions": *recruitment*, which includes "enlist[ing] the problem solver's interest in and adherence to the requirements of the task; *reduction in degrees of freedom*, or "simplifying the task by reducing the number of constituent acts required to reach solution"; *direction maintenance*, or "keeping [the children] in pursuit of a particular objective" and "maintain[ing] direction by making it worthwhile for the learner to risk a next step"; *marking critical features*, or noting discrepancies between the child's performance and more appropriate problem-solving processes; *frustration control*, or reducing stress while not "creating too much dependency on the tutor"; and *demonstration*, or modelling solutions such that the task is idealized for the learner to envision and imitate (p. 98).

The scaffolding metaphor has since been expanded to account for virtually any support that teachers provide students in their development of individual competencies: writing (Hillocks, 1995), literary interpretation (Lee, 1993), and much else. Conflated with the ZPD, scaffolding has now come to signify Vygotsky's psychological corpus, a problem that has, I believe, minimized the impact of the remainder of Vygotsky's comprehensive outline of a cultural-historical psychology, the iceberg beneath the tip of the ZPD.

Although the scaffolding metaphor has had its critics because of its presentation in Wood et al. (1976) as a heavily top-down rather than interactive practice (Dyson, 1990) and because it assumes that the adult's purposes in instruction are what serve learners best (Searle, 1984), these criticisms have held the ZPD in its limited, dyadic, learn-today/do-tomorrow conception, in which "tomorrow" is literal rather than figurative. In the next section, I provide a compelling example of how a different translation of ZPD locates it more directly within the scope of Vygotsky's developmental emphasis, providing it with far greater potential for explaining why school does and does not promote learning for all of its students.

4. The zone of next development

The remarkable film *The Butterflies of Zagorsk* (BBC, 1990) has been very helpful to me in articulating my concerns with the most common conception of the ZPD. This documentary focuses on deaf and blind children in a Soviet school of defectology in Zagorsk, Russia. "Defectology" (Vygotsky, 1993) is the unfortunate name for the study and education of children who were physically and cognitively impaired during World War I, the Russian Revolution of 1917, and the Civil Wars that followed the overthrow of the

Romanov dynasty, leading to the formation of the Soviet Union.

In Vygotsky's (1993) conception, however, these children were anything but defective. His whole approach to teaching them focused on assets and potential, with the understanding that all problems associated with them were social in origin. That is, he felt that the primary problem with something like blindness was the attitude of the sighted. Vygotsky argued that educating able-bodied people about the lives of those considered disabled would help them develop greater empathy and bring about environmental changes that allowed blind people to navigate their environments more fluidly. Blindness, he asserted, was not the problem. Rather, socially appropriated feelings of inferiority produce a "secondary disability" far worse than lacking an evolutionary function like sight. (For a summary, see Smagorinsky, 2012).

The Butterflies of Zagorsk features a school of defectology in which deaf and blind children are taught to communicate through a very long and deliberate process of spelling words on one another's hands through the rapid production of impressions of letters on the recipient's skin. Through this extended, laborious process, the children learn what Vygotsky (1993) would term an *alternative* or *roundabout means of mediation* through which they can communicate clearly with anyone who has learned to produce the words in this fashion and read them as they are rapidly spelled out by the writer. Through this developmental process, the children grow "tomorrow" in the metaphorical sense in competencies that allow for their fuller participation in their culture's practices and processes.

What really struck me about the producer Michael Dean's narration, however, is his term for what is customarily known as the ZPD. In addition to its misinterpretation due to the "tomorrow" metaphor, the translation's use of "proximal" is confusing because it suggests adjacency rather than human growth into a new stage. The film's narration, however, provides a very different translation of the Russian term, referring instead to the zone of *next* development. In my view, this translation captures the long-term, developmental meaning of Vygotsky's construct much more clearly than does the notion of *proximal* learning.

