This chapter focuses on Vygotsky’s writings on education, placing them into the broader context of his theory. Our central argument is that understanding Vygotsky’s views on education means examining the relations among individual, interpersonal, and socio-historical influences on human development. As we make that argument, we are going to rely heavily on quotations from Vygotsky’s writings, primarily because as more and more scholars have come to invoke Vygotsky’s name in support of their research, there seems to be limited attention paid to the corpus of his writings, even though they are now readily available to English speakers.

Vygotsky’s thinking changed markedly over the course of his productive life. All theories develop over the lifetimes of the theorists, of course. Such change seems less remarkable for someone like Jean Piaget, however, whose productive life encompassed 6 decades than for Vygotsky, who died when he was only 37. In his early writings, Vygotsky displayed an approach that was heavily dependent on stimulus–response connections, reflexes, and reactions, and that was utterly unlike his thinking in the last 5 or 6 years of his life when he was developing his cultural-historical theory (Minick, 1987; van der Veer & Valsiner, 1994; Veresov, 1999). For that reason, quotations drawn from various stages of Vygotsky’s life can provide a misleading account of his thinking. We have, therefore, consistently indicated the year of authorship or first publication of each quotation. We will first
provide an overview of Vygotsky’s life, followed by a discussion of his overall contributions to education. The third section, our evaluation of Vygotsky’s impact on the field of education in North America, will include a discussion of Vygotsky’s view of the role of the learner and the nature of learning.

OVERVIEW OF VYGOTSKY’S LIFE

If life illustrates science, Vygotsky’s own life can best be understood with reference to the very things that he came to argue were essential to understanding development: the interrelations of the individual, the interpersonal, and the cultural-historical. (For fuller details of Vygotsky’s life, see the sources from which the following was drawn: Blanck, 1990; Levitin, 1982; Luria, 1979; van der Veer & Valsiner, 1991; Veresov, 1999; Vygodskaja & Lifanova, 1999a, 1999b.)

Individual Characteristics

Lev Semenovich Vygotsky (then known as Vygodsky) was born in 1896 into a large, Jewish, intellectual family residing in Orsha, a small town near Minsk. Before Lev was a year old, the family moved to Gomel’. Even though he showed intellectual potential early, he was still fortunate to be able to enter university in 1913 (a quota restricted the number of Jewish students who could attend). At the wishes of his parents, Vygotsky initially entered the Medical faculty of Moscow Imperial University, but a month later switched to the faculty of Law and, at the same time, enrolled in the History of Philosophy at the Shaniavskii University in Moscow. Here Vygotsky studied, among other things, literature; he wrote articles of literary criticism, as well as a major study of Hamlet.

Vygotsky returned to Gomel’ in 1917, just prior to the Russian Revolution, and for the next few years had to deal with the problems of German occupation, Civil War, and famine. During this period, two of his brothers died from tuberculosis and typhoid. (Vygotsky himself, in 1920, also fell seriously ill with tuberculosis, the disease that would eventually kill him.) Only after 1919, when Gomel’ was brought under Soviet control, did Vygotsky find work. He taught literature and psychology, and also edited a literary journal, wrote articles of literary criticism, and published theater reviews. Out of this work grew his book entitled *The Psychology of Art* (completed, as his dissertation, in 1925, although not published until long after his death). If this were not enough, Vygotsky also worked at the Gomel’ college for the training of teachers, where he organized a psychology laboratory and started work on his first book devoted exclusively to psychology, *Educational Psychology* (1926/1997a).

In 1924, Vygotsky presented three papers at the 2nd All-Russian Congress of Psychoneurology, including “The Methods of Reflexological and Psychological Investigation.” At least one member of his audience, Alexander Romanovich
Luria, was so impressed that Vygotsky was invited to join Kornilov’s Institute of Experimental Psychology in Moscow. Vygotsky participated in establishing the Institute of Defektology, an institute devoted to studying how mentally and physically handicapped children could be helped. He served as its “scientific leader” (van der Veer & Valsiner, 1991) and became its Director in 1929. By the end of his life Vygotsky was again focusing more on educational psychology; he died from tuberculosis in 1934, at the age of 37. Theoretically, Vygotsky gradually moved from a Sechenov- and Pavlov-based conditioning view of psychology (focusing on reflexes and reactions) to a cultural-historical theory that placed more significance on language, social interaction, and culture. However, even in his earlier writings on psychology, it is clear that Vygotsky was dissatisfied with reflexological views that separated mind and body and consistently attempted to create a new psychology that would overcome this dualism (Veresov, 1999).

Interpersonal Aspects

Discussion of what Vygotsky accomplished as an individual might lead one to suppose that he was a genius, a “Mozart” of his age (Levitin, 1982; Toulmin, 1978). However, it would be a mistake to view Vygotsky as a unique figure. To understand his development, one must consider his interpersonal interactions with others. He read voraciously and was well acquainted with the ideas of many scholars across Europe and in North America who are now viewed as being in the forefront of a “sociogenetic” approach to development (Tudge, Putnam, & Valsiner, 1996). Moreover, his own intellect was initially honed in many dinner-time discussions with his family (Vygodskaya & Lifanova, 1999a), and his later ideas benefited greatly from collaboration with the other major figures of early Soviet psychology, such as Luria and Leont’ev.

