

PIAGET'S, VYGOTSKY'S, AND KOHLBERG'S THEORIES: RESEMBLANCES, DIFFERENCES, AND INTERRELATIONS : A CRITICAL REVIEW***Jeevanithya Krishnan**

Sunway University, Malaysia

Received 16th October 2022; **Accepted** 20th November 2022; **Published online** 30th December 2022

Abstract

Psychology is derived from the Greek word. 'Psyche' means 'soul' and 'Logos' means 'Science'. The first derived meaning of psychology was Science of Soul. Psychology is the study of human behaviours which includes human personality traits, mind, relationship, ethics and moral values, which is hugely impacted by lots of factors, such as family traits, upbringing, social environment, spirituality, childhood experiences, education, and career. Going into a deeper level of human behaviours, a person's state of mind or behaviour is also impacted by three types of human mind, which are subconscious, conscious, and the unconscious mind which is again controlled by all the factors that were listed above. Psychology consists of a large area of study, but the area that will be covered in this paper would be educational psychology.

Keywords: Psychology, Educational Psychology, Human Behaviours.

INTRODUCTION**Educational psychology**

Educational psychology is one of the branches of psychology to study human behaviours and attitudes particularly towards education. C.E Skinner (1952) defines educational psychology as the branch of psychology which deals with teaching and learning". Crow and Crow claim that educational psychology describes and explains the learning experience of an individual from birth to old age". According to E. A. Peel, "Educational psychology is the science of education". Trow (1949) describes educational psychology as the study of psychological aspects of educational situations". Stephens (1956) says, "Educational psychology is the study of educational growth and development". According to Judd, educational psychology is a scientific study of the life stages in the development of an individual from the time he is born until he becomes an adult." In a different context, educational psychology is the study of human behaviours in the field of education which includes student's learning experience, learning method, student attitude towards different learning experience, student-teacher relationship, peer-to-peer relationships, and lastly the influence of all the above experiences on a student's physical and mental personality. Education plays a very important role in a human's life. For a child, education and schooling is the place where he views the outside world after being under parents' care in the beginning years. Education and learning experience play a vital role in shaping one's personality from childhood until adolescent age. Educational psychology however does not only involve learning experiences, but it also includes social, emotional, and cognitive development throughout the lifespan. Educational psychology comprises three branches which is development psychology, behavioural psychology, and cognitive psychology. Development psychology involves human growth and changes throughout lifespan including physical, cognitive, social, intellectual, perceptual, personality, and emotional growth.

Behavioural psychology is the study of human behaviour, but mainly in the context of educational psychology, behaviourism focuses on how students learn in different learning environments. B.F Skinner proposed that we respond to every kind of reinforcement. A person's behaviour and personality are formed through the influence of society and a variety of consequences. These consequences may be monitored by another person (a parent or teacher), or may be naturally occurring in the environment. Behavioral psychology is closely related to personality development in a child. Personality is described as the pattern of thoughts, feelings, and behaviours that make a person unique from others. In plain English, it is what makes you *you*. The four important traits that shape up a child's personality are motivational, cognitive, temperamental, and emotional aspects, which is closely related to the type of parenting the child receives at home.

Cognitive psychology

Cognitive psychology is the science of thinking. It is a branch of psychology that focuses on studies regarding how people think, perceive, remember and learn, Yu-Chia Huang (2021). Cognitive psychology is closely related to schema, as stated by Piaget (1952) as "a cohesive repeatable action sequence possessing component actions that are tightly interconnected and governed by a core meaning". According to Piaget, schema consists of assimilation, accommodation, disequilibrium, and equilibrium. Assimilation is the process of receiving new information in addition to an existing knowledge. Children will try to make sense of the new information based on the knowledge that they already have regarding the subject matter. Accommodation is the process of adjusting and blending new information to the existing knowledge to form a new conclusion. During accommodation equilibrium and disequilibrium can happen. Equilibrium occurs when a child's schemas agree with most new information through assimilation. However, disequilibrium occurs when the new received information contradicts with their current understanding of the matter. In that case, children will make necessary modifications to accommodate the new

knowledge. After the adjustments were made, equilibrium occurs again.

Piaget Theory of Cognitive Development

Jean Piaget was a forefather of modern child development theory. Piaget's theory focuses on development and learning theories (Barbara Lake and Tandra Pope, 2008). Piaget proposed that children's cognitive development occurs through a series of stages from newborn to adult, where each stage represents a distinctive period of development. In other words, it is a constructive development of a child in response to the interaction with the environment (Oriando M Lourenco, 2016). Jean Piaget proposed that cognitive development in a child occurs through four series of stages: sensorimotor, preoperational, concrete operations, and formal operations.

