Zone of Proximal Development

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by Saul McLeod published 2010, updated

The zone of proximal development (ZPD) has been defined 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" (Vygotsky, 1978, p. 86).*

Lev Vygotsky views interaction with peers as an effective way of developing skills and strategies. He suggests that teachers use cooperative learning exercises where less competent children develop with help from more skillful peers - within the zone of proximal development.

Vygotsky believed that when a student is in the ZPD for a particular task, providing the appropriate assistance will give the student enough of a "boost" to achieve the task.

The ZPD has become synonymous in the literature with the term scaffolding. However, it is important to note that Vygotsky never used this term in his writing, and it was introduced by Wood et al. (1976). Once the student, with the benefit of scaffolding, masters the task, the scaffolding can then be removed and the student will then be able to complete the task again on his own.

Wood et al. (1976, p. 90) offer the following definition of *scaffolding*:

> *'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'.*

It is important to note that the terms cooperative learning, scaffolding and guided learning all have the same meaning within the literature.

Zone of Proximal Development Example

Maria just entered college this semester and decided to take an introductory tennis course. Her class spends each week learning and practicing a different shot. Weeks go by and they learn how to properly serve and hit a backhand. During the week of learning the forehand, the instructor notices that Maria is very frustrated because she keeps hitting her forehand shots either into the net or far past the baseline.

He examines her preparation and swing. He notices that her stance is perfect, she prepares early, she turns her torso appropriately, and she hits the ball at precisely the right height. However, he notices that she is still gripping her racquet the same way she hits her backhand, so he goes over to her and shows her how to reposition her hand to hit a proper forehand, stressing that she should keep her index finger parallel to the racquet. He models a good forehand for her, and then assists her in changing her grip. With a little practice, Maria's forehand turns into a formidable weapon for her!

In this case, Maria was in the zone of proximal development for successfully hitting a forehand shot. She was doing everything else correctly, but just needed a little coaching and scaffolding from a "More Knowledgeable Other" to help her succeed in this task. When that assistance was given, she became able to achieve her goal. Provided with appropriate support at the right moments, so too will students in classrooms be able to achieve tasks that would otherwise be too difficult for them.

B Wood and Middleton (1975) - Scaffolding

The following study provides empirical support the both the concept of scaffolding and the ZPD.

Procedure: 4 year old children had to use a set of blocks and pegs to build a 3D model shown in a picture. Building the model was too difficult a task for a 4 year old child to complete alone.

Wood and Middleton (1975) observed how mothers interacted with their children to build the 3D model. The type of support included:

- General encouragement e.g. 'now you have a go.'
- Specific instructions e.g. 'get four big blocks.'
- Direct demonstration e.g. showing the child how to place one block on another.

The **results** of the study showed that no single strategy was best for helping the child to progress. Mothers whose assistance was most effective were those who varied their strategy according to how the child was doing. When the child was doing well, they became less specific in their help. When the child started to struggle, they gave increasingly specific instructions until the child started to make progress again.

The study illustrates scaffolding, and Vygotsky's concept of the ZPD. Scaffolding (i.e. assistance) is most effective when the support is matched to the needs of the learner. This puts them in a position to achieve success in an activity that they would previously not have been able to do alone.

Wood et al. (1976) named certain processes that aid effective scaffolding:

- Gaining and maintaining the learner's interest in the task.
- Making the task simple.
- Emphasizing certain aspects that will help with the solution.
- Control the child's level of frustration.
- Demonstrate the task.

C Freund (1990) - Dolls House Study

Freund (1990) wanted to investigate if children learn more effectively via Piaget's concept of discovery learning or by guided learning via the ZPD.

She asked a group of children between the ages of three and five years to help a puppet to decide which furniture should be placed in the various rooms of a dolls house. First Freund assessed what each child already understood about the placement of furniture (as a baseline measure).

Next, each child worked on a similar task, either alone (re: discovery based learning) or with their mother (re: scaffolding / guided learning). To assess what each child had learned they were each given a more complex, furniture sorting task.

The results of the study showed that children assisted by their mother performed better at the furniture sorting than the children who worked independently.

Educational Applications

'From a Vygotskian perspective, the teacher's role is mediating the child's learning activity as they share knowledge through social interaction' (Dixon-Krauss, 1996, p. 18). Scaffolding is a key feature of effective teaching and can include modeling a skill, providing hints or cues, and adapting material or activity (Copple & Bredekamp, 2009).

In the classroom scaffolding can can be performed with just about any task. Consider these guidelines for scaffolding instruction (Silver, 2011)

- *Assess the learner's current knowledge and experience for the academic content.*
- *Relate content to what students already understand or can do.*
- *Break a task into small, more manageable tasks with opportunities for intermittent feedback.*
- *Use verbal cues and prompts to assist students.*

A contemporary application of Vygotsky's theories is "reciprocal teaching", used to improve students' ability to learn from text. In this method, teacher and students collaborate in learning and practicing four key skills: summarizing, questioning, clarifying, and predicting. The teacher's role in the process is reduced over time.

Vygotsky's theories also feed into current interest in collaborative learning, suggesting that group members should have different levels of ability so more advanced peers can help less advanced members operate within their zone of proximal development.

References

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How to cite this article:

McLeod, S. A. (2012). Zone of Proximal Development. Retrieved from www.simplypsychology.org/Zone-of-Proximal-Development.html