**Lev Vygotsky’s Sociocultural Theory**

Vygotsky’s sociocultural theory views human development as a socially mediated process in which children acquire their cultural values, beliefs, and problem-solving strategies through collaborative dialogues with more knowledgeable members of society. Vygotsky’s theories stress the fundamental role of social interaction in the development of cognition, as he believed strongly that community plays a central role in the process of “making meaning.” Vygotsky argued, learning is a necessary and universal aspect of the process of developing culturally organized, specifically human psychological function.  In other words, social learning tends to precede (i.e., come before) development. Vygotsky has developed a sociocultural approach to cognitive development. Individual development cannot be understood without reference to the social and cultural context within which it is embedded. Higher mental processes in the individual have their origin in social processes.

Vygotsky places more emphasis on culture affecting cognitive development. He assumes cognitive development varies across cultures. Vygotsky places considerably more emphasis on social factors contributing to cognitive development. He states the importance of cultural and social context for learning. Cognitive development stems from social interactions from guided learning within the zone of proximal development as children and their partner’s co-construct knowledge. For Vygotsky, the environment in which children grow up will influence how they think and what they think about. Vygotsky places more emphasis on the role of language in cognitive development. For Vygotsky, thought and language are initially separate systems from the beginning of life, merging at around three years of age, producing verbal thought (inner speech). According to Vygotsky, cognitive development results from an internalization of language. He believes that adults are an important source of cognitive development. Adults transmit their culture’s tools of intellectual adaptation that children internalize.

Vygotsky claimed that infants are born with the basic abilities ( attention, sensation, percetion and memory ) for intellectual development called ‘elementary mental functions’. Eventually, through interaction within the sociocultural environment, these are developed into more sophisticated and effective mental processes which Vygotsky refers to as ‘higher mental functions.’ Each culture provides its children with tools of intellectual adaptation that allow them to use the basic mental functions more effectively/adaptively. Tools of intellectual adaptation is Vygotsky’s term for methods of thinking and problem-solving strategies that children internalize through social interactions with the more knowledgeable members of society. For example, memory in young children is limited by biological factors. However, culture determines the type of memory strategy we develop.  For example, in western culture, children learn note-taking to aid memory, but in pre-literate societies, other strategies must be developed, such as tying knots in a string to remember, or carrying pebbles, or repetition of the names of ancestors until large numbers can be repeated. Vygotsky, therefore, sees cognitive functions, even those carried out alone, as affected by the beliefs, values, and tools of intellectual adaptation of the culture in which a person develops and therefore socio-culturally determined. The tools of intellectual adaptation, therefore, vary from culture to culture - as in the memory example.

**Social Influences on Cognitive Development**

Vygotsky believes that young children are curious and actively involved in their own learning and the discovery and development of new understandings/schema.  He places more emphasis on social contributions to the process of development. According to Vygotsky, much important learning by the child occurs through social interaction with a skillful tutor. The tutor may model behaviors and provide verbal instructions for the child. Vygotsky refers to this as cooperative or collaborative dialogue. The child seeks to understand the actions or instructions provided by the tutor (often the parent or teacher) then internalizes the information, using it to guide or regulate his own performance. According to Vygotsky, social interaction involving cooperative or collaborative dialogue promotes cognitive development.

In order to gain an understanding of Vygotsky’s theories on cognitive development, one must understand two of the main principles of Vygotsky’s work: the More Knowledgeable Other (MKO) and the [Zone of Proximal Development](https://www.simplypsychology.org/Zone-of-Proximal-Development.html) (ZPD).

**More Knowledgeable Other**

The more knowledgeable other (MKO) is somewhat self-explanatory; it refers to someone who has a better understanding or a higher ability level than the learner, with respect to a particular task, process, or concept. Although the implication is that the MKO is a teacher or an older adult, this is not necessarily the case. Many times, a child’s peers or an adult’s children may be the individuals with more knowledge or experience.