Sensorimotor stage

Sensorimotor stage occurs from infancy to two years, where a few cognitive abilities are developed during this stage such as object's permanency and self-recognition. During the early stages of sensorimotor level, a child will learn new things by using their senses such as hearing and touching. That explains the actions of an infant grabbing and sucking things given to them. They make sense of things around them by feeling and "tasting" it. Moreover, at the early stages of sensorimotor level, infants live in the present and do not store memory of the world that exists around them, and that makes them assume that an object disappears when it is out of sight. At the end of the sensorimotor stage a child learns that an object still exists when it is out of sight, and he or she can still search for it when it is not there. At the end of the sensorimotor stage, they learn to recognize themselves when someone calls them, and realise that words can be used to describe an object or situation, and words can be also used to express their own feelings.

Preoperational Stage

Children's preoperational stage occurs between the age of two to seven. The preoperational stage is divided into two main stages which is the symbolic function stage and the intuitive thought stage. The symbolic function stage occurs between two to four years of age, where a child will be able to represent an object mentally although it is out of sight. They learn symbolic representation and they start to use language to represent things they observe, and to express their feelings. The second stage is the intuitive thought stage, where a child concentrates on intuitive thinking rather than perception in problem solving skills. During this stage, children will begin to ask questions about the world around them to understand the world from their own reasoning. This will lead to egocentrism, where children view the world from their own point of view.

They interpret their surroundings and the world they are living in based on their own observation and immature reasoning. Children's thoughts and communication are egocentric where they only focus on themselves and they assume that people think the same way as they do. This explains children's dismissive behaviours when they receive advice or rejections towards their actions. As the preoperational stage develops, egocentrism begins to decline and children start to enjoy other children's company, and pretend play becomes their favourite activity. Children would be able to imagine an object as

something else in their mind. Some toddlers pretend to be people they are not (superheroes, their parents, or any cartoon character) and may play with their own toys which they assume as objects for their role play. Children without siblings may invent an imaginary playmate during this stage. Children also portray animism during these stages, where they assume that each and every object is alive as human beings. This can be observed during some scenarios where toddlers are very attached to their teddy bears and they bring it everywhere they go. The preoperational stage is all about learning to remember events and objects although they are out of sight, and to be able to express their memory in the form of words.

Language ability is hugely improved during this stage where children learn to use language to make a request for themselves and express themselves more clearly. Toddlers begin to socialize with peers and include them in their activity. They are able to observe events in the form of cartoons and real-life situations and portray the role themselves in the form of pretend plays. This is also another form of cognitive development where children observe, interpret the knowledge, and present it in forms of pretend play. During this stage, children begin to differentiate between past, present, and future. However, they are still not good in determining the reversibility of the events.

Concrete Operational Stage

In this stage, children begin to think logically about concrete events such as mathematical operations and principles, conservation, reversibility or classification. Children develop logical reasoning about real situations without being influenced by changes in appearance. However, this is limited to physical objects. Children in this stage start to show interest in games such as number games, logic games, crosswords puzzles, remote control toys and STEM toys. They will be eager to practice logical thought processes and learn about how things work. Egocentrism which has developed during the preoperational stage begins to disappear as toddlers begin to consider other people's feelings and opinions. They begin to understand that they are unique in their own way, and not all people necessarily think like them. One important development in this stage is the understanding of reversibility. Children become aware that an action can be reversed.

Formal Operational Stage

The final stage of Piaget's cognitive development begins approximately at the age of twelve and continues till adulthood. This is when an adolescent begins to think in a different manner, as the thinking process starts to change from being confined to the ability to think abstractly (Oriando M Lourenco, 2016). Children can now be able to contemplate ideas about situations that they have never directly encountered, come up with theories, and consider possibilities. Children are able to analyse a situation and generate potential solutions to the problems in systematic fashion. Through "hypothetical-deductive reasoning" teens are capable of generating predictions, hypotheses, solutions and answers to general matters as well as scientific matters. Children become more aware of people's thoughts and ideas as well as their own. Additionally, abstract understanding of religious ideas or morals, ethics, principles such as freedom and dignity will be developed among people during this stage.

