Vygotskian Perspective of Teaching-Learning

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Abstract: This paper elaborates the Vygotskian perspective of teaching and learning. In the first section it presents the historical context of Vygotsky's work. The next section is based on the key concept of Vygosky's theory and elaborates the conceptual nuances of concepts such as zone of proximal development, scaffolding etc. Keeping in mind this theoretical framework last section draws implications for teaching-learning.

Key-words: Social-Constructivism, Cognition, Teaching, Learning.

The work that Lev Vygotsky began decades ago in post-revolutionary Russia is still relevant and informative today. At least three reasons exist for the popularity of Vygotsky's work in intellectual circle :his emphasis on the active contribution of humans to the development of their own consciousness, the importance of social interaction in the development ; the notion of the mediational role of language in the communicative process. Vygotsky (1986) used the metaphor of water to explain his perceptions of teaching, learning, and development within the sociocultural context. We will extend this Vygotskian metaphor of water to our interpretation of pedagogy. In this text pedagogy will not be two separate processes of a teacher, teaching or a learner, learning. Rather, pedagogy, itself a dialectic, is the reciprocal relationship between teaching and learning, creating more than the sum of its parts.

A Brief look at the background of Vygotsky-

Vygotsky's life provides a vivid picture of how one can be highly productive under the most difficult personal and social conditions. Lev Semenovich Vygotsky was born 1896 in Orsha (in what is now Belarus), and grew up in Gomel in a prosperous Jewish family in the western provinces of the Russian Empire. His higher education was at Moscow University, despite the fact that in Russia under Czar Nicholas II there were strict laws limiting how many Jewish people could receive advanced degrees. His university studies focused on medicine, and later law. In addition, he studied in an independent university majoring in philosophy and history. After working as a schoolteacher and then as an instructor in a teacher training college, Vygotsky turned to psychology. His career as a psychologist spanned just ten years, ending with his death in 1934. In that time Lev Vygotsky produced about one hundred books and papers, many of which have only recently been published and translated into English. At the time of his death, Lev Vygotsky's work included numerous powerful ideas, however, many were not fully developed and some were even speculative. His students, including most notably Alexander Luria, Alexei Leontiev, Daniel Elkonin, and Alexander Zaporozhets, and others (in Russia and throughout the world) have been responsible for further elaborating many of the ideas of his initial papers.

Major Concepts of Vygotsky-

Vygotsky investigated child development and how this was guided by the role of culture and interpersonal communication. Vygotsky observed how higher mental functions developed historically within particular cultural groups, as well as individually through social interactions with significant people in a child's life, particularly parents, but also other adults. Through these interactions, a child came to learn the habits of mind of her/his culture, including speech patterns, written language, and other symbolic knowledge through which the child derives meaning and which affected a child's construction of her/his knowledge. This key premise of Vygotskian psychology is often referred to as cultural mediation. The specific knowledge gained by children through these interactions also represented the shared knowledge of a culture. This process is known as internalization. Internalization can be understood in one respect as "knowing how". For example, riding a bicycle or pouring a cup of milk are tools of the society and initially outside and beyond the child. The mastery of these skills occurs through the activity of the child within society. A further aspect of internalization is appropriation, in which the child takes a tool and makes it his own, perhaps using it in a way unique to himself. Internalizing the use of a pencil allows the child to use it very much for his own ends rather than draw exactly what others in society have drawn previously.

Cultural mediation and internalization

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Guided participation, which takes place when creative thinkers interact with a knowledgeable person, is practiced around the world. Cultures may differ, though, in the goals of development. For example, Mayan mothers in Guatemala help their daughters learn to weave through guided participation.

Psychology of play

Less known is Vygotsky's research on play, or children's games, as a psychological phenomenon and its role in the child's development. Through play the child develops abstract meaning separate from the objects in the world, which is a critical feature in the development of higher mental functions. The famous example Vygotsky gives is of a child who wants to ride a horse but cannot. If the child were under three, he would perhaps cry and be angry, but around the age of three the child's relationship with the world changes: "Henceforth play is such that the explanation for it must always be that it is the imaginary, illusory realization of unrealizable desires. Imagination is a new formation that is not present in the consciousness of the very raw young child, is totally absent in animals, and represents a specifically human form of conscious activity. Like all functions of consciousness, it originally arises from action." (Vygotsky, 1978)