Historical Aspects

Vygotsky’s development cannot be understood, however, without knowing the historical events that were taking place, specifically the post-Revolutionary zeal to create new ways of doing things, transform ideas on education, and develop a “new” psychology that would be based on Marxist–Leninist dialectical materialism. Although Vygotsky may well have been equally interested in the same issues regardless of what was occurring historically, the time was right in that the post-Revolutionary Soviet society supported his aim, at least for a while. But in the early years after the Revolution there was such a strong feeling of new possibilities to create new things in so many areas of life; Vygotsky’s discussions with his colleagues and friends can only be understood against this backdrop. In summary, Vygotsky’s development cannot be understood without taking into account his individual characteristics, his interactions with others, and the historical changes wrought by the Russian Revolution and its aftermath.
The Russian Revolution and the formation of the Soviet Union were both a blessing and a curse for Vygotsky. On the one hand, they afforded him and his colleagues the opportunity to participate in the creation of a new society and to make a profound impact on psychology and education. On the other hand, Vygotsky’s influence was short-lived, with his ideas being attacked on political grounds even before he died (Valsiner, 1988). It would be many years before his ideas were resurrected in the West. In his short life Vygotsky wrote widely about education. Before he moved to Moscow from Gomel’ he wrote Educational Psychology (1926/1997a), the only complete book-length manuscript to be published during his lifetime (Jaroshevsy, 1994; Veresov, 1999).

Educational Psychology was Vygotsky’s first attempt to write a book specifically about psychology, and it was designed as a textbook for students. It was one of the most ideology-related of his writings, seen not simply in the frequent citations of Marx, but in the apparent acceptance of the Marxist-Leninist perspective. As Vygotsky wrote in 1926: “Psychology is in need of its own Das Kapital — its own concepts of class, basis, value, etc.” (1997a). Educational Psychology was written while Vygotsky was still very much influenced by stimulus–response approaches to psychology, and drew heavily on the concept of conditional reflexes, as developed by Pavlov and Bekhterev (Veresov, 1999). Even at this time, Vygotsky had already expressed concerns about intelligence testing of children, arguing that formal testing was unlikely to capture the ways in which children respond in real-world situations, an argument that foreshadowed Bronfenbrenner’s (1989, 1995) subsequent concern with ecological validity.

During the 1920s and early 1930s Vygotsky was very interested in the development and teaching of children with mental and physical handicaps (a field known as “Defektology”), and edited a book on the topic (Vygotsky, 1924), as well as publishing numerous articles. As might be expected, given the ways in which his thinking changed over the course of his life, his views on the treatment of these children also underwent significant change. In keeping with the optimistic viewpoint of the early Soviet period, Vygotsky initially believed that speech could simply serve as the replacement that would allow blind or deaf children to compensate for their problem. This essentially reflexological approach changed in 1926 or 1927 under the influence of Adlerian psychology (van der Veer & Valsiner, 1991). The goal of these children, and of their teachers, was to develop “supercompensation” or a supporting “superstructure” that would allow alternative means not simply to replace the lack of hearing or sight but to bring about a restructuring of mind to reach these goals. By the end of the decade, however, Vygotsky was developing his cultural-historical theory, and his position on children who experienced mental and physical difficulties changed accordingly. The main difficulty that these children had was that they had not been enabled to experience the cultural development of
normally developing children, and the answer was to mainstream the former into the collective of the latter.

Vygotsky by no means restricted himself to writing about disabled children, and from 1928 to 1934, the year he died, Vygotsky wrote extensively about "pedology" ("the science of child development" quoted in van der Veer & Valsiner, 1991, p. 308). By the time that Vygotsky was writing about pedology, he had moved far beyond the stimulus–response paradigm to the development of his cultural-historical theory. However, pedology was denounced in 1936 and all references to it, and to Vygotsky's theory, were banned in the Soviet Union until the 1980s. This is not to say that Vygotsky had no impact on the development of Soviet education, but rather that his impact, although fostered by his former colleagues and students, was rarely made explicit (Kozulin, 1990; Valsiner, 1988).

In the United States, despite the publication of several of Vygotsky's papers (Vygotsky, 1929, 1934, 1939) and the first version of one of his books in 1962 (incorrectly translated in abridged form as Thought and Language), there was little interest in his ideas until the late 1970s, with the publication of Mind in Society (1978). The role of various individuals, particularly Michael Cole, Jim Wertsch, Alex Kozulin, René van der Veer, and Jaan Valsiner, cannot be overestimated in this regard, as they made Vygotsky's ideas available to a far larger audience in the United States. However, in keeping with the theme of this chapter, cultural-historical factors also explain the rise in popularity of Vygotsky's work. As Piaget's theory came under increasing (though often misguided) attack, the time may have been ripe for educators and psychologists to look with some favor on a theorist who appeared to give more of a role to social factors in development.