Lev Vygotsky's Sociocultural Theory

While Piaget's theory focuses on how children develop their cognitive abilities constructively by their own thinking abilities and talent, Vygotsky introduces a different concept on children's improvement through social and cultural environments. Vygotsky claims that a child's development occurs differently in different cultural circumstances. The progress of a child's development also depends on the culture they live in. For example, children who go to kindergarten from nursery will have different communication and learning styles compared to a child entering kindergarten from the family. Vygotsky theory starts with self-regulation, through the mastery of language and thought. This is known as private speech. During this point, an important transition from external to internal speech will occur through the mastery of language. Children are involved in conversations with peers, they learn the language and soon after apply it to communicate with themselves. This transition period occurs between three to seven years of age. Children talk to themselves or their toys or imaginary friends loudly when they are trying to complete a task. After a while, this become a norm among children, and they will be able to complete the task without verbalizing it. At this stage, children have mastered the art of inner speech which becomes their thoughts. According to Vygotsky, children use private speech for self-regulation to monitor their own behaviour and to guide themselves, hence making them more socially communicative. This fact has been supported by Winsler, Carlton, and Barry (2000). Berk and Spuhl (1995) found that children who use private speech are more attentive and better performers than children who do not use private speech.

The zone of proximal development (ZPD) plays an important role in children development. Zone of proximal development involves types of tasks that are within the child's capability to complete it, and also the tasks which are beyond the child's level. For the tasks that can't be accomplished by the child alone, it can be completed through Scaffolding. Scaffolding is the process of completing a task through the assistance of an instructor or a peer who is at a higher-level skill. Through interaction with teachers and peers, children learn new methods and skills for problem solving before they become independent. Through Scaffolding, Vygotsky emphasizes that knowledge can also be learned through assistance and communication with people. Vygotsky also emphasizes on the importance of cultural tools such as books, television, radio, computers in a child language and cognitive development. Cultural tools provide additional knowledge and understanding in different forms. It can be utilized to increase children's understanding in various field apart from what they are taught in school. One example that I have observed is, children who watches educational videos in YouTube have better vocabulary efficacy compared to children who are not being exposed with technology tools. It is agreed that exposure to technology tools during very early ages is questionable, but a limited usage for the sole purpose of assisting the child's language and communication skills should do some good. Some "traditional" mothers keep children away from all kind of technology tools. But soon after, during their children's preschool activity, they realise that the children are lagging behind their peers in terms of vocabulary and language efficiency, compared to other children who watch educational videos in YouTube.

Piaget vs Vygotsky: A comparative Review

Piaget theory is more self-centred where children use their own ability to observe, interpret, and accommodate new knowledge. Whereas, Vygotsky gives opportunities to children to learn new things through interaction and connection with their surroundings. Piaget ignored social and cultural groups in his research, but in reality, these two factors play an important role in shaping a child's personality. Piaget derived his theory from the observation of his own children, who grew up in an elite community where their basic needs for education were being met. His children would have been occupied with plenty of educational tools to support their cognitive development. Whereas, this might not be possible to other groups of society. In that case, their cognitive development might be dissimilar to what Piaget has proposed. There has been lots of evidence supporting that children from lower class of society are lagging far behind in terms of cognitive development compared to the children in the rural society. There is a question about Piaget's theory regarding the validity to all children from all walks of life. Cole (2006), stated that the age at which children acquire conservation skills is related to the extent to which their culture provides relevant practice.

Children from stable families (educationally and financially) go to pre-school as early as the age of two, whereas children from lower levels of society might only start their school at the age of six. In this case, learning among these children occurs through social and cultural exposure instead of a constructive approach as argued by Piaget. Due to the lack of educational support in terms of teachers and tools among children in lower classes of life, these children have to strongly depend on their surroundings and peers to learn new things. Vygotsky theory of learning plays a better role in the development of children in rural areas. They learn through playing time with other children in the same housing area. Some of them might even follow their parents to work (due to lack of child care support), and their cognitive development grows through observation of the culture they are being exposed to. Children from this background, have a different learning experience, where they learn through actions or experience with a lot of exposure to their environment, be it through their peers or even through interactions with adults. Children who gain knowledge through their surroundings, as argued by Vygotsky, will also apply Piaget theory of schema to adopt the knowledge through the process of assimilation, accommodation, and equilibrium. Children from these areas learn casually without stages, through social and cultural exposures but with the support of Piaget's theory of schema as well.