The child wishes to ride a horse but cannot, so he picks up a stick and stands astride of it, thus pretending he is riding a horse. The stick is a pivot. "Action according to rules begins to be determined by ideas, not by objects.... It is terribly difficult for a child to sever thought (the meaning of a word) from object. Play is a transitional stage in this direction. At that critical moment when a stick – i.e., an object – becomes a pivot for severing the meaning of horse from a real horse, one of the basic psychological structures determining the child's relationship to reality is radically altered". As children get older, their reliance on pivots such as sticks, dolls and other toys diminishes. They have internalized these pivots as imagination and abstract concepts through which they can understand the world. "The old adage that 'children's play is imagination in action' can be reversed: we can say that imagination in adolescents and schoolchildren is play without action" (Vygotsky, 1978).

Another aspect of play that Vygotsky referred to was the development of social rules that develop, for example, when children play house and adopt the roles of different family members. Vygotsky cites an example of two sisters playing at being sisters. The rules of behavior between them that go unnoticed in daily life are consciously acquired through play. As well as social rules, the child acquires what we now refer to as self-regulation. For example, when a child stands at the starting line of a running race, she may well desire to run immediately so as to reach the finish line first, but her knowledge of the social rules surrounding the game and her desire to enjoy the game enable her to regulate her initial impulse and wait for the start signal.

Thought and Language

Perhaps Vygotsky's most important contribution concerns the inter-relationship of language development and thought. This concept, explored in Vygotsky's book Thought and Language, (alternative translation: Thinking and Speaking) establishes the explicit and profound connection between speech (both silent inner speech and oral language), and the development of mental concepts and cognitive awareness. It should be noted that Vygotsky described inner speech as being qualitatively different from normal (external) speech. Although Vygotsky believed inner speech developed from external speech via a gradual process of internalization, with younger children only really able to "think out loud," he claimed that in its mature form inner speech would be unintelligible to anyone except the thinker, and would not resemble spoken language as we know it (in particular, being greatly compressed). Hence, thought itself develops socially.

An infant learns the meaning of signs through interaction with its main care-givers, e.g., pointing, cries, and gurgles can express what is wanted. How verbal sounds can be used to conduct social interaction is learned through this activity, and the child begins to utilize, build, and develop this faculty, e.g., using names for objects, etc. Language starts as a tool external to the child used for social interaction. The child guides personal behavior by using this tool in a kind of self-talk or "thinking out loud." Initially, self-talk is very much a tool of social interaction and it tapers to negligible levels when the child is alone or with deaf children. Gradually self-talk is used more as a tool for self-directed and self-regulating behavior. Then, because speaking has been appropriated and internalized, self-talk is no longer present around the time the child starts school. Self-talk "develops along a rising not a declining, curve; it goes through an evolution, not an involution. In the end, it becomes inner speech" (Vygotsky, 1987, pg 57). Inner speech develops through its differentiation from social speech. Speaking has thus developed along two lines, the line of social communication and the line of inner speech, by which the child mediates and regulates their activity through their thoughts which in turn are mediated by the semiotics (the meaningful signs) of inner speech. This is not to say that thinking cannot take place without language, but rather that it is mediated by it and thus develops to a much higher level of sophistication. Just as the birthday cake as a sign provides much deeper meaning than its physical properties allow, inner speech as signs provides much deeper meaning than the lower psychological functions would otherwise allow.

Inner speech is not comparable in form to external speech. External speech is the process of turning thought into words. Inner speech is the opposite; it is the conversion of speech into inward thought. Inner speech for example contains predicates only. Subjects are superfluous. Words too are used much more economically. One word in inner speech may be so replete with sense to the individual that it would take many words to express it in external speech.

Zone of proximal development

"Zone of proximal development” (ZPD) is Vygotsky’s term for the range of tasks that a child can complete independently and those completed with the guidance and assistance of adults or more-skilled children. The lower limit
Vygotsky's theory of Development

Vygotsky's theory is known as sociocultural, although Vygotsky himself and his close colleagues preferred to describe it as culturalhistorical, emphasizing the dual focus of this theory: the history of human development and the cultural tools that shape this development. At the core of this theory is Vygotsky's belief that human development–child development as well as the development of all humankind–is the result of interactions between people and their social environment. These interactions are not limited to actual people but also involve cultural artifacts, mainly language-based (written languages, number systems, various signs, and symbols). Many of these cultural artifacts serve a dual purpose: not only do they make possible the integration of a growing child into the culture but they also transform the very way the child's mind is being formed. Vygotsky refers to these as special cultural tools, acquisition of which extends one's mental capacities, making individuals the master of their own behavior.