Interpersonal, Cultural-Historical, and Individual Factors

As we have argued, Vygotsky's theory stresses the interrelatedness of these three factors in development. In North America, however, the complexity of Vygotsky's theory has been for the most part ignored in favor of a reliance on a single concept, the zone of proximal development. Moreover, the concept itself has too often been viewed in a rather limited way that emphasizes the interpersonal at the expense of the individual and cultural-historical levels and treats the concept in a unidirectional fashion. As if the concept were synonymous with "scaffolding," too many authors have focused on the role of the more competent other, particularly the teacher, whose role is to provide assistance just in advance of the child's current thinking (see, for example, Berk & Winsler, 1995; Brown & Ferrara, 1985; Bruner & Haste, 1987; Wood, 1999). The concept thus has become equated with what sensitive teachers might do with their children and has lost much of the complexity with which it was imbued by Vygotsky, missing both what the child brings to the interaction and the broader setting (cultural and historical) in which the interaction takes place (Griffin & Cole, 1999; Stone, 1993). For example, this interpretation
misses entirely Vygotsky's position that developments in a child’s life are akin to historical developments in societies (related to Marx’s thesis that humans have an undeveloped potential that can only be released after the structural reorganization of society).

Translation Issues. Before discussing the interpretation of Vygotskian concepts in more detail, however, it is necessary to raise the issue of translation, because some of the confusion about the apparently unidirectional flow from teacher to child stems from the way in which a key word has been translated. The Russian term obuchenie has been translated by different translators as instruction, teaching, or learning, whereas in fact the word connotes both teaching and learning (Bodrova & Leong, 1996; Valsiner, 1988; van der Veer & Valsiner, 1991; Wheeler, 1984). For example, the Plenum version of Thinking and Speech (1987) translated obuchenie as “instruction” throughout (see for example p. 212), whereas the Mind in Society (1978) translation of the same word in the same context is consistently “learning” (a totally different perspective on what Vygotsky meant). By contrast, the meaning of “teaching/learning” is subtly, but clearly, different from either of the words used alone. This means that those who have relied either on Thinking and Speech (1987) or on the older, less accurate, versions of Thought and Language (1962 or 1986) have been led to think of the concept as one that relates only to a teacher who provides the instruction to a child who learns.

A more appropriate translation of the term obuchenie infers a more bi-directional flow than is implied by “instruction” and allows us to make better sense of Vygotsky’s position that “teaching/learning” occurs long before the child goes to school. The better translation also enables readers to understand that when a zone of proximal development is created in the course of interaction between a teacher and child, or between two or more peers, all participants participate both in the creation and in the subsequent development that may occur. Such a position nicely captures the view, beloved among many teachers, that one learns best when teaching! This more accurate and subtle translation should be borne in mind as we turn to a discussion of Vygotsky’s treatment of the concept of the zone of proximal development.

Interpersonal Aspects. The concept captures well the interpersonal aspect of Vygotsky’s theory. Contrasting traditional (and, indeed, contemporary) measures of intellectual development (the actual level, as determined by tests of what the child can currently do independently) with the proximal level (what the child can do with assistance of someone more competent, whether adult or child), Vygotsky (1934/1987) argued that “the zone of proximal development has more significance for the dynamics of intellectual development and for the success of instruction than does the actual level of development” (p. 209). Therefore: “[Teaching/learning] is only useful when it moves ahead of development. When it does, it impels or wakens a whole series of functions that are in a stage of maturation lying in the
We propose that an essential feature of teaching/learning is that it creates the zone of proximal development; that is, teaching/learning awakens a variety of developmental processes that are able to operate only when the child is interacting with people in his environment and in collaboration with his peers. (Vygotsky, 1935/1978, p. 90)

The specific mechanisms that allow the child to construct higher psychological structures, according to Vygotsky, are internalization and externalization. Children internalize or interiorize the processes occurring in the course of the interaction with the more competent member of the culture—they “grow into the intellectual life of those around them” (Vygotsky, 1935/1978, p. 88). As Vygotsky argued:

Every higher mental function was external because it was social before it became an internal, strictly mental function; it was formerly a social relation of two people. . . . We can formulate the general genetic law of cultural development as follows: Any function in the child’s cultural development appears on the stage twice, or on two planes, first the social, then the psychological, first between people as an intermental category, then within the child as an intramental category. (Vygotsky, 1931/1997c, pp. 105–106)

Internalization is not a matter of mere copying and is “far from being a purely mechanical operation” (Vygotsky & Luria, 1930/1994, p. 153), because this would preclude the emergence of novelty. Rather, children transform the internalized interaction on the basis of their own characteristics, experiences, and existing knowledge. Development is thus a process of reorganization of mental structures in relation to one another (Vygotsky, 1935/1994). In subsequent interactions with the social world, the transformed knowledge structures contribute to its reconstruction. Those who have already aided the child may assist in this process by encouraging externalization: “The teacher, working with the school child on a given question, explains, informs, inquires, corrects, and forces the child himself to explain” (Vygotsky, 1934/1987, pp. 215–216, italics added).

It would be a mistake, however, to think that Vygotsky conceptualized internalization, or even interactions creating a zone of proximal development, as processes that occur only in school contexts. Once the concept of zone of proximal development has been divorced from “instruction” it becomes much easier to understand how Vygotsky could discuss it in the context of children’s play (see Nicolopoulou, 1993). In a 1933 lecture, Vygotsky (1978) argued that play is highly important in young children’s development. One critical role for play is that it helps children in the use of symbolic forms: “In play thought is separated from objects and action arises from ideas rather than from things: a piece of wood begins to be a doll and a stick becomes a horse” (p. 97). Meanings of things are thus detached from their
typical appearance and serve as mediating devices between objects and the things that the objects stand for, in just the same way that the written word will come to have that function for literate children. Vygotsky (1933/1978) concluded that “play creates a zone of proximal development of the child. In play a child always behaves beyond his average age, above his daily behavior” (p. 102). It is very difficult to fit this notion of play with the idea of instruction.

