



VYGOTSKY

for

EDUCATORS

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The Notion of the Zone of Proximal Development of Mental Processes

The preceding analysis of the development of self-regulation illustrates Vygotsky's general idea of mediation as the major determinant of the development of new higher mental processes. As discussed, as a result of mediation, the child transits from the use of an external psychological tool under adult supervision to the independent use of what has become an internal psychological tool. Therefore, until the child has mastered and internalized a new psychological tool, and this tool has come to mediate the child's mental process, his independent use of this tool will always be below the level of his use of this tool with adult assistance. The difference between the level of independent use of a new tool by the child and his use of this tool with adult assistance has been called by Vygotsky "the zone of proximal development" (ZPD) of the child's new mental process.⁸

At first glance, Vygotsky's notion of ZPD does not add much to our understanding of child learning and development: Is it not common sense that children in many cases perform better with adult

assistance than without such assistance? It turns out, however, that this notion provides us with innovative answers to such fundamental questions as how to assess children's mental development and how to teach them.

Zone of Proximal Development and Assessment. In the field of assessment, the notion of ZPD implies that it is important to assess not only what the child can do independently (the child's "mental age") but his or her ZPD as well. Vygotsky wrote:

Most of the psychological investigations concerned with school learning measured the level of mental development of the child by making him solve certain standardized problems. The problems he was able to solve by himself were supposed to indicate the level of his mental development at the particular time.... We tried a different approach. Having found that the mental age of two children was, let us say, eight, we gave each of them harder problems than he could ^{not} manage on his own and provided some slight assistance: the first step in a solution, a leading question, or some other form of help. We discovered that one child could, in cooperation, solve problems designed for twelve-year-olds, while the other could not go beyond problems intended for nine-year-olds. The discrepancy between a child's actual mental age and the level he reaches in solving problems with assistance indicates the zone of his proximal development; in our example, this zone is four for the first child and one for the second. Can we truly say that their mental development is the same? Experience has shown that the child with the larger zone of proximal development will do much better in school.⁹

Vygotsky's notion of ZPD has become one of the theoretical foundations of a new approach to the assessment of children's mental development, the so-called Dynamic Assessment (DA) approach, which is aimed at the evaluation of children's ability to benefit from adult assistance, that is, their learning ability.¹⁰ The use of DA techniques has shown that, indeed, a child's level of independent performance as measured by IQ tests may not correlate with this child's learning ability. For example, a child may earn a very low IQ score, but when

2. taught, learns very fast and, even more importantly, demonstrates a wide transfer of the knowledge learned (that is, is able to use this knowledge flexibly to solve new problems).¹¹ Any teacher will probably agree that these characteristics of the child's learning ability would inform instructional practices much better than this child's IQ score would.

3. *Zone of Proximal Development and Instruction.* In the field of instruction, Vygotsky's notion of ZPD provides us with an innovative vision of the interrelationships between instruction and development. If you look into the traditional system of school instruction, it will become obvious that it is strongly influenced by the belief that instruction should follow development; in other words, first the child should reach a certain level of development, and then we can teach him or her "developmentally appropriate" knowledge (the theoretical foundations of this belief can be found in nativist and constructivist views on learning and development discussed in the Introduction). For example, in elementary school, children are considered incapable of abstract thinking; therefore, they are taught concrete skills through drill and practice, or verbal information through rote memorization (as I discuss later, this instructional practice is the reason, in particular, for the situation that children who come to school with a great desire to study too often lose this desire very soon).

For Vygotsky, instruction is the major avenue for mediation during the period of middle childhood. Therefore, he strongly disagreed with the view that instruction should "hobble" behind development; rather, like any other type of mediation, correctly organized instruction "marches ahead of development and leads it."¹² Thus, according to Vygotsky, we should teach children at the "ceiling" level of their ZPD, that is, the level at which they initially can perform only with a great deal of help from us. As the children develop the ability to perform more and more independently at this level, we raise the level of our teaching so that it will again target the upper threshold within their new ZPD. Such instruction "awakens and rouses to life those

processes that are ready to develop, that are in the zone of proximal development."¹³

Thus, proceeding from Vygotsky's notion of ZPD, we should not wait, for example, until children develop the ability to do abstract thinking to teach them abstract knowledge. On the contrary, our teaching children abstract knowledge will promote the development of their abstract thinking. You may ask: "But how can we teach abstract knowledge to children, who are not able yet to understand it?" The answer to this question has been provided by Russian followers of Vygotsky, who used his ideas to develop the *theoretical learning* approach to instruction (I discuss this approach in Chapter 11).