In the course of child development, a child typically learns how to use these cultural tools through interactions with parents, teachers, or more experienced peers. As a result of using these tools–first in cooperation with others and later independently–the child develops higher mental functions: complex mental processes that are intentional, self-regulated, and mediated by language and other sign systems. Examples of these higher mental functions include focused attention, deliberate memory, and verbal thinking. According to Vygotsky, although all human beings are capable of developing these functions, the particular structure and content of higher mental functions depend on specific social interactions, as determined by culture in general and by each person's unique social situation of development.

Of all the processes involved in acquisition of mental tools, Vygotsky focused primarily on the use of language (it was through the work of his colleagues and students that acquisition of non-verbal mental tools was studied). For him, language is both the most important mental tool and a medium facilitating the acquisition of other mental tools. One of the best-known concepts that illustrates Vygotsky's view of language is the concept of private speech. Private speech, or self-talk, originates in social speech, the initial form of speech that is directed to other people. Although it retains the audible characteristic of social speech, private speech changes its function. It now becomes speech directed to oneself rather than speech that is regulated or directed by a more capable person. Noticing that children tend to increase the amount of self-talk when facing more challenging tasks, Vygotsky hypothesized that at some point, they start using private speech to organize (plan, direct, or evaluate) their behaviors. The use of private speech peaks during preschool years and then decreases. Vygotsky associates this decrease with private speech turning first into inner speech and then into verbal thinking. This evolution of speech–from social to self-directed to internalized–exemplifies the path of all higher mental functions, which was described by Vygotsky in his "law of the development of higher mental functions.”

According to this law, each higher mental function appears twice in the course of child development: first as shared or carried out by an individual jointly with other people–intersubjective–and then as appropriated or internalized by this individual and used independently–intrasubjective.

Vygotsky's view of child development and education is an extension of his general approach to the development of higher mental functions. Consistent with his definition of development as socially determined, Vygotsky introduced a new relationship between education, learning, and development. Vygotsky argued against the theorists who believed that child development occurs spontaneously and is driven by the processes of maturation and cannot be affected by education. Neither did he agree with those who claimed that instruction could alter development at any time regardless of a child's age or capacities. Instead, he proposed a more complex and dynamic relationship between learning and development that is determined by what he termed a child's zone of proximal development (ZPD).

Vygotsky's theory is based on the idea that learning can lead development, and development can lead learning, and this process takes place through a dynamic interrelationship. The ZPD is the area between a learner's level of independent performance (often called developmental level) and the level of assisted performance–what the child can do with support. Independent performance is the best the learner can do without help, and assisted performance is the maximum the learner can achieve with help. By observing assisted performance one can investigate a learner's potential for current highest level of functioning. ZPD reveals the learner's potential and is realized in interactions with knowledgeable others or in other supportive contexts (such as make-believe play for preschool children). By providing assistance to learners within their ZPD we are supporting their growth.

Through identification of a learner's ZPD, teachers find out what knowledge, skills, and understandings have not yet surfaced for the learner but are on the edge of emergence. Teachers also study ways to engage the learner in shared or co-operative learning experience through participation in the learner's ZPD. This involves doing more than completing a task in a combined fashion; it involves developing the learner's higher mental functions, such as the ability to plan, evaluate, memorize, and reason. In How Children Think and Learn (1998), David Wood points out: "By reminding
children we are helping them to bring to mind and exploit those aspects of their past experience that we (as experts) but not they (as novices) know to be relevant to what they are currently trying to do” (p. 97).

COMPARISON BETWEEN PIAGET AND VYGOTSKY:

There are many competing theoretical accounts of how children think and learn. For the purposes of this essay I will be focusing on two of the most dominant theorists of the domain, Jean Piaget and L.S Vygotsky. In order to put the discussion in context, it will be useful to establish some background information to provide us with an insight into their respective sources of interest in children and how this has directed and influenced their theories.

