

Module 2-Cognitive and Language Development

Key Terms and Researchers:

1. Information processing model (IPM):
 - a. The model depicts the way in which we take in information through our senses, process that information through our sensory information retain it through our working memory, and store it in our long term memory. Although there is not one particular theorist related to the concept of IPM, the general conceptualization comes from psychologists around the 1950s.
 - i. Keep in mind, in our working memory, we can only store between 7-9 pieces of information at one time, so much information is lost. A quick video about IPM and a more detailed description of the types of memory can be found [here](#)¹.
 - ii. Please refer to the visual aid in the Resources section of this document for a visual depiction.
2. Attention-this concept is directly connected with the memory aspect of the IPM model. If you have trouble paying attention you will have trouble taking in large pieces of information.
 - a. Chunking-this is when you attempt to decipher pieces of information from a larger data set.
 - b. One great website for activities related to a deeper understanding of attention can be found [here](#)².
3. Piaget's stages-Piaget is one of the major theorists in cognitive development and was one of the first scholars to categorize cognitive development into distinct stages. Those stages include (with ages and a key feature):
 - a. **Sensorimotor**- (ages 0-2), object permanence (peek-a-boo will always been fun).
 - Preoperational**- (ages 2-7), egocentrism (children at this age have trouble understanding the plight of others). Think about that student in Kindergarten who thinks they rule the world.
 - Concrete operational**- (ages 7-11), conservation. Think about the experiment where a student could not tell the differences in water volume in different containers.
 - Formal operational** (ages 11+), abstract reasoning. If you are reading this, you are in this stage.
 - i. Please [click here](#)³ for a full explanation of Piaget's stages and some demonstration videos.
 - ii. Also, please see the citations for Piaget's work in the Resources section of this document.
4. Vygotsky-this theorist added to Piaget's conceptualizations, but emphasized the role of socialization and culture in the development of one's cognition.
 - a. Zone of Proximal Development (ZPD for short)- Think of the ZPD as part of an ongoing, every-changing process wherein you continue to learn new skills through being taught by someone who has already mastered them. This is a difficult concept to describe in words, so a visual depiction is provided in the Resources section.
 - b. 4 areas of influence and importance in development according to Vygotsky:
 - i. One's culture has a major influence on their cognitive development.
 - ii. Social factors within that culture also have a significant influence on the individual's growth.
 - iii. Language is a central feature of developing one's cognitive abilities.
 - iv. The role of ZPD is important in helping a child achieve more through the learning process.
5. Executive functioning-this concept has to do with some of your "higher order" thinking skills including working memory, reasoning, task flexibility, and problem solving as well as planning and execution.

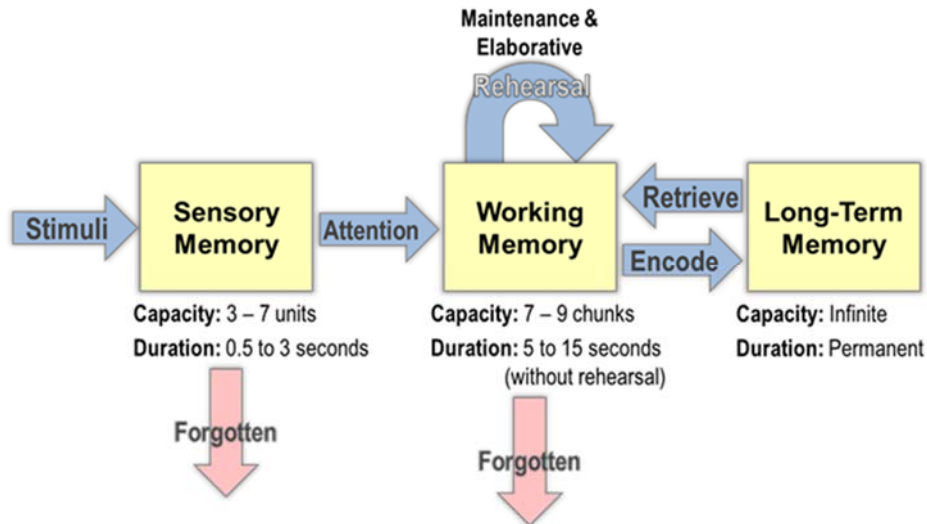
[Click here⁴](#) for more information on Vygotsky including interactive videos and detailed descriptions.

Test your knowledge:

1. Draw the IPM without looking in the Resources Section for help.
2. What are Piaget's stages, the order they are in, and one key feature within each stage?
3. What are 4 key components of Vygotsky's theory?

Module 2: Cognitive and Language Development

Information Processing Model:



Links from Module:

Link 1: <https://www.youtube.com/watch?v=uxr29NWQxEA>

Link 2: <http://www.brainrules.net/attention>

Link 3: <http://www.simplypsychology.org/piaget.html>

Link 4: <http://www.simplypsychology.org/vygotsky.html>

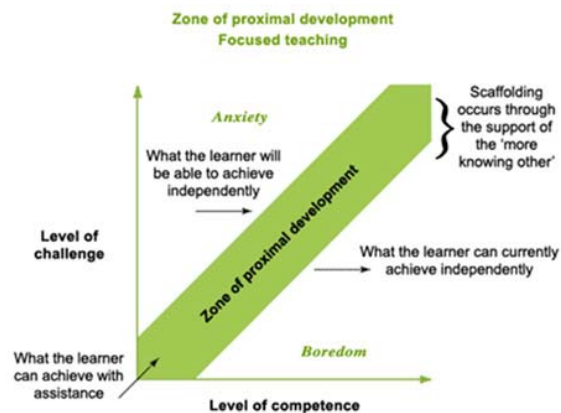
Citations from Piaget:

- Piaget, J. (1970). *Genetic Epistemology*. New York: Norton.
- Piaget, J. (1977). Gruber, H.E.; Voneche, J.J. eds. *The essential Piaget*. New York: Basic Books.
- Piaget, J. (1983). *Piaget's theory*. In P. Mussen (ed). *Handbook of Child Psychology*. 4th edition. Vol. New York: Wiley.

Citations from Vygotsky:

- Vygotsky, L. S. (1962). *Thought and language*. Cambridge MA: MIT Press.
- Vygotsky, L. S. (1987). *Thinking and speech*. In R.W. Rieber & A.S. Carton (Eds.), *The collected works of L.S. Vygotsky, Volume 1: Problems of general psychology* (pp. 39–285). New York: Plenum Press. (Original work published 1934.)

ZPD:



From: <http://www.simplypsychology.org/Zone-of-Proximal-Development.html>