**Cultural-Historical Aspects.** Having considered the interpersonal relations between children and others (people, objects, and symbols) in their environments, we will turn to the cultural-historical focus of Vygotsky’s theory. We must emphasize the fact that Vygotsky’s theory is appropriately termed a cultural-historical theory and that this is where the focus should be placed, even while acknowledging the important role played by individual activity in conjunction with others. As we will show, Vygotsky viewed the cultural world (instantiated as the ways in which people have become used to interacting with one another, their tools, and institutions) as the source of the development of higher mental functions. History can be viewed as relating to the development of the species and the cultural group but also as ontogenetic and microgenetic development (Scribner, 1985; Wertsch & Tulviste, 1992).

It is clear that, for Vygotsky, school and schooling play a critical role in determining the ways in which we think. However, school’s importance is not so much as a context in which children are scaffolded but rather as the setting in which children are encouraged to become “consciously aware” of themselves, their language, and their place in the world. The issue of conscious awareness (or consciousness, as Vygotsky typically wrote) was central to his thinking; it is what makes us social beings or, in other words, human. It is in this sense that the links to history and culture become clear. What happens in the course of school teaching/learning is that children become more consciously aware of the meaning (not simply the sense) of concepts that earlier had been used in a nonconscious way. “Grandfather” is understood not only as a white-haired old man who tinkers in his workshop but also as a person occupying a role in a system of kinship. To extend the argument, we could say that the centrality of conscious awareness becomes evident as a child begins to think of the history of his relations with his grandfather and comes to realize that all grandfathers pass on cultural lessons to their grandchildren. Although Vygotsky was very interested in the distinction between sense (what a word connotes) and its meaning (what it denotes) (see, for example, chapter 7 of *Thinking and Speech*, Vygotsky 1933/1987), the issue of conscious awareness played a far more central role in his theory.

Through schooling, children learn new concepts (“scientific” concepts) in a way that is made conscious from the start. Vygotsky’s example of the concept of “exploitation” illustrated the way that in learning/being taught scientific concepts, children become consciously aware not only of scientific concepts but also the everyday concepts that they have been accustomed to using nonconsciously. Using
language as an example, Vygotsky pointed out that the preschool child “has already acquired the entire grammar of his native language. Nonetheless, while he declines and he conjugates, he does not know that he declines and conjugates” (1934/1987, p. 205). An example from Molière provides an apt illustration: M. Jourdain, the hero of Le Bourgeois Gentilhomme, was unaware of the fact that, while talking, he spoke prose. Still, the connection between scientific and everyday concepts is complex and mutually influencing for “both types of concepts are not encapsulated in the child’s consciousness, are not separated from one another by an impermeable barrier, do not flow along two isolated channels, but are in the process of continual, unceasing interaction” (Vygotsky, 1935/1994, p. 365). In schooling, each subject has its own specific relation to the course of development that varies as the child advances his or her understanding of scientific concepts.

Although some have viewed Vygotsky as making a type of recapitulationist argument, his linking of what occurred when humans first used tools and what occurs when children go to school was not intended to imply that the child’s ontogenetic development would go through the same processes as the species’ phylogenetic development (Scribner, 1985). Instead, his position was that the participation of children in a world in which psychological tools (knots in handkerchiefs, gestures, linguistic or mathematical symbols) were used involves the creation of a zone of proximal development, drawing them into the cultural world of higher mental processes. As Wertsch and Tulviste (1992) pointed out, Vygotsky’s position is quite clear; participation in a world of cultural tools does not simply facilitate processes that would have developed regardless, but utterly transforms mental functioning. “In the process of historical development, social man changes the methods and devices of his behavior, transforms natural instincts and functions, and develops and creates new forms of behavior—specifically cultural” (Vygotsky, 1931/1997c, p. 18). This approach “seeks to present the history of how the child in the process of education accomplishes what mankind accomplished in the course of the long history of labor” (1930/1997b, p. 88). In both cases the significance of the change is that one’s relation with the external world becomes characterized by conscious (or self-conscious) awareness, that is, the ability to reflect on what one is doing or seeing, rather than simply reacting in a nonconscious way.

This viewpoint is easily observed in phylogeny, since the biological and historical formation of all function[s] are so sharply divided and so obviously belong to different types of evolution that both processes are evident in a pure and isolated form. In ontogenesis, however, both lines of development appear as an interwoven complex combination. (Vygotsky & Luria 1930/1994, p. 139)

Vygotsky drew connections between interactions within the zone of proximal development and an expanded context of social development. He defined the word “social” as “everything cultural, in the broadest sense of the word. Culture is the product of man’s social life and his public activity” (1928/1993, p. 164). Involvement in the sociocultural world is what makes children human, by ensuring that
they develop higher mental processes. "The higher functions of intellectual activity arise out of collective behavior, out of cooperation with the surrounding people, and from social experience" (1931/1993, p. 196). For example, spontaneous and impulsive actions, the hallmark of many preschoolers' activities, are transformed into the product of reflection in the course of playing with others, particularly playing rule-based games. Even the activities of a child playing alone must be studied as simultaneously an individual and a social phenomenon (Tudge et al., 1999). That is to say, the child at play brings to her activities those roles, rules, and reactions she has already seen enacted in her daily life (Vygotsky, 1933/1978). "The influence of play on development is enormous" (Vygotsky, 1933/1978, p. 96). Play liberates the child from constraints, excites new pathways of cognitive awareness and stimulates perception of the cultural world.