Piaget’s ideas have only really dominated our thinking about learning since the mid-sixties. His specific area of interest lay in biology and his quest to create a universal theory of biology and knowledge, applicable to all living systems, motivated his studies of children. Vygotsky, on the other hand, wished to understand the nature, evolution and transmission of human culture. Their respective orientations naturally lead to different perspectives about the nature of childhood.

Although Vygotsky and Piaget do concur on a number of important issues, their thinking is at its most distinct when discussing the roles played by social interaction and cultural influences; a point which is most significantly illustrated in their respective treatment of the role that language plays and its effect on thinking. It is this issue which will provide the focus point of the essay.

Piaget was primarily interested in intelligence. For him, this represented the means by which human beings adapt to their environment as an individual constructs an understanding of reality through interacting with it. Knowledge has to be actively discovered. Piaget believed that cognitive development is the combined result of biological maturation and experiences. Furthermore, he saw cognitive development as a long progression from infantile illogic to logical maturity. His academic background in biology led him to believe that all humans were genetically similar and shared many of the same experiences. Consequently, he charted childrens’ development through a series of qualitatively distinct stages through which intellectual maturity evolves. Piaget claimed these stages followed one another in a fixed, inevitable pattern but accepted that there was no fixed time for each stage.

As a result of observations of his own three children he suggested that between birth and fourteen years of age, children went through four main stages; the sensory motor, pre-operational, concrete operational and formal operations periods. For the purposes of this essay it will not be useful to provide a detailed description of typical characteristics of each stage but rather explain the underlying assumptions behind this theoretical framework.

Piaget analysed and interpreted children’s development in terms of systems of logical operations, described in term of operations of mind. These mental operations, which can be applied to objects, beliefs, ideas or anything in the child’s world, are also known as schemas and these are seen to be evolving (Smith p336) units of intelligent behaviour. Schemas refer to the way of organizing experiences which makes the world more understandable. Piaget used two concepts to explain the development of these schemas; assimilation and accommodation.

Through assimilation the child takes in a new experience and fits it into an existing schema (Smith p337). This process is balanced with that of accommodation, in which the child adjusts an existing schema to incorporate aspects of an experience not currently represented in their cognitive structure. These two processes together create a state of equilibrium with the environment, although this is short lived as the child is faced with yet more new concepts and experiences. Piaget considered intellectual development to be a continuous process of assimilation and accommodation (Smith p338). He suggested that older children do not know more than younger but have broader experiences and that they can process the information in more sophisticated ways because of the more advanced biological and adaptive development of their underlying cognitive structure (http://www.psych.port5.com).

Put simply, children progress through Piaget’s defined stages by learning through action, whether physical or mental. The main theme of Piaget’s theory is that activity is the essence of knowledge. He places action and self-directed problem solving at the heart of learning and development (Wood p9). By acting in the world, the learner comes to discover how to control it. Piaget suggests that social interaction will aid development only by causing a state of disequilibrium and thus setting in motion the processes of accommodation and assimilation as outlined earlier.

Whereas Piaget’s theory focused on the study of the individual rather than the group or society, Vygotsky took the opposite line. He was attracted to the idealistic, intelligent ideas of Marxism which suggested that all human beings were social animals to be studied in their social context in order to understand their development (Cohen p59). Consequently, Vygotsky took a socio-cultural approach, working on the assumption that action is mediated and cannot be separated from the milieu in which it is carried out. As mentioned earlier, Vygotsky shares some important ideas with Piaget, in particular, with regard to the emphasis they both place on activity as the basis for learning. However, he places far greater emphasis on the role of communication, social interaction and instruction in determining the path of development. He believed that knowledge acquisition is essentially and inescapably a socio-historical cultural process. Children are socialized into learning appropriate cognitive and linguistic skills from those more capable. Through such socialization, children learn the accumulated way of thinking and doing that are relevant to their cultures. Although Piaget recognizes the importance of social experiences, they play a secondary role in his theory. A key idea of Vygotsky’s theory is that of the zone of proximal development (ZPD). This can be defined as the range of potential each person has for learning and extending his competency beyond his individual reach with the help of others.
Here, we see a principal difference between Piaget and Vygotsky. Vygotsky claims that the capacity to learn through instruction is a fundamental feature of human intelligence and furthermore is the main vehicle for the transmission of knowledge (Wood p25). In contrast, Piaget suggests that a child under the age of seven cannot profitably be taught tasks and concepts because he is not mentally ready. According to Piaget, a child’s capacity to be taught and make logical sense of what they are shown is limited by their stage of development. For Piaget ‘genuine intellectual competence’ (Wood p24) is only reached when the child can construct his own understanding of events. In short, Piaget believes development precedes learning whilst Vygotsky claims learning causes development. Evidently, this provokes a very different idea of mental readiness for learning and consequently has different implications for teaching.