Moreover, Piaget's theory is very rigid where it limits a child's development through stages. During this modern era, child language and cognitive development accelerates with the help of technology tools and exposure to pre-school education as early as in the age of two. Some stages described by Piaget might occur earlier in children with the help of teachers and technology tools. Piaget underestimates a child's capability of cognitive development. This has been argued by Hughes, 1975. Whereas, Vygotsky emphasizes on the zone of proximal development, stating that some tasks are too difficult to learn alone, but can be learned with the assistance from adults or more skilled children. Piaget limits the activities and tasks for children according to their age, whereas Vygotsky gives freedom to children to explore new things with the guidance of

skilled peers or teachers. Children's learning interest and curiosity is boundless. I strongly feel that children would be willing to learn new things if we allow them to. Hence, instead of limiting their capabilities with constructive approaches we should give them the flexibility to explore new things. Another notable example is, babies develop schemas for familiar faces at around eight months old. They are aware of strangers and always show preference to be carried by familiar people. This is in contrast with Piaget's claim where schemas develop at the age of two. Although Piaget and Vygotsky offered distinctive approaches to cognitive development, both of them are connected together in the role of children development. For example, during the preoperational stage in Piaget's theory, children develop egocentrism where they think that their opinion is always right and others share the same view as them. Egocentrism can only be solved through mingling with other children to cultivate the habit of acceptance. This explains why a child with siblings behaves friendlier and accommodating compared to children who grew up alone, who are more rigid to new ideas. Vygotsky's theory on social interactions plays an important role in reducing a child's egocentric view during the preoperational stage.

Learning through social and cultural influences as argued by Vygotsky have some negative implications as well. Children will receive lots of information which includes the relevant and irrelevant one through social communications. Here, Piaget's learning theory helps the children to determine the validity of the information that they receive and to differentiate between the positive and negative ones. One example is children tend to use the same vulgar words said by their peers or even adults thinking that it is right. At this stage, when they receive disapproval towards their actions, they go through the process of disequilibrium since it is in contrast to what they believe. They assimilate, accommodate and come to a final solution that not all actions they observe can be followed. They understand that there are certain limitations of what should be done and should not be done. During the formal operations stage, especially in hypothetical-deductive reasoning, social and cultural influences play a highly significant role in determining a person's view on any life related matters. The cultural and social environment that children are living in, influences every aspect of a child's life including decision making, choice of education, the choice of profession, language skills, and lifestyle. This is strongly interrelated to Vygotsky theory as well as Kohlberg's theory of moral development.

Kohlberg's Theory of Moral Development

Kohlberg's theory of moral development is a theory that focuses on how children develop morality and moral reasoning. It is an extension of Piaget's theory of moral development. Kohlberg, described moral development in two main stages which is divided into six sub stages. Piaget stated that moral development in children consists of two stages mainly known as Heteronomous Morality (which occurs between five to nine years of age) during the preoperational stage and Autonomous Morality (which occurs from nine to ten years of age) during concrete operational stage. Heteronomous Morality also known as moral realism is the morality exposed from the outside. This means that children believe that they must always obey the rules imposed by higher authority in the form of parents, teachers, or adults. Any

actions of breaking the rules will lead to punishment. At this stage, children's moral reasoning is mainly focused on obeying rules and escaping punishments. Kohlberg describes Heteronomous Morality as Preconventional Morality. His theory agreed with Piaget's concept of obeying rules naming it as Stage one which is Obedience and Punishment. However, he expanded Heteronomous Morality into stage two called self-interest. Kohlberg theory moves on from children avoiding punishment to expecting rewards for good behaviors. During the later years of pre-operational stage children are keener to receive rewards for the good deeds that they project. Their focus shifts from avoiding punishments to receiving rewards.