Educators are beginning to understand that on entering a culture a child not only gets something from culture, assimilating it, inculcating something from the outside, but that culture itself reworks all the child's natural behavior and carves anew his entire course of development. The distinction between the two paths of development (natural and cultural) becomes the fulcrum for a new theory of education. (1928/1993, p. 166)

This view of social development makes clear that the zone of proximal development is not simply something that occurs in school contexts between teacher and child but deals with the development of new forms of awareness that are created as societies develop new social organizations, such as systems of schooling.

The Individual. Because Vygotsky argued that the social world "is a source of development" (1935/1994, p. 351) many who have invoked Vygotsky have implied that his theory involves a view of culture and context that acts in a unidirectional fashion on the individual. This interpretation is far from accurate, and ignores the essentially Marxist-based dialectical nature of the theory (Elhammouni, 2002; Vater Veer & van Ijzendoorn, 1985). It is clear that Vygotsky did not believe that social forces completely explained children's development. Although Vygotsky did not discuss the "natural" line of development in anywhere near as great detail as he discussed historical, cultural, and social aspects of development, it cannot be ignored. Included within the natural line of development are all "inherited" factors.

So, our first task consists in following the influence of heredity on child development through all its intermediate links, so that any developmental occurrences and any inherited factors are placed in genetically clear interrelationships. . . . Contemporary genetic research—which deals with both constitutional problems and with research on twins—offers a researcher an enormous amount of material for the deepest constitutional analysis of a child's personality with respect to heredity. (1931/1993, pp. 279–280)
Interestingly, in light of current debates involving behavior geneticists, Vygotsky's position was clear regarding the interrelations of genes and environment:

Development is not a simple function which can be wholly determined by adding X units of heredity to Y units of environment. It is a historical complex which, at every stage, reveals the past which is a part of it. . . . Development, according to a well-known definition, is precisely the struggle of opposites. This view alone can support truly dialectical research on the process of children's development. (1931/1993, pp. 282-283)

Vygotsky's understanding of complexity means that the methods required to gather data on children's development must be truly developmental, using longitudinal ("etiological") rather than cross-sectional methods. In his words, researchers need to focus not on a single "slice" of development (one point in time), but on a series of slices that serve to "uncover the specific dynamic process" at work (p. 288).

An etiological analysis must always show (1) how a given developmental stage is conditioned by the self-advancement of the whole, the internal logic of the development process itself, and (2) how one stage necessarily developed from the preceding stage of development, rather than being the mechanical sum of environmental and hereditary factors which are new to each stage. Lifting the etiological analysis of development to truly scientific heights means, above all, searching for the causes of the events which interest us in the developmental process itself, and uncovering its internal logic and its self-advancement. (1931/1993, p. 290)

Vygotsky discussed the interrelations of individual and environment in one of the last lectures he gave before his death, in which he argued that social influences can only be understood in relation to the child.

The same environmental factors which may have one meaning and play a certain role during a given age, two years on begin to have a different meaning and to play a different role because the child has changed; in other words, the child's relation to these particular environmental factors has altered. (1935/1994, p. 338)

In the course of development, children change by virtue of the experiences that they previously had, as well as the meaning those experiences have had for them. Those experiences, though involving them in different social situations, have become "their personal property" (p. 352), influencing the ways in which they deal with other experiences. As a result, the meaning of any given social or environmental influence (such as a teacher trying to "scaffold" a group's understanding of some concept) will necessarily also be different for each child in that group. In other words, the impact of some social event is determined by "how a child becomes aware of, interprets, [and] emotionally relates to [that] certain event" (p. 341).
The event, by itself, is meaningless without consideration of the individuals involved in it. "This dynamic and relative interpretation of environment is the most important source of information for pedaology when environment is under discussion" (p. 346, italics in the original).

The role of the individual in the group is also discussed in Vygotsky’s writings on children with physical or mental disabilities (Vygotsky, 1993), in which he wrote about the problems that accrue when children are artificially prevented from participating in a social group. It is clear that Vygotsky believed that the education of children who had mental or physical difficulties (for example, deafness or blindness) is greatly enhanced by being mainstreamed, rather than having these children educated with others who suffer from a similar disability. When children with disabilities are able to interact with others who are less mentally disabled, or have more advanced hearing or better sight, they develop higher levels of functioning. In mainstreamed groups, “the personality of the severely retarded child truly finds a dynamic source of development, and... in the process of collective activity and cooperation, he is lifted to a higher level” (1931/1993, p. 201). The same is true with blind and deaf children (p. 205). Vygotsky ended his chapter with the following words:

The basic principal and fulcrum for all our pedagogy for the abnormal child requires us now to be able to understand anew... the links between cooperation [collective activity] and the development of higher mental functions; between the development of the collective and the abnormal child’s personality. Communist pedagogy is the pedagogy of the collective. (1931/1993, p. 208)

The essence of the process of cultural development is that “through others, we become ourselves” (Vygotsky, 1931/1997c, p. 105). The rules governing this process of becoming refer to each individual and to the history of each higher mental function. Presented earlier in this chapter as the “general genetic law,” this expression of cultural development makes clear why everything internal was at first external (Vygotsky, 1931/1997c).

