
Correlation between cognitive development and language development

BY

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Introduction :

Recent research has revealed that there is a correlation between cognitive development and language development in children. According to Meng (2015), a child's competency in language makes a significant impact on their performance at school. This claim suggests that children who are competent in language are able to easily communicate with their peers and teachers at school. It is through such communication that the children are able to perform well within the school setting. Children who are not equipped with language skills may have difficulty communicating with others in a school setting, thus making it difficult for them to be successful with their schoolwork.

Research has shown that children who have impaired language or communication might be affected in other developmental domains such as cognitive development (Liao, Liu, Hsu, Chang, Chang & Cheng, 2014). If a child is unable to hear clearly, the chances are high that they may have difficulties picking up on language cues. This in turn means that they may be unfamiliar with several aspects of language, which hinders their cognitive development, as they are unable to communicate. It is more challenging for someone to develop if his or her means or ability to communicate is limited. The same study by Liao et al (2014) showed that delayed language development could lead to delayed mental ability.

In addition to that, Liao et al (2014) discovered that children with a developmental language disorder had lower performance IQ

that those who did not have a disorder which shows that there is a correlation between language development and cognitive development. In addition to performance IQ, it is also important to note that there is an intimate relationship between vocabulary and reading achievement. If a child has a wide set of vocabulary and has a good understanding of the meanings of the words, then they will easily achieve success with reading because they are able to understand what they are reading (Williams, 2012).

Theory of mind is another important aspect that is related to language and cognitive development. According to Farrant, Mayberry and Fletcher (2012), the theory of mind “involves the cognitive capacity to impute causal mental states in order to explain and predict behavior.” Theory of mind suggests that a child’s language abilities at a younger age such as one or two years can help to predict their cognitive abilities in the future. If the child has high abilities to pick up verbal and nonverbal cues, then one can predict that they will have a strong cognitive capacity. This information confirms that there is indeed a correlation between cognitive development and language development.

Language development typically developing children

Language development in typically developing children may sound like something that is pretty straightforward. There are several factors that influence the development of language in typically developing children. The majority of these factors are biological in nature. For example, according to Vouloumanos and Curtin (2014), one of the most significant factors that influences language development is the sensory system of the individual child. A big part of language acquisition depends on a child’s ability to hear. When the child hears the words being spoken, they then process them mentally to find meaning.

In addition to the hearing abilities, most infants also start by learning how to pay attention to caregivers and the things in their environment. First, they learn to pay attention to their caregiver’s cues

and develop responses to them. Then as they continue to grow, they start to pay attention to things that are around them (Cejas, Barker, Quittner, Niparko, 2014). In doing so, they start to form meaning of these things. Cejas et al call these joint engagement skills where by the child is able to communicate with their caregiver and make connections with different things in the surroundings and also respond to social cues.

One of the ways to enhance the process of joint engagement skills is by having parents read to their infants. Research shows that if parents read books to children during infancy, the children are likely to develop strong literary skills when they finally get to school. (DesJardin, Doll, Stika, Eisenberg, Johnson, Ganguly, Colson & Henning, 2014). It is also important that as parents read to the children, they point show pictures to the children or point out something in their surroundings that is related to what is being read to them. This makes them remember their vocabulary and build on other information.

Role of parents in language development of children (parent-child interaction)

Parents play a big role in the language development of children. It is important that parents provide the best quality care for their children in order to enhance their abilities to develop both cognitively and with language. Li, Farkas, Duncan, Burchinal and Vandell (2013) found that children who received high quality care as infants/toddlers had high cognitive, language and preacademic skills before they were enrolled in school. On the reverse side, the children who had received low quality care had low cognitive, language and preacademic skills. According to Colmer (2014), children from low socio-economic families or disadvantage backgrounds are considered to be likely to make poor progress in early language learning, which in turn has negative impacts on their academic progress.

One of the ways in which parents can help develop their children's language skills is through parent-child book reading.

Parent-child book reading helps children develop their oral language (DesJardin, Doll, Stika, Eisenberg, Johnson, Ganguly, Colson & Henning, 2014). This is especially effective if parents are able to interact with their children by providing feedback and relating stories to personal experiences as they read the book. In order for the children to successfully develop their language skills language, they also must be able to select meaningful signals among the range of stimuli in their environment (Vouloumanos & Curtin, 2014). Parents are therefore encouraged to ask children open-ended questions as a means of allowing them to develop their vocabulary and oral language. Outside of book reading, parents may also seek communicative opportunities that come from naturalistic contexts that allow child comprehension and responding (Colmer, 2014).

Language development of children who are deaf or hard of hearing

Listening plays a big role in language development. That is why language development for children who are deaf or hard of hearing faces a great challenge. According to Vouloumanos and Curtin (2014), a child's attention to speech predicts their later language development. In this study, the children who "listened longer to speech at 12 months scored higher on expressive vocabulary measures at 18 months than infants with shorter listening times to speech" (Vouloumanos & Curtin, 2014).

When it comes to children who are deaf or hard of hearing, it is important to detect these issues at an early stage in life. If detected early, parents can be able to find means of intervention, which will in turn have an influence on the child's language development. Unlike typically developing children, children with hearing loss have significant delays in oral language development (Cejas, Barker, Quittner & Niparko, 2014). The communication between the child and the parent may also be difficult. This may occur because parents of deaf children may not necessarily know how to deal with the situation and may not be familiar with sign language.