Piaget's theory of Autonomous Morality, also known as moral relativity is the morality based on one's own rules and evaluation. At this stage, children come out from the fear of punishment and begin to understand morality like an adult. They become less egocentric and begin to accept other people's perspective in their own moral reasoning. They have the ability to evaluate which is right and wrong even if they are not under an authority supervision. For example, children have been taught that washing machine lids are not to be opened while it is functioning. Children will still follow the advice even if their parents are not around, which in pre-operational stage they were simply obeying the rules to avoid punishment. Children continue to refine their moral reasoning with the accumulation of life experiences even into adulthood. Kohlberg describes Autonomous Morality as conventional morality. Children begin to accept social rules regarding what is good and moral, and internalize the moral standards they have learned from their role models and society. Children enter stage three, known as interpersonal concordance, where they focus on "behaving nice" to fulfil the social expectations and roles. Stage four known as law and order refers to children following the rules even without the existence of higher authorities for the well-being of the society and environment. Kohlberg extended Piaget's theory into Level three which is postconventional morality which comprises stage five and six respectively. Stage five refers to a social contract where a person understands that certain rules can be broken democratically for a good cause without affecting others. Stage six refers to universal principles, where a person developed his own moral reasoning based on universal ethical principle and abstract reasoning. At this stage, people will follow their own version of rules although it contradicts with the rules of the land. Kohlberg received lots of criticism regarding his research sample and methods. But in my opinion, Kohlberg made a good point of view expanding Piaget's theory into Level three. Piaget's theory, be it cognitive or moral development, is more rigid, suggesting that children should attain a particular stage of development according to their stages. However, some believe that Piaget ignored children's own feelings and abilities, assuming that all children will behave the same way at each level. Kohlberg however, expanded this claiming that a person, although follows law and order at the stage of Autonomous Morality or conventional morality, modifies their perception after reaching a certain stage. As per Vygotsky theory, the social and cultural world has a huge impact on a child's development and the environment that a child grew up in hugely influences his/her moral reasoning in the later age. This is where stage five (social contract) of Kohlberg's theory takes place. For example, a poor child who finds money on the road will decide to keep the money to himself compared to a rich child who might make an initiative to find the owner. A

child who grew up in a financially unstable environment, developed his own moral reasoning based on the life and culture he has been exposed to. He is in desperate need of money, and he justified himself to keep it. It is evident that Piaget, Vygotsky, and Kohlberg are interrelated and dependent on each other. Piaget developed the moral theory constructively, stage by stage while Kohlberg extended the stages, filling in the children's own ability of moral reasoning. The extension of Kohlberg's is supported by Vygotsky theory, where a person's view of the words is significantly influenced by the culture he is living in.

The inter-relations between cognitive, social, and moral development theories in children's personal, social, motivational and emotional stability

Personality is a person's behaviour that distinguishes them from others and makes them unique. Piaget's theory of cognitive development encourages cognitive processes among children such as thinking and judging which positively contributes to conscientiousness, agreeableness, openness, and extraversion. Vygotsky's theory of social development develops a child's personality and beliefs based on the culture that he's living in. Vygotsky theory is closely related to Bandura's and Rotter's Social-Cognitive Theories of Personality which claims that people learn certain behaviours through observing and imitating the behaviour of others. Self-regulation in Vygotsky's theory also plays an important role in shaping up a child's personality. Self-regulation helps a person to understand and evaluate himself in order to exhibit an appropriate response towards his environment. Kohlberg's theory of moral reasoning plays an important role in shaping a child's ethics. A child's moral reasoning and belief will determine the child's behaviour and response to the surrounding. We can conclude that a child's personality is greatly influenced by cognitive abilities, the social and cultural surroundings, and moral reasoning. Piaget, Vygotsky, and Kohlberg theories of cognitive, social, and moral development are evident in a child's personality development.

Implementation of development Theories in 21st century classroom in higher education

Piaget theory is beneficial to design a curriculum structure based on student cognitive level stage by stage. Curriculum design is not only limited to elementary, primary, or secondary schools, but it also plays an important part in undergraduate education. Curriculum design mainly known as study plan is designed to guide students from Year one the final year of their study. Students will have to start with first level courses, followed by higher level courses until the final year of their study. Learning through stages is similar to what Piaget has proposed in cognitive development theory. This is a strong-evidence, which supports that Piaget's theory of cognitive development can be applied to all levels of education from elementary levels to undergraduate and even postgraduate levels. Piaget's theory is also very useful for teachers to understand students' level of thinking in order to align their teaching strategies with their students' cognitive level. One method to monitor student progress from time to time is practising formative assessments among students. Formative assessments are ungraded assessments given for the sole purpose to enhance students' knowledge regarding a subject matter. Vygotsky's theory is applied in technology enhanced

