

Music Education: Theories and Understanding

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Education has come a long way with theories in practice that stem from the past and leading into the current educational practices of today. Major learning theories have made advancements and made scientific suggestions for understanding in how the human mind processes information. Many theories have been established to better understand the cognitive development of the human mind. A recent theoretical development was Edwin Gordon and his Music Learning Theory (MLT). This establishes the link into teaching music, and understanding in the way that music is learned and processed. The better understand how these theories work we must first understand the other learning theories.

Constructivism

Constructivism explains how we know what we know (Lamon, 2021). Constructivism is suggested as an alternative to the objectivist model, which states that students must be actively engaged in the subject matter they are learning in order to learn with on reality existing independently of anyone perceiving it. Through the work of Jean Piaget (1896-1980). Piaget's theory suggests that the development of the mind was extraordinary and demonstrates its ability thru the use of adaptive recognition. He proposes four stages in the development of the human mind. He states that as children develop, the information their experiences are reorganized to reflect their new experiences thru assimilation or accommodation (Lamon, 2021). His study proposes these four stages of cognitive development: the sensorimotor stage (Birth to 18-24 months), the preoperational stage (ages 2-7), concrete operational stage (ages 7-11), and the formal operational stage (adolescent years to adulthood) (McLeod, 2020). These stages of development suggest that cognitive development does not in fact stop a childhood, but continues well into adulthood (Hummel, 2003). This understanding and processing is meaningful as ideas

and structures are developed through the process of life. Piaget's theory is in contrast to that of Lev Vygotsky and his Social Constructivism.

Lev Vygotsky (1896-1930) was a pioneer in Social Constructivism. Vygotsky studied cognitive development from a social point of view (Lamon, 2021). Vygotsky views cognitive development as a socially mediated process where cultural values, beliefs, and problem-solving strategies are acquired through interaction with a more knowledgeable member of society (McLeod, 2018). Social Constructivism conceptualizes ideas that are culturally specific, focusing on social speech, private speech, and the self-regulating inner speech. This is demonstrated in the Zone of Proximal Development (ZPD) (McLeod, 2018). Vygotsky's findings suggest that the learning environments should involve guided interactions that permit children to reflect on inconsistencies, and to change their conceptions through communication.

ZPD is a concept that relates the difference between what a child can achieve on their own, and what they can achieve with the encouragement and guidance from a skilled individual, suggesting that this is important in a child's cognitive development (McLeod, 2018). Social Constructivism is important and has elevated to the status of quintessential core practice, meaning that is it perfectly typical, or representative of a particular thing or idea. Vygotsky defines this area of the maturing psychological process, and the understanding of social influence as ontogenesis, because the understanding of ZPD as a model is considered wrong (Marsh and Ketterer, 2005). The idea that cognitive development and processes helps educators understand how students develop and understand and even may help identify behaviors or cause of behaviors, which can even help to determine growth.

Among the primary theorists, there are several others that have provided theories of cognitive development. Jerome Brunner's study was concerned with the modes in which

knowledge was represented and organized. He showed that through three modes of representation: enactive representation (action-based), iconic representation (image-based), and symbolic representation (language-based) is how the mind develops (McLeod, 2019). Bruner states that scaffolding of information is important because it relies on the use of prior knowledge to lead to mastery. This scaffolding that he suggests is called the spiral curriculum, starting from the very beginning and gradually increasing in difficulty, leading to the development of problem-solving skills. With this in mind, John Dewey suggests in his work that through kinesthetic learning and problem solving, that the learner needs to extract ideas and knowledge from their own experiences that are meaningful and important to them (Lamon, 2020). He argued that human thought is a practical problem-solving, proceeding rivaling hypothesis, although these experiences will occur in social contexts. Martha Montessori developed an approach based on active learning, which focused independence, observation, following the child, correcting the child, prepared environment, and the absorbent mind. Montessori believed in treating the learner with respect allowing them to make their choices through exploration, and guidance when necessary.