**EVALUATION**

The preceding section presented an overview of Vygotsky’s contributions to education, focusing on an understanding of development that emerges through the interrelations of the individual, interpersonal, and cultural factors within an historical context. Bringing Vygotskian theory into contemporary discourse has been a complicated venture. The central problem is that Vygotsky’s works are still not well understood, partly due to the fact that only during the past decade have there been any reasonable translations of much of his work. As Valsiner (1988) clearly demonstrated, scholars rely on one of two texts, one consisting of partial translations and
a précis of writings from various periods of Vygotsky’s life (Mind in Society, 1978) and, to a lesser extent, Thinking and Speech (1987). There is little evidence that the situation has changed greatly since then. Despite some excellent discussions of the issue (Minick, 1987; van der Veer & Vaisiner, 1991; Veresov, 1999), people using Vygotsky’s ideas have failed to appreciate the significance of the theoretical changes that he went through in his short life. This has led to compilations of quotations cobbled together from sources that are theoretically heterogeneous. A second major problem is that a single concept (the zone of proximal development) has been seized on as the essence of Vygotskian thought, with a failure to recognize either the limited role this concept plays in the theory as a whole or that, if the concept is to be used, it must be placed into its broader theoretical context. The focus on interpersonal aspects of the theory must be combined with simultaneous attention to culture and history and to the role played by the individual.

We now consider how writings of contemporary theorists and researchers might further illuminate our understanding of Vygotsky’s contributions to education. Attention in North America focused immediately and almost exclusively on the zone of proximal development, which has fostered a great deal of interest both theoretically and empirically (Wells, 1999). The problem with much of this research, however, is that it has failed to put the concept into its broader theoretical framework. For example, in a review of research on children’s collaboration that supposedly built on Vygotsky’s theory, Hogan and Tudge (1999) found that although the studies dealt with the interpersonal world (typically what occurred between a more competent and less competent child), far fewer dealt with what either individual brought to the collaborative process, and even fewer considered the broader cultural and historical context within which the collaboration was situated.

The same is true of much of the research on teacher-child interaction that is supposedly related to Vygotsky’s theory. Much of this work has appropriated Vygotsky’s concept to that of scaffolding. This term was first used by Wood, Bruner, and Ross (1976) to capture the way in which an expert helped a novice to perform some task or skill in a more competent way than the novice could achieve without such assistance. Wood and his colleagues described the process as one in which “a child or novice [is enabled] to solve a problem, carry out a task or achieve a goal which would be beyond his unassisted efforts” (1976, p. 90). Although the authors do not cite Vygotsky, this sentence sounds highly Vygotskian. However, the authors continue: “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” (p. 90). This may well be what many good teachers try to do, but it has little to do with Vygotsky’s concept of the zone of proximal development¹ (Griffin & Cole, 1999; Stone, 1993).

The metaphor of scaffolding seriously downplays the fact that the more competent, as well as less competent, person can gain from the interaction. Whether the image that comes to mind is the scaffold that goes up to support a building being
constructed or the scaffold from which someone is going to be hung, the image is that the person who provides the scaffold has clear control of the situation and is not expected to change in the process. Metaphors are, of course, powerful tools (as Vygotsky himself would argue), but they have their limitations. The limitation in this context is that Vygotsky’s theory is conflated with one that stresses the teacher’s role in providing the appropriate assistance to the child. For example, Berk and Winsler stated:

A major goal of scaffolding, and education in general, is to keep children working on tasks in their ZPDs. This is usually achieved in two ways: (1) by structuring the task and the surrounding environment so that the demands on the child at any given time are at an appropriately challenging level, and (2) constantly adjusting the amount of adult intervention to the child’s current needs and abilities. (1995, p. 29)

To be fair, Berk and Winsler went on to point out the danger of stressing the apparently teacher-dominated sense that can be taken from the concept of scaffolding and argued that interactions within the zone of proximal development are, of course, bi-directional. Ann Brown and her colleagues have made the same point, namely, that although scaffolding stresses the role of the expert, the process of learning is clearly reciprocal (Brown, Ash, Rutherford, Nakagawa, Gordon, & Campione, 1993; Brown & Palincsar, 1989). However, it is all too easy to treat the concept of scaffolding in a unidirectional fashion, focusing on child improvement as a simple function of teacher or parent assistance (Brown & Ferrara, 1985; Wood, 1999), as opposed to the dynamic process that Vygotsky intended. Giving obuchenie its meaning of teaching-learning encourages us to examine what happens to both partners in the interaction and to recognize that when a zone of proximal development is created in the course of interaction, both partners change. Treating the interacting partners as the unit of analysis, of course, creates statistical difficulties entirely avoided by treating the child as the only analytic unit of interest.