**Zone of Proximal Development**

The concept of the More Knowledgeable Other is integrally related to the second important principle of Vygotsky’s work, the Zone of Proximal Development. This is an important concept that relates to the difference between what a child can achieve independently and what a child can achieve with guidance and encouragement from a skilled partner. Vygotsky sees the [Zone of Proximal Development](https://www.simplypsychology.org/Zone-of-Proximal-Development.html) as the area where the most sensitive instruction or guidance should be given - allowing the child to develop skills he will then use on his own - developing higher mental functions. Vygotsky also 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. Guided learning within the ZPD leads to good understanding/performance.

**Classroom Applications**

Vygotsky’s approach to child development is a form of [social constructivism](https://www.simplypsychology.org/constructivism.html), based on the idea that cognitive functions are the products of social interactions. Vygotsky emphasized the collaborative nature of learning by the construction of knowledge through social negotiation. Vygotsky believes everything is learned on two levels. First, through interaction with others, and then integrated into the individual’s mental structure. Every function in the child’s cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (interpsychological) and then inside the child (intrapsychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals. Teaching styles based on constructivism mark a conscious effort to move from ‘traditional, objectivist models didactic, memory-oriented transmission models’ to a more student-centred approach. A contemporary educational application of Vygotsky’s theory is “reciprocal teaching,” used to improve students’ ability to learn from text. In this method, teachers 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.

**Schema Theory**

Schema theory is a branch of cognitive science concerned with how the brain structures knowledge. Schema theory states that all knowledge is organized into units. Within these units of knowledge, or schemata, is stored information. A schema (plural: schemata) is a conceptual system for understanding knowledge-how knowledge is represented and how it is used. According to this theory, schemata represent knowledge about concepts: objects and the relationships they have with other objects, situations, events, sequences of events, actions, and sequences of actions. A simple example is to think of your schema for dog. Within that schema you most likely have knowledge about dogs in general (bark, four legs, teeth, hair, tails) and probably information about specific dogs. Your schema for dog depends on your experience, the knowledge of a dog as a pet (domesticated and loyal) or as an animal to fear (likely to bite or attack) may be a part of your schema. Each new experience incorporates more information into one’s schema. Schema is the prior knowledge gained through experiences stored in one’s mind. It is an abstract structure of knowledge.

In [psychology](https://en.wikipedia.org/wiki/Psychology) and [cognitive science](https://en.wikipedia.org/wiki/Cognitive_science), a schema describes a pattern of thought. It can also be described as a mental structure of preconceived ideas, a framework representing some aspect of the world, or a system of organizing and perceiving new information. Schemata influence the absorption of new knowledge. Schemata can help in understanding the world. Individuals’ existing schemata influence how they interpret new information. Past experiences help us make sense of new experiences by supplying us with expectations and frameworks for action.

New information that falls within an individual’s schema is easily remembered and incorporated into his [worldview](https://en.wikipedia.org/wiki/Worldview). However, when new information does not fit a schema, many things can happen. The most common reaction is to simply ignore or quickly forget the new information. This can happen on an unconscious level— frequently an individual may not even perceive the new information. People may also interpret the new information in a way that minimizes how much they must change their schemata. For example, Bob thinks that chickens don’t lay eggs. He then sees a chicken laying an egg. Instead of changing the part of his schema that says “chickens don’t lay eggs”, he is likely to adopt the belief that the animal in question that he has just seen laying an egg is not a real chicken. However, when the new information cannot be ignored, existing schemata must be changed or new schemata must be created (accommodation).

[Jean Piaget](https://en.wikipedia.org/wiki/Jean_Piaget)  believes knowledge is constructed on cognitive structures, and people develop cognitive structures by accommodating and assimilating information. Accommodation is creating new schema that will fit better the new environment or adjusting old schema. Accommodation usually comes about when assimilation has failed. Assimilation is when people use a current schema to understand the world around them. Piaget thought that schemata are applied to everyday life and therefore people accommodate and assimilate information naturally. For example, if this chicken has red feathers, Bob can form new schema that says “chickens with red feathers can lay eggs”. This schema will then be either changed or removed, in the future. [Assimilation](https://en.wikipedia.org/wiki/Assimilation_(psychology)) is the reuse of schemata to fit the new information. For example, when a person sees an unfamiliar dog, he will probably just integrate it into his dog schema. However, if the dog behaves strangely, and in a way that doesn’t seem dog-like, there will be [accommodation](https://en.wikipedia.org/wiki/Accommodation_(psychology)) as a new schema is formed for that particular dog. With Accommodation and Assimilation comes the idea of equilibrium. Piaget describes equilibrium as a state of cognition that is balanced when schema is capable of explaining what it sees and perceives. When information is new and cannot fit into existing schema this is called disequilibrium. When disequilibrium happens, it means the person needs to restore the coherence of his cognitive structures through accommodation.