Behaviorism

Behaviorism was developed to show that behaving is what humans do (Graham, 2019). Behaviorism is essentially the scientific study of behavior, a way of doing psychological or behavioral science itself. Interestingly enough behaviorists consider many of the same concepts as that of the other theories, except that behaviorists believe that there is not an unknowable difference between beliefs and desires. Three very strong claims are made in the doctrine of Behaviorism, the first is that psychology is the science of behavior, not the science of the mind. This suggests that these ideas are not held in separate regard to that of behavior, but looked at

cohesively in determining the cause and effect of behavior. The second claim suggests that when behavior is studied, it can be described and explained without a reference to mental events or even internal psychological processes, which concludes that behavior is external. The third, and final claim suggests that internal mental concepts are used in explanation. After the research has concluded the results are removed and explained as behavioral language. This allows the behaviorist to look at and monitor the behavior before translating it into behavioral terms.

Behaviorists have long been studied in the world, some of them stand out more prominently than others. B. F. Skinner is one of those researchers, his study of behavior offers a socio-political view on behavior. Skinner is considered the father of Operant Condition, which is the method of learning through positive reinforcement, suggesting that an individual will more likely repeat a behavior if the behavior is followed by something positive. His theory was developed based on Thorndike's Law of Effect (McLeod, 2018). Skinner used three types of operants in his research neutral operants, reinforcers, and punishers, suggesting that each would determine how the behavior was received, identifying positive and negative reinforcement. His research failed to take into account the use of cognitive factors which help create and make decisions in how humans react or respond.

Gestalt Theory

The Gestalt theory states that the whole is greater than the sum of its parts (Wertheimer, 1924). The brain processes larger pieces in relation to the whole, rather than individual pieces. The stimulants from all senses react in relation to each another, this is then processed to the area and the space at that time. This theory states that the mind has a tendency to process information completely, but if there are pieces of the puzzle missing then it will fill in the blanks.

Music Learning Theory

Music Learning Theory (MLT) was discovered by Dr. Edwin Gordon, whose study showed how we understand and process music. Gordon's study identified the difference between reciting music that we learned, and a deeper understanding of music and he introduced the term *audiation* to help with the description of that musical thought (Gordon, 2012).

Although MLT is centered on audiation which is used to show a cognitive musical understanding, and what he suggests is the primary goal of music education. Starting with extremely young individuals all the way through adults and older. Music Learning is described as an explanation of music learning based on aptitude, and students' individual learning differences.

Gordon describes the process of musical understand to that in which we learn language. He states that the same process that we use to learn language is the same idea that is used to learn and understand music. In his research is based on five vocabularies: listening, speaking, thinking, reading, and writing (2012, pg. 134). Gordon suggests that music learning begins with the ear, meaning we must first listen, before we can start to understand. Students increase the difficulty of their learning by mastering prior concepts, these concepts are introduced in rhythmic and tonal patterns, which are introduced aurally and orally at first. He introduced a whole-part-whole method which introduces a large picture, then breaks it down in to digestible pieces, and returns back to the larger picture.

Gordon (2012) states that everyone has the capacity to learn and understand music. The earlier that individuals are introduced to music the greater their chance of starting to learn and understand music. The ability to understand music depends largely on their environment and experiences, which means that if they are exposed to music then they have a better chance of

starting to understand earlier. However, Gordon suggests that music understanding, and the start of the learning process can be measured through a series of aptitude tests which he has developed. MLT is very similar to the constructivist theory, stating that understanding is based upon different stages of development. Gordons stages of preparatory audiation are structured very similar to the stages of Piaget's cognitive development theories: acculturation (birth to 2-4 years), imitation (ages 2-4 to 3-5 years), assimilation (ages 3-5 and 4-6 years). In these stages ideas, sounds, and other audible pieces are collected, processed, and responded to beginning the process of music learning.

MLT follows constructivist practice building and relying on prior knowledge, learner readiness, and encourages a structured and sequential process. Whatever age the learner is, the sequential process is the same, and the use of the five vocabularies, and the various stages of audiation (2012). Audiation is a strong sequential process, and it must come before notation, music theory, or composition is introduced. This is to ensure that they learner has the understanding and context of what is being read. Gordon provides many states about he important of music and alludes to how learning is not complete without music. MLT is still fairly new, and experimental, however with the correct use of audiation and the correct process of readiness the most effect results will be produced.

The development of learning theories, and theories of cognitive development many discoveries have come to the forefront in education. They provide an understanding describing the reasons concepts are taught, the process in which they are taught and how they are effective. The theorists provided a vast understanding of how the brain works and how we learn. The theories in turn have provided educators a plethora of knowledge and resources to validate the

field of education and show that we are not only educators, but well versed in the development of the mind.

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