

Theories of Cognitive Development: Lev Vygotsky.



Lev Vygotsky

Born in Orsha, a part of the Russian Empire (now known as Belarus) on 17th November 1896, Vygotsky was a pioneer of psychology; he contributed much important research to the field. He graduated from the Moscow State University in 1917, and went on to work in many research facilities and educational establishments in Moscow, Leningrad and Kharkov. His extensive research into cognitive development has led his theory to be one of the most important of its kind. He believed that children's thinking is affected by their social knowledge, which is communicated by either psychological (language, number, art) or technical (books, calculator) means. He was – and sometimes still is – often criticised for being an idealist and his overemphasis of the role of language in thinking (more on the criticisms later). He was also a very popular author, with 6 volumes of his work being classed as major.

Vygotsky rarely conducted research; he was more focused on constructing the best possible theory on the transfer of knowledge. Unfortunately, Vygotsky died at the very young age of 37 in 1934 from Tuberculosis, but once his main work was translated to English in 1962, it had a major impact on other psychological research in similar fields.

Vygotsky's theory of cognitive development.

As stated above, Vygotsky believed children's thinking is affected by their knowledge of the social community (which is learnt from either technical or psychological cultural tools). He also suggested that language is the most important tool for gaining this social knowledge; the child can be taught this from other people via language. He defined intelligence as "the capacity to learn from instruction", which emphasises the fact there is a requirement for a more knowledgeable other person or 'teacher'. He referred to them as just that: the **More Knowledgeable Other (MKO)**. MKO's can be parents, adults, teachers, coaches, experts/professionals – but also things you might not first expect, such as children, friends and computers.

He described something known as the **zone of proximal development (ZPD)**, which is a key feature of his theory. There are two levels of attainment for the ZPD:

- Level 1 – the 'present level of development'. This describes what the child is capable of doing without any help from others.
- Level 2 – the 'potential level of development'. This means what the child could potentially be capable of with help from other people or 'teachers'.

The gap between level 1 and 2 (the present and potential development) is what Vygotsky described as this zone of proximal development. He believed that through help from other, more knowledgeable people, the child can potentially gain knowledge already held by them. However, the knowledge must be appropriate for the child's level of comprehension. Anything that is too complicated for the child to learn that isn't in their ZPD cannot be learnt at all until there is a shift in the ZPD. When a child does attain their potential, this shift occurs and the child can continue learning more complex, higher level material.

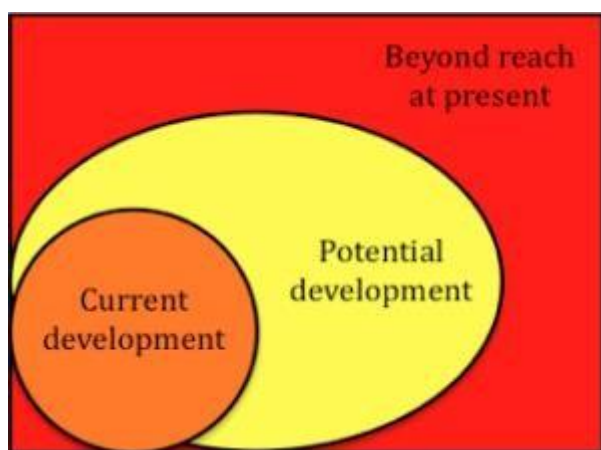


Diagram to demonstrate the ZPD.

Another important feature of this theory is scaffolding. When an adult provides support for a child, they will adjust the amount of help they give depending on their progress. For example, a child learning to walk might at first have both their hands held and pulled upwards. As they learn to support their own weight, the mother might hold both their hands loosely. Then she might just hold one hand, then eventually nothing. This progression of different levels of help is scaffolding. It draws parallels from real scaffolding for buildings; it is used as a support for construction of new material (the skill/information to be learnt) and then removed once the building is complete (the skill/information has been learnt).

Woods and Middleton (1975) studied the influence of instruction with their experiment. They provided 3-4 year olds with a puzzle which was beyond their comprehension *on their own*. The mother then provided different levels of assistance for the child:

- L1 – General verbal instruction (“Very good! Now try that again.”)
- L2 – Specific verbal instruction (“Get four big blocks”)
- L3 – Mother indicates material (“You need this block here”)
- L4 – Mother provides material and prepares it for assembly
- L5 – Mother demonstrates the operation

After the session, the child was assessed on whether they could construct the pyramid on their own. Results showed that when children were given varied support from mothers (low levels of support when the child was doing well, and high levels when the child struggled) they were able to construct the pyramid on their own. However, when the mother consistently provided the same support, they seemed to make the child conclude the activity was beyond their comprehension and the child soon lost interest in constructing the pyramid. This shows the importance of providing the correct level of scaffolding when teaching a learner.



The Woods & Middleton (1975) pyramid puzzle.

As a final point, Vygotsky looked at the role of egocentric/private speech. This is, for example, when a child will sit on their own and speak their thoughts out loud as they play. He suggested a child is regulating and planning their behaviour at this point: “Where is the block? I can’t find it. Oh well, I’ll use this block.” He called these ‘monologues’.

By 7 years, these monologues become internalised and the child becomes a “verbal thinker”, which is what most adults can do with no problem. When we are faced with a problem, and we’re alone, we quite often think through the problem – but in our heads. Children before 7 will do this out loud. This verbal thinking forms the basis for higher level, more abstract thinking (planning, reasoning, memorising, evaluating).

Quick summary

- Emphasised the role of a teacher in cognitive development, and the need to have support from a More Knowledgeable Other, or MKO.
- The zone of proximal development, or ZPD, differentiates between a learner's current development and their potential development when being taught from a MKO.
- Scaffolding provides an effective way to reach potential levels of development, but only when different levels of assistance are given when required.
- Social and cultural tools are an important means of gaining intelligence.
- There is a close link between the acquisition of language and the development of thinking.
- Internalising monologues, and therefore becoming a verbal thinker, is a stepping stone to higher levels of thinking.

Vygotsky provided a very influential theory which provided a meaningful social context in the development of learning. The emphasis of cultural knowledge was something unseen in Piaget's theory. In the next post, I will be evaluating both of the cognitive theories (that of Jean Piaget and Lev Vygotsky) and then comparing and evaluating them against each other.