
The Effects Of Sensory Deprivation On A Child's Cognitive And Socio-Emotional Development

This paper will discuss sensory deprivation and how it can impact and effect one's development as a child. Sensory deprivation is the loss or the partial loss of a sensory stimulation under uncontrollable circumstances. This impairment deprives a child of external stimuli such as sound or light, important and essential sensory inputs become reduced. The rationale for exploring this particular topic in this paper is that this issue is an ongoing problem faced by children, parents and educators across the country, the research around the issue is fascinating and the exploration of sensory defects is captivating and will also be useful for future educators to know. The overall purpose of this paper is to explore how sensory issues influence a child's growth in every way and how these issues can be helped if not resolved. The aim of this research was to apply it to pedagogical practices in primary school classrooms. This essay will begin by discussing the types of sensory deprivations known to date and the affects that they have on a child's cognitive and socio-emotional development and will then move on to how these deprivations are dealt with, both in the home and in a primary school environment.

Causes

Sensory deprivations such as deafness and blindness can be caused in children by numerous factors including. These factors include genetic conditions, an infection that the baby develops in their mother's womb such as rubella or problems with the brain and nervous system. Deafness and blindness can also be caused by premature birth (before 37 weeks) or by foetal alcohol syndrome, this is where the consumption of alcohol causes major health problems to a baby when in the womb. Holte et al. (2006) believe that deaf blindness is caused by chromosomal abnormalities. In relation to deafness alone, deafness can be caused by a range of problems that may occur in a child's early life such as jaundice, a lack of oxygen when being born, or even by dangerous infections such as meningitis. Temporary deafness in babies and young children is a result of glue ear. This is a condition where the middle of an ear begins to fill with fluid that prevents and inhibits hearing. In relation to blindness alone, the causes range from vitamin A deficiencies to more severe causes such as cataracts. Vitamin A deficiencies is the leading cause of preventable blindness in young children and babies and this deficiency causes over 500,000 cases of blindness in children each year. A cataract is when the lens of the eye becomes cloudy or foggy which prevents light from entering the eye. Although cataracts are more common in adults, some babies are born with the condition.

Social Emotional Development

Social emotional development in children is very important for their personal development. 'Social emotional development is the term used to describe the growing child's ability to form secure relationships and to use their emotions productively in interactions with others' (T.S. Hartshorne and Salem Hartshorne, 2011, p. 205). There are three factors that influence a child's socio-emotional development which are attachment, empathy and friendships. At the moment there is a complete lack of research relating to socio-emotional development and sensory deprivation. Jacob (2013) emphasizes the importance of the senses in a child's

learning experiences in life, highlighting that depending on the learning experience some senses will take the lead role in aiding that learning while other senses are used for a support to that lead role. An example would be that the senses of vision and touch play lead roles in learning how to interact with others as a child as vision is needed in order to ensure engagement and touch allows for physical communication. The other senses will then help to give the child a deeper perception of this particular social learning experience.

Effects on social emotional development

Thompson (2014) explains that environmental adversity causes enormous amounts of stress on a child. Sensory deprivations not only cause stress on a child but also on the child's family. If a family happens to be encountering large amounts of stress the parents may not be capable of being care givers for their children and this will therefore impact on a child's socio-emotional development. Thompson points out that this lack of connection between a parent and child due to the stress of a sensory issue can lead to a child's emotional reactivity increasing and cause the child to have poor self-recognition and self-esteem. Low self-esteem and high emotional reactivity will severely destroy a child's social interactions as their confidence to interact with other will be diminished. According to Dammeyer (2011) children who are deafblind are often diagnosed with mental and/or behavioral issues. The International Statistical Classification of Diseases and Related Health Problems made a fascinating discovery that Dammeyer refers to in which 74% of deafblind children developed behavioral problems. Behavioral issues such as tantrums, self-harm, bipolar disorder and anger issues make children's relations with friends and family almost impossible and therefore a child's social and emotional development is damaged. T.S Hartshorne et al (2007) found that children with CHARGE syndrome developed problems with their self-regulation. CHARGE syndrome is a rare disorder which can develop in a fetus and affect many areas of the body including the ear, which leads to deafness. Children with this diagnosis were believed to have problems with their attention span, inhibiting action and self-regulation. Children who have the dual sensory impairment of being both deafblind and having CHARGE disease are found to have severe self-regulation difficulties as they are unaware of the behaviors and actions of other individuals due to their impairments. Socio-emotional development relies on being able to observe the behavior of others, children with impairments are at a loss of learning from other's interactions with the environment.