Recent innovations have made it possible for those who are deaf or hard of hearing to have a means of acquiring better hearing. This is through the invention of cochlear implants. Cochlear implants help to electronically process sound and transmit the information to the auditory nerve. This helps those who are deaf or hard of hearing to perceive speech and environmental sounds (Kronenberger, Pisoni, Harris, Xu, & Miyamoto, 2013). On average, there are consistent patterns of improvement of speech and languages skills and development for those who use cochlear implants during early childhood stages.

Although cochlear implants are praised for their ability to help with language and speech development, it is important to note that there are some shortcomings. Individuals who have cochlear implants may also experience verbal short-term memory and working memory (Kronenberger, Pisoni, Harris, Xu, & Miyamoto, 2013). This is because of the ways in which verbal input maybe represented through the implants. Some of the other challenges with using a cochlear implant is that they may have slower verbal rehearsal speed and a reduced experience “with real-time rapid phonological coding”, which may affect the sound of words (Kronenberger et al, 2013).

Modes of communication and its relationship to language development of deaf or hard of hearing children

One of the most important modes of communication between children and adults is child directed speech. Child directed speech takes the form of normal or natural conversations between parents (Colmer, 2014). Child directed speech help infants learn about language cues and sentence structure (Bergeson-Dana, 2012). For children who are deaf or hard of hearing, this mode of communication may be successful if they have cochlear implants. In addition to child directed speech, joint engagement is also a mode of communication that can help to develop language in children who are deaf or hard of hearing.

Cejas et al (2014) offers that joint engagement is “the use of communicative acts to engage a social partner’s attention to an object or event with the intent to communicate and share the experience (e.g., eye contact, gestures, affective expression).” Joint communication is key to early language and communication development in children. Similar to child directed speech, joint engagement may be more effective for children who are hard of hearing or deaf if they have a cochlear implant. Joint engagement can be used along with sign language. Sign language is the most common mode of communication for those who are deaf or hard of hearing.

Parents or instructors of sign language should also try to include verbal language when communicating with children who are deaf or hard of hearing. This makes the process of language and communication development somewhat faster. It also helps those who are deaf or hard of hearing to learn how to read lips, which is sometimes essential in some situations where a deaf individual is unable to hear what someone else is saying. In addition, when one uses spoken language along with sign language, those who are deaf or hard of hearing are at the advantage of acquiring both the visual and spoken aspects of language, which is something that a lot of people tend to take for granted.

Conclusion of findings

Overall there is a correlation between cognitive development and language development. The two aspects are somewhat interdependent on each other. For example, high language development might predict high cognitive ability in the future. Also, one’s cognitive abilities might put them in a position to learn faster and develop their language. The quality of care is also essential to both language development and cognitive development. Parents are responsible for exposing their children to materials and experiences that will enhance their cognitive abilities. This may be done through parent-child book reading and joint engagement among others.

Early detection of hearing loss is an essential step towards helping with language development. It is important that if parents suspect hearing loss in their children, they should act on it immediately. The sooner they find solutions, the better the chances of successfully developing language. It is also important to note that new advancements such as cochlear implants may offer a way to control deafness or hearing loss, but they are not always reliable and users may not always be able to perform the same way that typically developing children do.

Personal reflection

The topic of language development is very interesting. I enjoyed learning more about the topic and was surprised to find that a lot of research has been done in this area. This means that this problem is more common than I thought it was. I think this has taught me to not take anything for granted. After this research, several thoughts crossed my mind especially about parenting, education and socio economic status.

With regards to parenting, I think it would be beneficial to include information about language development in prenatal programs. Whereas some of the ideas about parents playing a significant role in language development may sound obvious, I think a lot of people tend to overlook their significance. For example, to me, the idea of parent-child book reading is somewhat foreign and something that is out of the movies. It is not the way in which I was raised and in fact, this kind of reading was something I only got from school. I think that if I had not done this research, I would have never appreciated the significance of something as simple as reading a book to or with your child. Not only does it help with language development, but it goes further to help build a bond between the parent and the child.

Because parents play such a big role in the language development of children, I am interested in knowing more about how parents who are illiterate cope with having children who are deaf or

hard of hearing. After reading through so many articles about language development and parental roles in the process, I thought about the purposes of these articles. A lot of academic research is done on essential topics similar to this. This research produces interesting results that can be surprising every now and then and some research papers (such as some of the ones that I read) may have recommendations for what people can do to overcome the issues.

I wonder if this research is made available to everyone who may need it regardless of whether they are affiliated with an academic organization or not. I feel like this information needs to be readily available for people. I don't think it would be easy for someone who has little education background to acquire such information that has been published in the academic realm. What then is the purpose of academia and academic research?

Another thought that came to my mind was language development in bilingual or multilingual families. It is common these days to have immigrants from different countries coming to settle, for example in the United States. I think this is an area that may have limited research, and yet it is becoming more and more essential. Some of these immigrants may only have fluency in their native languages. How then do they negotiate what language to communicate with their children in? How does their language deficiency affect the language development of their children? Whereas I appreciate the research that has been done on the topic of language development, I think there are still several unanswered questions similar to mine.

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