

Importance of Motor Development

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Introduction

Motor and perceptual activities cannot be separated. Motor abilities are the foundation upon which perceptual concepts are built, therefore the efficiency of a higher thought processes depends on higher motor abilities and activities. The importance of early perceptual motor development is an area of much research, how early development impact future learning, what is the difference between children with learning disabilities to those of normal children, and how can early education teachers enhance the learning experience to build motor and perceptual abilities are all questions often asked in the field of early education. These areas of interest have resulted in selecting articles that look into the definition of perceptual and perceptual-motor development. Articles that looked at the longitudinal outcome of children with poor perceptual vs. normal development are also presented. Finally, teachers like music instructors and what they can do to aid the learning process are discussed. Overall, this research paper is focused on understanding the perceptual-motor development, what problems arise with poor development and what schools can do to aid in the learning of these skills.

Body

Many use perceptual skills and perceptual motor interchangeably; however the two are not the same. Perceptual skills are skills that do not need motor or vocal responses like pointing or nodding. Perceptual motor skills require complicated motor and vocal responses like tracing, copying, speaking etc. Differentiating between the two is important in understanding the differences in children with learning disabilities and normal children. The difference lies in perceptual-motor functioning between the two groups and not on perceptual skills. In order to investigate this concept, a study done by Harper looked at the performance of normal children and learning disabled children on selected perceptual and perceptual-motor tasks. 55 LDs (Learning disabled) students and 54 normal students at second grade level were selected for this study. The instruments used to measure these subjects included Motor Free Visual Perception Test (MFVPT), Developmental Test of Visual Motor Integration (VMI), Sound Blending and Visual Closure subtests of ITPA, and two reading subtests of PIAT . Children with learning disabilities scored lower on all the tests except the Visual Closure test. Findings from this study reveal more support for the notion that learning disability might be more perception-motor skills difference than just perception skills (Harber, 1979).

If perceptions are the predecessors to perceptual motor development, then enhancing these skills will in turn result in higher perceptual motor skills. Looking at early behavior differences between children and correlating these differences to perceptual motor development can lead to a better understanding of how children learn.

Investigating this relationship, a study done by Flick looked at the relationship between perceptual-motor functioning and hand-eye dominance. Flick looked at over 400 subjects, both male and female children close to 48 months old. Performance on Copy Forms and Mazes part of the psychological battery were used to measure perceptual-motor functioning. Hand dominance was measured by the preferred hand for the Copy Forms; eye dominance was measured by using a box with hole and light entering to identify the object inside the box. The Stanford-Binet (IQ) test was used to measure intelligence. Findings from this study show that overall deficient perceptual-motor and intellectual functioning in left hand and left eye subjects. Left hand and left eye subjects were the only subjects deficient in intellectual functioning. Subjects using right hand and left eye, or right hand and right eye or left hand and right eye did not show much difference in intelligence to that compared in left hand and left eye dominance subjects. Relationship between left hand and left eye dominance have been linked to various reading disabilities, some even suggest some neuromuscular problems. Findings from this study show that directional confusion is not the only reason for lower intellectual functioning, but rather neurological factors might be at play too (Flick, 1966).

Having a neurological disability early on in life influences development in later years too. But can an individual catch up to their peers if their disabilities are corrected? The impact of early perceptual processing and later school achievements was measured in a study done by Morency and Wepman. Perceptual ability is the necessary precursor to cognitive structures, therefore, visual discrimination, auditory discrimination, visual memory, speech are all abilities that must develop fully to build cognitive structures. Perceptual processing at the time of starting school will continue to affect learning after it

has fully developed which is around age nine is examined in this study. Children entering grade 1 were studied over a period of six years. Students were measured on perceptual development, auditory and visual development through out the study. Results from this study show a strong correlation between early perceptual readiness and later school achievements. Children entering grade 1 with poor perceptual development never catch up to children in achievements with advanced perceptual development even though their perceptual processing ability is fully developed by age nine. The outcome of this study present the immediate need for early education to emphasize the need for perceptual – motor development in young children in order to make these children successful later in life (Morency & Wepman, 1973).

Since early education and experiences build perceptual motor development, what can schools do to enhance this area of development? What are some of the activities and areas that schools and instructors can do to better prepare children for success in life? Perceptual motor development theory states that there is a sequence of learning and these sequences are a hierarchy, where learning is based on the successful completion of the stage before. “Learning starts with motor movements to obtain sensory information here perceptual exploration is verified through motor movements, then dealing with perceptions in groups and later into conceptualizing,” Completing one stage is vital to successfully completing the next stage. Children constantly collect, retain and process information from the environment and any break down in any one of these processes will impact later learning too. Most educators take perceptual motor development for granted, however not all children are able to include these skills in their daily readiness skills. Children do not always have the skills in perceptual development; therefore, schools need

to take this responsibility of teaching children especially those that lack it. Education in schools including music classes should incorporate the different areas that children can learn and enhance their concept of themselves and their environment. Music teachers today are not only able to teach basic concepts in music but can also play a large role in a child's growth of perceptual motor development. Today music teachers take on two major tasks, one to have a working knowledge in the field of perceptual motor development and disabilities and two to provide rhythm and movement activities that will enhance motor development. Perceptual motor activities as they relate to music can be divided into three categories: locomotion, balance and body images. Music teachers can develop children in these categories that will intern enhance their motor and perceptual development. Locomotion can be even movement like walking, running, leaping; uneven movements are skipping, galloping, or sliding. Balance mean comprehending ones line of gravity, moving hands in relation to legs, keeping the head up with shoulders down, and strengthening the body trunk to maintain proper posture. Lots of games and dances can help achieve good balance. Body image is being aware of ones body parts, how these parts function and how to make them function. Doing games like head shoulders knees and toes helps understand body parts, knowing left and right and dancing to different movements all develop a child's sense of himself, his body and adds to his motor development. As a child collects information from his environment, activities that add to his experience will help his motor development which intern add to his sensory information and later build conceptualization and these activities in a music class will add value to the whole learning process (Rosenkranz, 1974).

Conclusion

Development in early years is known to be the most crucial time in a child's life. Beginning skills play into future abilities to learn, beginning experiences set the tone of learning and development for children. As a child develops their visual, auditory, kinesthetic, and motor, perception and inter-sensory integration processes, he is learning to gather information from its environment, store this information and eventually process this information. Here the goal of early education should be to train children how to develop this process of information gathering, storing and retrieving. We must remember that the goal of our training is teach the child generalized skills and abilities; performance is secondary for the child who has to use these skills and utilize them all his life. The primary goal must be to give the child the tools that will aid learning therefore, early education must be a time of experiencing a variety of settings, music, games, toys, movements, relationships, friendships and oneself.

It is evident from our research that children who have advanced perceptual motor development will continue to do well in future, and children who have delayed skills have a hard time catching up to others. Activities as simple as dancing, balancing, and walking and others that build these skills can be achieved in any and every early education program. Every experience in the classroom can be designed to train these skills. Therefore, early education must incorporate the social, emotional, physical and cognitive development of children.

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