Cognitive Development

Cognitive Development refers to the building of thought processes in a human, these processes may include problem solving, thinking and making decisions. Piaget's (1936) theory of cognitive development describes how children develop a psychological model of our world. Piaget believed that intelligence was developed through our interactions in the world and through our maturation as a child and that intelligence had nothing to do with genetic inheritance. Jean Piaget's theory of cognitive development states that there are 4 stages before reaching full cognitive ability. The Sensorimotor Stage is when children learn about the world through actions such as listening or grasping. The Preoperational Stage occurs between the ages of two and seven where children learn to use words. The Concrete Operational Stage is next and children's thought processes become more logical in this stage. Lastly the Formal Operational Stage occurs from the age of twelve and upwards when most children would be due to leave primary school education. This stage allows for abstract thinking to begin. It is evident that by having a sensory deprivation these 4 stages would be less achievable for a child. For example,

in the Sensorimotor Stage children evolve cognitively by listening, however if a child is deaf this process is affected.

Effects on cognitive development

One of the biggest mistakes believed by educators is that children with visual and auditory impairments are capable of developing language skills equal to their peers (Fraiberg, 1977). In reality the children with these deprivations are likely to struggle at language development. These children have a very limited access to visual and auditory information that other children would regularly receive from parents, peers and the environment. In recent research, it was discovered that children who encounter sensory deprivations from an early age develop a more self-orientated language and the words that these children go on to use do not have as much depth and meaning as the words of those who are without an impairment (Anderson et al. 1984). Although many theorists believe that grammar is affected mostly by such impairments this is untrue. According to Landau (1997) syntax and grammar mature at a close rate of those children who do not struggle with the difficulty of having an impairment. A theory arose in which hearing loss and lip reading was questioned. 'Quite often hearing loss, whether mild or severe, has a profoundly negative effect on academic performance' (Lisa Packer, 2018). According to the Centers for Disease and Control (CDC) 14.9% of primary school children are challenged by an auditory impairment. Hearing and learning are closely connected, speech and language development depend on hearing ability. Often children who have hearing loss do not receive the attention needed in school which results in disruptive behavior leading educator's and parents to make the mistake that the children have developed ADD or ADHD. Often children's cognitive development is hindered by the frustration that accompanies the trouble experienced trying to hear the teacher in a classroom. Difficulties may arise if the teacher turns their back to the whiteboard and sound becomes blocked out and a confusion of not being able to hear consonants arises. Sensory impairments unmistakably have an impact on cognitive development.

Accommodations Made for Children with Sensory Deprivations to Assist Pedagogical Practice in the Primary School Classroom

Learners who experience a sensory impairment either deafness, blindness or both have usually been educated in separate settings and have been segregated from other students in the past. However, these learners who have been segregated hold similar characteristics to those students who also have disabilities that have been put into regular education (Ford and Davern, 1989). Those children who do not have functional vision, hearing or both, are incapable of learning through visuals and audio. This presents a major challenge for teachers as these are popular means of educating. In order for educators to ensure a cohesive, working programme that accounts for those with sensory impairments a transdisciplinary model must be adopted in order to provide the correct services. This model will integrate the qualities and expertise of each staff and school member together in order to provide for the needs of an individual. Instead of members of staff dedicating a certain time of day to cater for sensory impairments, (for example, hearing training every day at 9:30am) activities to deal with impairments will be integrated into the everyday teaching in the child's classroom (Downing and Bailey, 1990). Instead of requesting the student to leave their classroom to meet their helping teacher, this model requires the teacher to transport to the child's classroom and this ensures that each aspect of education is met. This assist's pedagogical practice in the classroom as this resource