The more simplistic notion of scaffolding, said to be derived from Vygotsky, is being increasingly used as a tool to attack the notion that young children learn best simply by being allowed to play with objects, with the adult role primarily that of providing the objects and “supporting” what the children are doing. This view, supposedly (but erroneously) derived from Piaget, had an impact on elementary or primary education in the 1970s and is still relatively common in the discussions of “Developmentally Appropriate Practice” (Bredekamp, 1987; Bredekamp & Copple, 1997) in preschools and other child-care centers. Currently, there is greater discussion of adults’ roles as scaffolders of young children, invoking the zone of proximal development, as a way of countering a view of preschool development that minimizes the teachers’ role (McCollum & Blair, 1994).

One of the consequences of this lack of understanding is that there has yet to be a real debate about the value of the theory itself. Discussion has focused more on the Piaget versus Vygotsky debate, an argument that becomes sterile when it treats the two theorists as though they occupied entirely dichotomous positions.
Areas that would warrant more serious debate include the implications for teaching and learning of a theory that argues for the interrelation of individual, interpersonal, and cultural-historical factors in development and that stresses a co-constructive relationship between teacher and pupil.

However, there are some areas in which Vygotsky’s views have had an impact on education, albeit in limited settings. There is growing evidence that more appropriate uses of Vygotsky have been used to change the practice of preschool teaching and learning both in England (Pollard, 1993) and in the United States (Bodrova & Leong, 1996). Pollard is explicit in his view that teachers must consider intrapersonal, interpersonal, and socio-historical factors simultaneously. Bodrova and Leong go further, connecting their discussion of the zone of proximal development to the use, by teachers and children, of external mediators that link child, activity, and the social and cultural context. They describe, for example, the way one teacher uses a stuffed mouse to encourage the children to behave in socially acceptable ways. For Vygotsky, all human activity is mediated by tools, whether physical (a spade or computer) or psychological (words or other symbols), that serve as the links to the broader social and cultural context.

Similar changes can be seen with school-age children. For example, the work of Michael Cole and his colleagues has consistently stressed a Vygotsky-based approach to education that focuses on the historically and culturally mediated nature of learning. In the “construction zone” (Newman, Griffin, & Cole, 1989), for example, learning is accomplished as a dialectical combination of individual and social activity, making sense of materials that are provided, in conjunction with others both in the classroom (children and teachers) and outside (the broader culture). As Wertsch (1985) pointed out, cultural tools are the mediational means that serve as the “carriers” of sociocultural patterns, skills, and knowledge. Cole’s views on the necessity of including the cultural context in any analysis of teaching are exemplified in the work he and his colleagues have since done with children (many of whom have been diagnosed as having learning difficulties by their teachers) in the “Fifth Dimension” (Cole, 1996, 1998). Children’s activities, in conjunction with their peers and teachers, are explicitly linked to culture and history in what Cole has described as cultural-historical activity theory (or CHAT, Cole 1998), a theory that is based on Vygotsky and Leont’ev.

Luis Moll (2000; Moll & Greenberg, 1990), drawing on works by both Michael Cole and Sylvia Scribner, has also indicated the ways in which everyday practices, such as those that go on in schools, are necessarily cultural practices. As Moll (2000) indicated, Vygotsky’s view of the zone of proximal development deals with “how human beings use social processes and cultural resources of all kinds in helping children to construct their futures” (p. 262).

Similarly, Gordon Wells has tried to move the discussion of Vygotsky’s ideas of the teacher-child relationship from one of scaffolding to “dialogic inquiry” (Wells, 1999, 2000). The teacher must be viewed both as a co-inquirer and as
a leader/organizer, ensuring that cultural mediators are used to link students to
the cultural world of which they are a part. As he points out, however, "in most
classrooms dialogic interaction is not evident...[and] there is a dearth of dialog
throughout the years of schooling" (Wells, 2000, p. 67). Wells (1999) argued that
an "expanded" view of Vygotsky's concept is needed, however, stressing the fact
that teaching and learning are created in the course of this dialogue. We would
argue, by contrast, that no such expansion is necessary; it is one of the key elements
of Vygotsky's theory.

Tharp and Gallimore (1988) also illustrate the ways in which schools need to
take into account the interactions of teachers and children, the activity settings in
which those interactions take place, and the broader cultural-historical contexts that
give sense to both the activity settings and the interactional processes themselves.
"Schools are incorporated into the larger society and have that as their context,
so that some of their activity settings are determined by this larger contextuality"
(p. 274). The authors illustrate contextuality with reference to Hawaiian schools,
but elsewhere Tharp (1989) demonstrates the completely different interactional
styles that are associated with learning in Hawaiian, Anglo, and Navajo cultures.
The type of setting that would benefit Hawaiian children, whose culture encourages
joint work and "negative wait time" (children talking at the same time) would be
inappropriate for Navajo children, who learn early on to wait for a long time to
make sure that someone else has finished talking and who are less used to working
in large groups.

CONCLUSION

By way of summarizing our argument, we will reflect on the nature of the learner
and the nature of the learning process in Vygotsky's theory. We will then consider
how Vygotsky's legacy might be extended in future theoretical explorations.

The Nature of the Learner

As in any systemic theory, and particularly any theory that stresses the interaction
of individual and environment, it is difficult to point to the role played by the learner
without reference to the context within which the learner is operating. Nonetheless,
it is worth stressing the active nature of the individual in Vygotsky's theory, if for
no other reason than to guard against the common view that this theory simply
stresses the surrounding social context (see, for example, Miller, 1993).