The *zone of next development* (ZNP) requires one to think in terms of long-term developmental processes such as those illustrated in *The Butterflies of Zagorsk*, where the goal is not to teach children something to do independently within 24 h, but to engage in a long-term process of acculturation to communication practices that serve not only to develop a competency such as hand-based-writing-and-reading, but for those processes in turn to mediate development toward socially-valued, culturally-mediated conceptual ends. These frames of mind constitute the "higher mental processes" that Vygotsky believed are at the core of concept development, the means by which human development is manifested. Advancing through developmental stages is not simply a matter of getting older, as in conceptions still widely embraced in psychology and special education (Smagorinsky, 2016). Rather, it involves engaging in social practices that allow people, regardless of the extent of their human capabilities, to participate in cultural activities so that they live satisfying lives, affirmed by others as valued and important in building a society over time.

5. Conclusion

In this analysis I have attempted to demonstrate that conflating the ZPD/ZND with instructional scaffolding has reduced and downplayed Vygotsky's grand project of understanding human development as a historically-grounded, culturally-oriented, socially-mediated, long-term process. Understanding Vygotsky's use of metaphor, including his use of "tomorrow" to indicate the future, helps to disentangle the two. What might be served by this decoupling?

First, I would say that instructional scaffolding remains a solid instructional principle. I have used it often to characterize effective teaching in my own pedagogical writing (e.g., Smagorinsky, 2008). I'm all for teaching in supportive ways. What I think tends to get overlooked with the scaffolding metaphor is the problem of intersubjectivity between members of different cultural groups, as is often the case in U.S. schools in which about 85% of the teachers are White and under half of students are White (Strauss, 2014). As many have noted (e.g., Groenke et al., 2015; Portes & Smagorinsky, 2010), children of color are often at odds with the ways in which schools are taught. Assuming that instructional scaffolding will work because it is written into a lesson plan overlooks the possibility that teacher and learner will approach each other in ways that produce conflict over product and process, with the student inevitably losing. Scaffolding, then, needs to be viewed as an intensely relational process, one requiring mutual understanding and negotiation of goals and practices. This approach appears far more flexible than what is available from Wood et al.'s (1976) original formulation, and is rarely incorporated into what I often read when coming across the scaffolding metaphor in educational writing.

I would say, however, that nobody needs to reference Vygotsky to endorse scaffolding. I see the two as unrelated, once "tomorrow" is understood metaphorically as referring to the future and not literally the next day. If you wish to scaffold, scaffold away, and do it thoughtfully and respectfully of the learner's entering orientation. Just don't say that you are being Vygotskian in doing so, unless you are concerned with long-term human development and not teaching to meet the next day's assessment requirements.

My concluding point reiterates my frustration with how this conflation of the ZPD/ZND with scaffolding has led to superficial understandings of Vygotsky. In my view, if educational scholarship does not emphasize long-term human development in relation to the mediation of social contexts, then it's just not Vygotsky. That's fine. Scaffolding has survived on its own for four decades now, with Vygotsky getting tag-along credit due to misreadings of his metaphor, first by Wood et al. (1976), albeit working from the least accurate translation of Vygotsky's (1934) masterpiece; and then from those who, I believe, reference Vygotsky without reading extensively across his whole body of work.

That, I believe, is unfortunate. Reducing his extraordinary career to a minor pedagogical point has obscured his major contributions. There's only one way to grasp what he provides, and it's not from getting a paragraph-length summary from an ed psych textbook or a reading of one chapter from *Mind in Society*. It's only available from extensive, hard reading and undoubtedly a lot of discussion with others taking on the same challenge. Grasping Vygotsky's points about the roles of culture and socialization in human development could go a long way toward reconsidering the whole structure of schools that reify one social group's practices and

values as standard and constructs others as deficient. A Vygotskian perspective could do more than allow students to learn through the assistance of a supportive adult or peer. More importantly, his understanding of mediating contexts could make schools far more responsive to diverse students than their current, Eurocentrically monolithic structures have thus far allowed.

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