As identified in the introduction, the most widely discussed point of difference between Piaget and Vygotsky, concerns their ideas on the role of language. Language for Piaget is a system of symbols for representing the world and exerts no formative effects on the structure of thinking (Wood p26). As stated, Piaget believed mental actions and operations are stimulated by action, not talk. Piaget views pre-operational children, that is those roughly between the ages of two and seven, as egocentric in the sense that their view of the world is always moulded around their immediate personal and sectional view. This egocentrism, he believes, is manifested in both a child’s thinking and talk.

For Piaget, the utterances made by a child under the age of seven are examples of this egocentricity. His observations led him to claim that children do not attempt to communicate with others or even try to adapt their speech so others can understand it. By way of an example, he observed that children of this age often talk to themselves in a fashion which cannot be regarded as communication. Similarly, he also suggested that playground collective monologues are not real conversations. He theorised that children are constrained by their logical budget; children under the age of seven cannot construct situations as they appear from another person’s viewpoint and are therefore incapable of holding a rational conversation. It is only when a child reaches the age of around seven and ‘de-centres’ that speech becomes more socialised.

Vygotsky view is quite different. For him, childhood speech was not egocentric but social and communicative (Wood p27). As we have already learnt, Vygotsky was interested in the transmission of culture and this may explain the emphasis he placed on language. In his opinion it represented an important cultural tool and furthermore it was through speech that the child developed as a thinker and learner. Vygotsky did recognize the presence of egocentric speech but noted that it is produced as a child struggles to deal with abstract ideas. From this perspective, egocentric speech can be seen as a learning aid. Many adults revert to externalized monologues to solve complex tasks. Vygotsky suggested that it is these external monologues in children that later become internalised to form inner speech at around seven – inner speech being the dialogue that becomes thought. He also observed that when a child was in a room where there was no proper listener, he produced far less egocentric speech. From this, Vygotsky concluded that a totally egocentric creature would not be so sensitive to the presence of others (Cohen p65).

Vygotsky also observed Piaget’s so called collective monologues but again, interpreted them very differently. For him, they were highly social and represented the transition from language as a tool for regulation and communicating needs, to language as a tool for thought (Smith p435). The principal motivation for language comes out of a need for the child to control his world through other people. It is a physical activity and offers the infant a way of influencing the course of his immediate future (Wood p27). This provides the basis for inner speech, which, as we have already illustrated, forms the basis for thought. In short, the initial speech and gestures of infants and small children that are motivated by their needs and wants, become internalized to form thought. For Vygotsky, silent inner speech was crucial to development. Collective monologues and indeed the egocentric speech we have already discussed, for Vygotsky, represented the emergence of self-regulation in children, in the sense that they are planning and regulating their activities. In Vygotsky’s eyes this was an indication of verbal thinking and intellectual self-control. This view could not be supported by Piaget’s theory due to the constraints Piaget places on the child from the stages of intellectual development. However, although Piaget does admit that it is through talking to others that a child’s thinking becomes more socialized (Wood p26), he still claimed language came out of the logic and cognitive development of the child. This is in contrast to Vygotsky who maintained that language structures and directs the processes of thinking rather than reflects pre-formed mental operations.

As we have seen, albeit briefly, there are a number of ways in which Piaget’s and Vygotsky’s child differs in the way it learns about the world. Although they both agreed that action underlies thinking, Vygotsky places far greater emphasis on language as the creator of thought whereas Piaget concentrated more on the stages and constraints of logical development. It is important also to note Vygotsky’s interest with culture and how he claimed society and it’s cultural artifacts such as language, provided the tools to advance children’s thinking (Smith p335). However, in light of Vygotsky’s interest in culture, I feel it must be noted that these classic texts in psychology come from a time when the culture of our society was entirely different; education was more formal, children’s television or the internet did not exist, and neither did the pressures of commercialism and child targeted marketing. We must, therefore, ask ourselves to what extent these theories are still relevant in view of the enormous social and cultural changes our society has seen.