teacher can ensure that the child does not fall behind what is expected of them. Student's with deprivations are capable of being taught through the same systematic process as other students, for example, giving feedback and physical prompting. However, adaptations may need to be made to ensure clear presentation and to cater for the child's remaining visual and/or auditory abilities. Adaptations may include enlarging pictures and print outs intensifying outlines and avoiding the use of lamination due to the glare that comes with it. Tactile teaching techniques are used when there is no sense of visual or auditory senses left at all. Itard (1862) declares that touch is the only sense suitable to use under these circumstances. Touch is a complicated way to learn because the pupil receives small amounts of information which they must then synthesize in order to make sense of the information as a whole. This means that the more information that the student receives the more of a struggle the synthesis will be. Therefore, many theorists and educators prefer the use of the natural environment in the tactile teaching of student's with impairments. Natural cues used in the learning process will allow children to transfer their learning from this training environment to various other areas where they can apply their set of skills (Ford & Mirenda, 1984). An example of sensory deprived using the natural environment would be a child working on their motor skills at lunch time in school by opening a tub of jam. This tub of jam and the time of day which is lunch time act as natural cues for the child to understand what is happening around them and these cues will prompt the expected behavior of the child at this particular time. This clearly assists pedagogical practice in a primary school classroom as children are enabled to learn through using physical objects.

Modern Accommodations

School's now provide modern technology to children with visual impairments that make learning less of a complication for them. Many schools across the country are equipped with modern screens which transfer the information wrote on either the whiteboard or on the interactive whiteboard onto the screen which is placed on the child's desk who has difficulty with learning visually. Children who are partially visually impaired benefit from these inventions, such screens are widely used for children who suffer from albinism. Albinism effects the development of the central part of the retina called the macula. Such accommodations evidently support pedagogical practices in the classroom as children are successfully provided with an alternative to learning the same as their peers through the screen provided to them.

Conclusion

The aim of this investigation was to become as knowledgeable as possible about sensory deprivations including early identification, the various causes, the effects on both socio-emotional and cognitive development and the ways in which schools cater for children with such impairments. Once all information was successfully gathered the implications of the research for pedagogical practice in the primary school classroom could be explored. While the argument still stands whether sensory deprivations affects a child's socio-emotional development or cognitive development more it is clear from the above research that these deprivations affect a child's behavior in both areas. It cannot be disputed that a child's behavior is altered when faced with a visual or auditory difficulty. Behavior becomes disruptive in both a social and educational scene as children becomes frustrated due to not being able to learn and integrate themselves into the desired social scene due to having a visual and/or auditory impairment. Also evident from the above research children with sensory deprivations sometimes cause stress on their parents lives which causes a void between parent and child resulting in low self-

esteem for the child. This led the research onto the area of the transdisciplinary model of teaching where children's needs are met in schools which would therefore boost their self-esteem. As regards to learning it is undeniable that impairments have a huge effect on children's schooling due to having to learn differently than peers and with visual and auditory resources being two of the most popular resources used in teaching today. Until researching the accommodations available in schools, the amount of measures and teaching methods provided for children with special needs was unknown. Not only do educational facilities provide physical help to children with impairments but they also provide teaching strategies that work to provide an education for these children that will give them as much opportunity as any child will receive. Having carried out this investigation it is unquestionable that socio-emotional and cognitive development are strained by sensory deprivations.

References

1. Dammeyer, J. (2011). Mental and behavioral disorders among people with congenital deaf blindness.
2. Hartshorne, T. S. (2011). Behavioral phenotype in CHARGE syndrome. In T. S. Hartshorne, M. A. Hefner, S. L. H. Davenport, & J. W. Thelin (Eds.), *CHARGE syndrome* (pp. 317–326). San Diego, CA: Plural.
3. Anderson, E.D., Dunlea, A., Kekelis, L.S. (1984) 'Blind children's language: resolving some differences.' *Journal of Child Language*, 11, pp 45-64
4. Landau, B. (1997) 'Language and Experience in Blind Children: Retrospective and Prospective'. In: Lewis, V., Collis, G.M (Eds) *Blindness and Psychological Development in Young Children*. Leicester: BPS Books, pp 9-28
5. Downing, J., & Bailey, B. (1990). Developing vision use within functional daily activities for students with visual and multiple disabilities. *RE.view*, 21, 209-220
6. Bruner, J. S. (1959). The cognitive consequences of early sensory deprivation. *Psychosomatic Medicine*, 21, 89–95.
7. Zubeck, J. P. (1964). Effects of prolonged sensory and perceptual deprivation. *British Medical Bulletin*, 20(1), 38–42.
8. Lisa Packer (2018) How Reading Loss Impacts a Child's School Performance. Retrieved from <https://www.healthyhearing.com/report/52433-How-hearing-loss-affects-school-performance>
9. Jean Piaget's Theory of Cognitive Development (2018). Retrieved from <https://www.simplypsychology.org/piaget.html>