As we have argued throughout, Vygotsky's theory is dialectical; social phenom-
ena (both interpersonal and cultural-historical) and individual characteristics com-
bine to affect development. For example, when discussing developmental changes,
Vygotsky argued that, although "external conditions" determine the character of
the changes themselves, "neither the presence nor the absence of some specific
external conditions, but the internal logic of the process of development itself
is responsible” for the disruptions brought about by becoming older (Vygotsky, 1932/1998, p. 192). For example, the “crisis” of moving from the preschool to school age manifests itself in problems for children and teachers alike:

The seven-year-old differs from both the preschool child and from the school child and for this reason presents difficulties with respect to his teaching. The negative content of this age is apparent primarily in the disruption of mental equilibrium and in the instability of the will, mood, etc.... At turning points of development, the child becomes relatively difficult due to the fact that the change in the pedagogical system applied to the child does not keep up with the rapid changes in his personality. (1932/1998, pp. 193-194)

It is clearly necessary, then, for the social context (both at school and at home) to change as a result of the changes in the child’s development:

Toward the end of the given age, the child becomes a completely different being than he was at the beginning of the age. But this necessarily also means that the social situation of development which was established in basic traits toward the beginning of any age must also change since the social situation of development is nothing other than a system of relations between the child of a given age and social reality. And if the child changed in a radical way, it is inevitable that these relations must be reconstructed. (Vygotsky, 1932/1998, p. 199)

What does this mean for teaching? Teachers must be aware of what the child brings to the situation. “Determining the actual level of development is the most essential and indispensable task in resolving every practical problem of teaching and educating the child” (Vygotsky, 1932/1998, p. 200). But that, of course, is only the first step in the process. This understanding of the child’s current developmental “symptoms” indicates only the current outcome of development, which is a necessary, but by no means sufficient, goal of teachers.

The Nature of the Learning Process

“A genuine diagnosis of development must be able to catch not only concluded cycles of development... but also those processes that are in the period of maturation” (Vygotsky, 1932/1998, p. 200). Vygotsky, as is well known, was highly critical of assessments of development that dealt purely with what children can accomplish independently. Vygotsky believed that one only knows what is maturing in the child’s development by discovering what he or she can do with help. The contemporary view (both in Vygotsky’s time and currently) is that data from a testing situation should be ignored if a child has been assisted in some way, as though the child who benefits from the assistance, or imitates the person who has helped, has done so in a purely mechanical fashion. For Vygotsky, by contrast, a child who is able to benefit from this type of help is actually revealing something highly important about his or her development. By “imitation” in this context Vygotsky meant anything that the child is able to achieve in cooperation with
someone else; this achievement, always more than what could be attained independently, is not "limitless" however, and is related to the child's current "actual" level of development.

Vygotsky intended to provide a detailed discussion of the relevance of his conception of zones of proximal development to teaching; he made several references to his intention (see, for example, 1932/1998, pp. 203–204, 330), but died before he was able to do so. He restricted himself to the point that the optimal time for teaching new skills or concepts should be when the relevant facilities are in the process of maturing.

Vygotsky’s Legacy

In relation to Vygotsky’s legacy to the field, no answer can yet be provided given that the theory is still not well understood, at least in North America. There is some evidence, however, that in the field of North American early education at least, Vygotsky has provided some theoretical support for the notion that preschool teachers can play an effective role beyond the provision of the materials for children’s play. Similarly, in elementary school, there is increased support for the role of group work, though the extent to which this support derives explicitly (or even implicitly) from Vygotsky is not clear. Perhaps most important, Vygotsky’s use of the concept of \(\text{obuchenie}\) has the potential of vastly enriching our understanding of the relations of teaching and learning. We believe that effective teaching involves learning from one’s students, while at the same time learning from the very process of teaching. At the core of Vygotsky’s theory is the sense that children must be actively involved in teaching/learning relationships with more competent others who both learn from children and draw them into fuller membership in their cultural world. As the theory and practice of human development becomes increasingly diverse, the concept of \(\text{obuchenie}\) may become the fulcrum for conversations in education. For example, as European American theorists and practitioners observe the ways in which adults from South American or African American cultures engage their children in cultural activities and welcome them into collective identities, this may lead to transformations of more individualistic and competitive notions of educational growth and success. In teaching/learning relationships, teachers must be willing to build on and enhance the children’s strengths in developmentally and culturally appropriate ways. The theoretical support for this position is evident in Vygotsky’s writings. As yet, however, it is a promise that still has to be realized.

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NOTE

1. Interestingly, Vygotsky did in fact use the term “scaffold” one time, to describe a child using a support to assist walking (van der Veer & Valsiner, 1991). Unfortunately, the translators confused the Russian term for “scaffolding” (lesa) with the same word (stressed differently) for “woods” and translated the key sentence as follows: “In short, his gait is not steady; it is still [linked], as it were, 'to the woods' of external tools that facilitate its development. Yet another month passes, and the child, having surpassed this ‘woods,’ discards it” (Vygotsky & Luria, 1930/1993, p. 207). The passage is striking not only as a demonstration of the pitfalls of translation but also as a clear illustration of the differences between the use of “scaffold” in the sense of simple assistance and the complexity that undergirds the concept of zone of proximal development.

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