**Implication of Scaffolding as a Teaching Strategy**

Scaffolding instruction as a teaching strategy originates from Lev Vygotsky’s sociocultural theory and his concept of the zone of proximal development (ZPD). “The zone of proximal development is the distance between what children can do by themselves and the next learning that they can be helped to achieve with competent assistance” (Raymond, 2000,
Vygotsky defined scaffolding instruction as the “role of teachers and others in supporting the learner’s development and providing support structures to get to that next stage or level” (Raymond, 2000, p. 176). An important aspect of scaffolding instruction is that the scaffolds are temporary. As the learner’s abilities increase the scaffolding provided by the more knowledgeable other is progressively withdrawn. Finally the learner is able to complete the task or master the concepts independently (Chang, Sung, & Chen, 2002, p. 7). Therefore the goal of the educator when using the scaffolding teaching strategy is for the student to become an independent and self-regulating learner and problem solver (Hartman, 2002). As the learner’s knowledge and learning competency increases, the educator gradually reduces the supports provided (Ellis, Larkin, Worthington, n.d.). According to Vygotsky the external scaffolds provided by the educator can be removed because the learner has developed “…more sophisticated cognitive systems, related to fields of learning such as mathematics or language, the system of knowledge itself becomes part of the scaffold or social support for the new learning” (Raymond, 2000, p. 176).

Caregivers help young children learn how to link old information or familiar situations with new knowledge through verbal and nonverbal communication and modeling behaviors. Observational research on early childhood learning shows that parents and other caregivers facilitate learning by providing scaffolds. The scaffolds provided are activities and tasks that:

- Motivate or enlist the child’s interest related to the task
- Simplify the task to make it more manageable and achievable for a child
- Provide some direction in order to help the child focus on achieving the goal
- Clearly indicate differences between the child’s work and the standard or desired solution
- Reduce frustration and risk
- Model and clearly define the expectations of the activity to be performed (Bransford, Brown, and Cocking, 2000).

In the educational setting, scaffolds may include models, cues, prompts, hints, partial solutions, think-aloud modeling and direct instruction (Hartman, 2002). In Teaching Children and Adolescents with Special Needs the authors provided an example of a procedural facilitator (hint, cue-card, partially completed example). When trying to teach the math skill of rounding, a teacher may list, “…the steps of rounding hundreds beginning with the first step of ‘1’. Look at the number in the ten’s position’, (this) provides hints to the students” (Olson and Platt, 2000, p.180). This cue prompts the students to complete the next step of the task. Educators may also use questions as scaffolds to help students solve a problem or complete a task. Teachers may increase the level of questioning or specificity until the student is able to provide a correct response. This type of scaffold is reflected in the following excerpt, “…if you receive no response or an incorrect response after asking the question, “How do we change lady to ladies?” you should proceed with a more intrusive verbal prompt: “What is the rule?” to remind the student that there is a rule. If necessary, continue with “What do we do when a word ends in y to make it plural?” to give the student a part of the rule” (Olson and Pratt, 2000, p.186).

Following the use of teacher provided scaffolds, the educator may then have the students engage in cooperative learning. In this type of environment students help students in small group settings but still have some teacher assistance. This can serve as a step in the process of decreasing the scaffolds provided by the educator and needed by students (Hartman, 2002).

Teachers have also used scaffolding to engage students in research work and learning. In this context, scaffolding facilitates organization of and focus for students’ research (McKenzie, 1999). The structure and clearly defined expectations are the most important component of scaffolding in this context. The teachers provide clarity and support but the students construct the final result through their research. In a chapter on scaffolding, Scaffolding for Success, Jamie McKenzie provides a visual image analogy of how scaffolding works, “The workers cleaning the face of the Washington Monument do not confuse the scaffolding with the monument itself. The scaffolding is secondary. The building is primary.” (McKenzie, 1999, Matters of Definition section, para. 6). He goes on to describe eight characteristics of scaffolding. The first six describe aspects of scaffolding instruction. The last two refer to outcomes resulting from scaffolding and are therefore presented in a later section of this paper. According to McKenzie scaffolding:

1. Provides clear direction and reduces students’ confusion – Educators anticipate problems that students might encounter and then develop step by step instructions, which explain what a student must do to meet expectations.
2. Clarifies purpose – Scaffolding helps students understand why they are doing the work and why it is important.
3. Keeps students on task – By providing structure, the scaffolded lesson or research project, provides pathways for the learners. The student can make decisions about which path to choose or what things to explore along the path but they cannot wander off of the path, which is the designated task.