**Schema Theory and Reading Comprehension**

Individuals have schemata for everything. Long before students come to school, they develop schemata (units of knowledge) about everything they experience. Schemata become theories about reality. These theories not only affect the way information is interpreted, thus affecting comprehension, but also continue to change as new information is received. Schemata can represent knowledge at all levels. We have schemata to represent all levels of our experience, at all levels of abstraction. Our schemata are our knowledge. All of our generic knowledge is embedded in schemata. Schemata are not viewed as static but rather as active, developing, and ever changing.

The importance of schema theory to reading comprehension also lies in how the reader uses schemata. Investigators agree that just those schemata most relevant to the reader’s task are activated. Schema theory describes the process by which readers combine their own background knowledge with the information in a text to comprehend that text. The reader actively contributes something to the text. The text is full of gaps which the reader fills in. It provides a certain stimulus and the reader completes the process. It is a form of give and take, a dialogue between the text and the reader.

As a reader progresses through a text he builds up meaning. Meaning, however, does not reside solely in words, sentences or even longer texts. Simply knowing the structures and vocabulary contained in the text is not enough. The text itself does not convey meaning. A text only provides clues that enable readers to construct meaning from the existing knowledge. The important element in reading is the reader’s ability to fit the new information in reading selection to his existing prior knowledge. Reading is a bridge between the known and the unknown. It is an interaction between the new information found in the text and the information already stored in the reader’s knowledge bank. To comprehend incoming information, he must have in his cognitive structure pre-established concepts about the incoming information. In other words, he must already know something--some conceptual knowledge--that he can relate to new information before he can comprehend it. A reader needs to know how the concepts relate to one another. The ability to interrelate concepts leads to greater comprehension. A writer does not express detailed information in the text. This type of information is assumed by the writer to exist in some form in the reader’s mind. This means that he must make inferences when he reads. That is, he must make use of information that is not given and he must retrieve this information from his memory. It is thus his schemata that provide information not given by a text. The concept of schemata, in fact, can explicate why the reader can infer much of what is left unsaid by the writer. For instance, if he is given the information that a person went to a restaurant, paid the bill and left, he will infer that a number of other things took place in this episode. He will infer that this person ordered food, had it served, and ate the food. This information has come from memory and has been stored in some organized fashion. This organization is in the form of restaurant schema. The schemata a reader has help in making prediction and inference. The schemata a reader has play an important role in reading comprehension. The ease and extent of comprehension is related to the degree to which there is a match between the incoming information from the text and the knowledge and information stored in the reader’s long-term memory. A difficulty may arise when there is a mismatch between the reader’s knowledge and the new information from the text. A reader may not be able to correctly understand the intended message found in the text when he does not have enough schemata appropriate to the incoming information, be it linguistic schema, formal schema, and content schema. In other words, a reader may get difficulty in comprehending a text which is beyond his schemata. The reading materials selected therefore should be the ones which are within the reader’s schemata. They must be at an appropriate level of complexity.

All readers carry different schemata (background information) and these are also often culture-specific. Schema theory is based on the belief that every act of comprehension involves one’s knowledge of the world as well. Thus, readers develop a coherent interpretation of text through the interactive process of combining textual information with the information a reader brings to a text. Readers’ mental stores are termed ‘schemata’ and are divided into two main types: ‘content schema’ (background knowledge of the world) and ‘formal schemata’ (background knowledge of rhetorical structure).