formative assessments in the 21st century classroom, where students learn knowledge from technology tools. Formative assessments are conducted with the help of various technology tools and platforms such as YouTube, Instagram, Socrative, Padlet, and Quizizz. Formative assessments focus on feedback rather than grades. The purpose of formative assessment is to provide feedback to students from time to time so that students are aware of their own progress. Vygotsky's theory of self-regulation is applied in feedback-based learning, whereby students reflect on their strengths and weaknesses and take actions to improve themselves gradually. This is also known as instructional scaffolding. Vygotsky's theory of scaffolding has also been applied in collaborative learning in the form of activities, discussions, and problem solving. Collaborative learning produces active learners where everyone participates in learning. In active learning method, the student plays the role of the constructor of information (Piaget, 1968; Vygotsky, 1978). Active learning is defined as any teaching method that engages the student into the learning process. Vygotsky's theory of the zone of proximal development occurs in collaborative learning where students learn from teachers or peers with higher intellectual level through discussions and group work. Collaborative learning also supports Kohlberg's theory to a certain extent. A lecturer applies Kohlberg's theory when he or she gives rewards for students' participation in class. Kohlberg's theory of self-evaluation takes place when students re-evaluate themselves based on the formative feedback received from their lectures. Group work among students supports Kohlberg's fifth morality stage, which relates to upholding a social contract.

Conclusion

Ultimately, Piaget, Vygotsky, and Kohlberg have significantly contributed to the field of children's cognitive, social, and moral development. They argued children's development occurs in different ways. Piaget proposed that children learn constructively through stages with the help of schema. Vygotsky's theory emphasized on the importance of social and cultural influence in a child's cognitive development. Kohlberg extended Piaget's theory into six stages, describing development as a process of discovering universal moral principles. All theories provide reasonable approaches on teaching methodologies, concerning the children's limits and capabilities at different ages. The development theories can be applied in education for all stages of life. Piaget and Vygotsky theory are still implemented in 21st century education with the help of the advance of technology tools and teaching innovations. Kohlberg theory develops a child's moral reasoning in a different context in the digital era. Similarly, Vygotsky's theory of learning through social and cultural differences is very subjective to the kind of environment children are exposed to. Children are equipped with plenty of technology tools in the current era and language proficiency might occur at earlier stages compared to what has been stated. Piaget's cognitive stages might be also accelerated due to the exposure of various sources of information among children. In the final analysis, neither the theories are correct or wrong but they differ in applications depending on the environment and culture they are living in. Especially with the increase of exposure to technology in the current digital era, teachers have taken a shift in terms of the approach of development theories in the classroom.

REFERENCES

- Baken Lefa, 2014. The Piaget theory of cognitive development: An Educational Implications. Article in *Educational Psychology*. http://moodle4.f.bg.ac.rs/file.php/326/Implikacije_Pijazeove_teorije_ENG_.pdf
- Barbara Lake and Tandra Pope, 2008. Developmental Psychology: Incorporating Piaget's and Vygotsky Theories in Classrooms. *Journal of Cross-Disciplinary Perspectives in Education*, Vol.1 No.1
- Blake, B. and Pope, T. 2008. Developmental Psychology: Incorporating Piaget's and Vygotsky's Theories in classrooms. *Journal of cross – Disciplinary Perspectives in Education*, Volume 1 p. 59 – 67
- Dunlosky, J., Rawson, A.K., Marsh, E.J., Nathan, M.J., & Willingham, D.T. 2013. Improving Students' Learning with Effective Learning Techniques: Promising Directions from Cognitive and Educational Psychology. *Psychological Science in the Public Interest*, 14 (1), 4-58.
- Orlando Lourenco, 2012. Piaget and Vygotsky: Many resemblances, and a crucial difference. *New Ideas in Psychology*, Volume 30, Pg. 281-295.
- Oriando M Lourenco, 2016. Developmental Stages, Piagetian stages in particular: A critical review. Article in *New Ideas in Psychology*. Fiifi Mensah and Beatrice Asante Somuah, 2014. Rapprochement between Piagetian and Vygotskian Theories: Application to Instruction. *Academic Journal of Interdisciplinary Studies*, Vol 3 No 1.
- Ormrod, J. E. 2019. *Educational Psychology: Developing Learners*. (10th ed.) Pearson.
- Santrock, J. W. 2017. *Educational Psychology*. (6th ed.) McGraw Hill.
- Slavin, R. E. 2017. *Educational Psychology: Theory and Practice* (12th. ed). Pearson.
- Syomwene, A., Kitainge, K. and Mwaka, M. 2013. Psychological Influences in the Curriculum Decision Making Process. *Journal of Education and Practice*, 4 (8), 173- 181.
- Woolfolk, Anita, 2004. *Educational Psychology*. (9th ed). Boston: Allyn and Bacon.
- Yu-Chia Huang, 2021. Comparison and Contrast of Piaget and Vygotsky's Theories, *Advances in Social Science, Education and Humanities Research*. Proceedings of the 7th International Conference on Humanities and Social Science Research Volume 554.