4. Clarifies expectations and incorporates assessment and feedback – Expectations are clear from the beginning of the activity since examples of exemplary work, rubrics, and standards of excellence are shown to the students.

5. Points students to worthy sources – Educators provide sources to reduce confusion, frustration, and time. The students may then decide which of these sources to use.

6. Reduces uncertainty, surprise, and disappointment – Educators test their lessons to determine possible problem areas and then refine the lesson to eliminate difficulties so that learning is maximized (McKenzie, 1999).

Scaffolded instruction is also employed in problem based learning environments. “Problem-based learning (PBL) is an educational approach that challenges students to "learn to learn".” (Ngeow and Yoon, 2001, p. 1). In this type of classroom the teacher must assess the activities that the students can perform independently and what they must learn to complete the task. The teacher then, “…designs activities which offer just enough of a scaffold for students to overcome this gap in knowledge and skills.” (Ngeow and Yoon, 2001, p. 2). The authors also describe several of same scaffolding activities or characteristics that were presented by Bransford, Brown and Cocking and McKenzie thus illustrating scaffolding’s applicability to various educational settings.

**SUMMARY OF VYGOTSKY’S PERSPECTIVE**

1. Culture makes two sorts of contributions to a child’s intellectual development. First, through culture children acquire much of the content of their thinking, that is, their knowledge. Second, the surrounding culture provides a child with the processes or means of their thinking, what Vygotskians call the tools of intellectual adaptation. In short, according to the social cognition learning model, culture teaches children both what to think and how to think.

2. Cognitive development results from a dialectical process whereby a child learns through problem-solving experiences shared with someone else, usually a parent or teacher but sometimes a sibling or peer.

3. Initially, the person interacting with child assumes most of the responsibility for guiding the problem solving, but gradually this responsibility transfers to the child.

4. Language is a primary form of interaction through which adults transmit to the child the rich body of knowledge that exists in the culture.

5. As learning progresses, the child’s own language comes to serve as her primary tool of intellectual adaptation. Eventually, children can use internal language to direct their own behavior.

6. Internalization refers to the process of learning—and thereby internalizing—a rich body of knowledge and tools of thought that first exist outside the child. This happens primarily through language.

7. A difference exists between what child can do on her own and what the child can do with help. Vygotskians call this difference the zone of proximal development.

8. Since much of what a child learns comes form the culture around her and much of the child’s problem solving is mediated through an adult’s help, it is wrong to focus on a child in isolation. Such focus does not reveal the processes by which children acquire new skills.

9. Interactions with surrounding culture and social agents, such as parents and more competent peers, contribute significantly to a child’s intellectual development.

**How Lev Vygotsky Impacts Learning:**

**Curriculum**–Since children learn much through interaction, curricula should be designed to emphasize interaction between learners and learning tasks.

**Instruction**–With appropriate adult help, children can often perform tasks that they are incapable of completing on their own. With this in mind, scaffolding—where the adult continually adjusts the level of his or her help in response to the child’s level of performance—is an effective form of teaching. Scaffolding not only produces immediate results, but also instills the skills necessary for independent problem solving in the future.

**Assessment**–Assessment methods must take into account the zone of proximal development. What children can do on their own is their level of actual development and what they can do with help is their level of potential development. Two children might have the same level of actual development, but given the appropriate help from an adult, one might be able to solve many more problems than the other. Assessment methods must target both the level of actual development and the level of potential development.

**IMPLICATIONS FOR LEARNING:**

- Students will learn best through activity.
- Students should be encouraged to communicate frequently with self and with teacher.
- Using a higher level of language will help students to increase their language levels.
- Assisted problem solving creates learning.

**IMPLICATIONS FOR TEACHING:**

- Teachers should use interactive methods of teaching such as hands on activities and group work.
- Teachers should present students with challenges to increase problem solving abilities.
• Teachers should frequently use a high level of language.
• Teachers should use scaffolding to increase students' cognitive abilities

References