According to schema theory, reading comprehension is an interactive process between the text and the reader’s prior background knowledge. Reading comprehension involves one’s knowledge of the world. Reading comprehension is not only a matter of understanding the print on page but, it is the creation of meaning by combining what the print tells with what the reader already possesses as knowledge. To achieve comprehension, it is crucial for the reader to make use of his previous experiences. Reading comprehension as an interaction between what the text provides and what the reader brings to it. The process of reading is an interactive one in terms of combining the reader’s previous knowledge with new ones encountered in text. Reading comprehension is a dynamic construction of meaning. This meaning is the result of the combination of the text’s input, the reader’s prior knowledge, making inferences and relating thoughts. Understanding a text differs from one reader to another. Every reader provides his own meaning according to his own previous knowledge. None can judge his own interpretation to be the one meant by the writer. Therefore, the meaning derived by the reader is a relative one. There will be no single interpretation.

New information, new concepts, new ideas can have meaning only when they can be related to something the individual already knows. Comprehension is making a sense out of text. It is a process of using reader’s existing knowledge (schemata) to interpret texts in order to construct meaning. Many reading experts agree that the schema theory is one of the reasonable theories of human information processing. Schemata are believed to be the building blocks of cognition. For teaching and learning, teachers are expected to use different strategies in order to deal with different students’ preexisting knowledge and schema to maximize students’ learning.

The recent model of reading is based on cognitive psychology and schema theory. In this model, the reader is an active participant who has an important interpretive function in the reading process. In other words, in the cognitive model the reader is more than a passive participant who receives information while an active text makes itself and its meanings known to him. Actually, the act of reading is a push and pull between reader and text. The reader actively makes, or construct meaning; what he brings to the text is at least as important as the text itself. The meaning does not reside ready-made in the text or in the reader but happens or comes into being during the transaction between reader and text. When the reader transacts with the text, meaning happens. Understanding is determined, however, by the reader’s schemata, making what the reader brings to the text as important as the text itself.

**Types of Schema**

Generally, there are three major types of schemata, namely, linguistic schemata, formal schemata and content schemata, which are closely related to reading comprehension.

**- Linguistic Schemata**

Linguistic schemata refer to readers’ existing language proficiency in vocabulary, grammar and idioms. They are the foundation of other schemata. As is known, linguistic knowledge plays an essential part in text comprehension. Without linguistic schemata, it is impossible for the reader to decode and comprehend a text. Therefore, the more linguistic schemata a reader has in his mind, the faster he acquires information and the better understanding he may get.

**- Formal Schemata**

Formal schemata are the organizational forms and rhetorical structures of written texts. They include knowledge of different text types and genres, and also include the knowledge that different types of texts use, text organization, language structures, vocabulary and grammar. Formal schemata are described as abstract, encoded, internalized, coherent patterns of meta-linguistic, discourse and textual organization that guide expectation in our attempts to understand a meaning piece of language. Readers use their schematic representations of the text such as fictions, poems, essays, newspaper articles, academic articles in magazines and journals to comprehend the information in the text. Studies show that the knowledge of what type and genre the text is can facilitate reading comprehension for readers because the type of the text will offer detailed evidence of the content of the text. Nonetheless, compared with the linguistic and content schemata, the formal schemata offer less power in the reading process.

**- Content Schemata**

Content schemata refer to the background knowledge of the content area of a text, or the topic a text talks about. They include topic familiarity, cultural knowledge and previous experience with a field. Content schemata deal with the knowledge relative to the content domain of the text, which is the key to the understanding of texts. Since one language is not only the simple combination of vocabulary, sentence structure and grammar but also the bearer of different levels of the language’s culture. To some extent, content schemata can make up for the lack of language schemata, and thus help learners understand texts by predicting, choosing information and removing ambiguities.

Many studies show that readers’ content schemata influence their reading comprehension more greatly than formal schemata. On the whole, the familiarity of the topic has a direct influence on readers’ comprehension. The more the reader knows about the topic, the more easily and quickly he gets the information of the text. Therefore, if one wants to be an efficient reader, he needs to try to know the knowledge about more fields and topics. Learners with more prior knowledge can better comprehend and remember more the text.