Effects on Language Development from Birth to Adolescence

The development of language is a complex process which, though often thought to be innate, is also heavily dependent on environmental influences. A child’s home environment can have a large impact on her language development. Schools generally rely on social interaction to teach language. Where a child’s home environment is different from that of the school, she is more likely to encounter problems with language development.

The language development of children begins in utero, where they are conditioned to the phonemes (the smallest units of sounds) of their parent’s native language (Moon, Lagercrantz, & Kuhl, 2013). At birth, children can already distinguish between their mother tongue and other languages (Ramus, Hauser, Miller, Morris, & Mehler, 2000). When they reach the age of around six months, infants begin to babble (Burton, Westen, & Kowalski, 2015). This stage occurs in infants across cultures at roughly the same age, and even includes deaf infants (Emmitt, Zbaracki, Komesaroff, & Pollock, 2015), which indicates that babbling does not depend on speech input. Instead, babbling seems to be innate (Burton et al., 2015).

The innate quality of babbling corresponds with Chomsky’s theory of an innate language acquisition device (Chomsky, 1978). Chomsky argues that humans are born with the neural structures needed to learn any language. As infants take in sounds from their environment, ‘switches’ are flipped to the particular language that the infant is learning (Burton et al., 2015, p.319). Research shows that when infants babble, they reproduce the phonemes of their parent’s native language (Miller & Eimas, 1995). At this stage, they also lose the ability to distinguish between sounds that are treated as equivalent in their native language, drastically reducing the number of phonemes they can identify and reproduce.
(MacWhinney, 1998). This corresponds with Chomsky’s idea of switches being flipped, as infants home in on the sounds needed for their first language.

Chomsky (1978) also introduced the idea of universal grammar (UG). He argues that the learning of grammar cannot be acquired through language input alone, as children are able to construct grammatical sentences that they have never heard before. For example, children often apply a grammatical rule to construct the (incorrect) term ‘hisself’ (Brown, as cited in Burton et al., 2015). Senghas (as cited in Burton et al., 2015) found that children at schools for the deaf in Nicaragua constructed their own sign language, introducing a grammar very similar to the American Sign Language (ASL), even though they had no prior knowledge of ASL. This seems to support the idea of UG. Unsworth (2009) goes on to say “the variation in natural language is captured in a predetermined set of options from which children make a selection on the basis of linguistic input to which they are exposed” (p.23). UG acts like a scaffold into which children assimilate information given by their environment. By 12 months of age, children begin to utter their first words, mainly using concrete nouns in one-word utterances, or holophrases (Emmitt et al., 2015). They then transition into two-word utterances at around 2 years of age (Burton et al., 2015) and by age four are able to speak in fully grammatical sentences (Brown, & Fraser, 1963).

An alternative view of language development has been put forward by Vygotsky (as cited in Nagel, & Scholes, 2016). As opposed to Chomsky, Vygotsky saw language as primarily influenced by the environment (Reunamo & Nurmilaakso, 2007). According to this theory, language begins with social speech around the age of two, as children begin to interact verbally with other humans. Until age seven, children engage in private speech, where they audibly talk to themselves. Finally, inner speech begins to emerge from age seven onwards, where children learn to internalize language into silent thought (Nagel, & Scholes, 2016).
Children’s speech becomes more and more complex as they interact with others, becoming proficient in complex sentence structures at around thirteen years of age (Emmitt et al., 2015).

Evidence does seem to support Vygotsky’s (as cited in Nagel, & Scholes, 2016) assertion that language is developed mainly through social interaction. The most important influence on development comes from interaction with parents or caregivers in the home (Burton et al., 2015). Where parents act as ‘conversationalists’ for their children, expanding on or correcting their utterances, children’s language develops more quickly (Emmitt et al., 2015, p. 254; Hoff-Ginsberg, as cited in Burton et al., 2015). It is interesting to compare this with Vygotsky’s zone of proximal development (ZPD) (as cited in McInerney, 2014). This is ‘the distance between the actual development level of a child…and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers’ (McInerney, 2014, p.57). When parents expand on a child’s utterances, they are working within a child’s ZPD by starting with the child’s current level (signified by the utterance) and guiding her to a more coherent or detailed utterance (the expansion of the parent). Heath (as cited in Emmitt et al., 2015) has demonstrated that parents from a higher socio-economic background are more likely to provide an environment that engages with the child’s language ZPD than families from lower socio-economic backgrounds.

The link between higher socio-economic status (SES) and quicker language development has been well substantiated (Hartas, 2011). Son and Morrison (2010), for example, found a positive correlation between home environment quality and language development. Positive correlations between SES and children’s general achievement at school have been documented by Duncan, Yeung, Brooks-Gunn and Smith (1998). Hartas
(2011) explains this correlation using an investment model. The investment model draws on research by Foster, Lambert, Abbott-Shim, McCarty and Franze (2005), who found that parents with a high SES were more likely to provide language-rich home environments by reading with their children, providing out-of-home enrichment experiences and initiating learning experiences in the home.

As the investment model suggests, parental involvement and children’s development seem to be closely linked. Dearing, Kreider, Simpkins and Weiss (2006) found that children’s literacy improved with parental involvement in school tasks. Although SES and parental involvement seem to be positively correlated (Hartas, 2011; Cooper, Lindsay & Nye, 2000), active parental involvement can remove barriers associated with low SES. A study among mothers with a low SES found that children’s comprehension and vocabulary grew exponentially with increased mother-child reading (Raikes, Pan, Luze, Tamis-LeMonda, Brooks-Gunn, Constantine, Banks Tarullo, Raikes, & Rodriguez, 2006). Dearing et al. (2006) also found that differences in language and literacy performance between children from varying socio-economic backgrounds were only present when there was little parental involvement. Where low-income parents were actively involved in their children’s learning, these differences disappeared. Thus it seems that, though low-income parents tend to be less involved in children’s learning, when they are involved it greatly improves their child’s development in literacy and language. Again, this corresponds well with Vygotsky’s model of learning through social interaction (Melhuish, Phan, Sylva, Sammons, Siraj-Blatchford, & Taggart, 2008).

Learning through social interaction is not exclusive to the home environment. Language learning at school is highly dependent on the social context of the classroom.
(Tompkins, 2009). Tompkins (2009) uses Vygotsky’s model of social speech transitioning into inner speech:

Teachers serve as scaffolds when they model or demonstrate a procedure, guide children through a task, ask questions, break complex tasks into smaller steps, and supply pieces of information. As children gain knowledge and experience about how to perform a task, teachers gradually withdraw their support so that children make the transition from social interaction to internalized, independent functioning [emphasis added] (p.8).

Through social interaction with the teacher, children develop social speech and are then guided (with the teacher working within the children’s ZPD) to an ability of silent or internalized speech (Tompkins, 2009). Where social interaction in the classroom is not supportive, children will struggle with language development (Emmitt et al., 2015).

Conflicts may occur between the language of the home environment and that of the school environment. This may occur when the Discourse (the combination of language, action, beliefs and implicit social rules) of the home does not prepare the child for the discourse at school (Emmitt et al., 2015). The dominant discourse at schools generally reflects middle class values (Morrison & McIntyre, 1971; Hayes, 2013). This means that children from non-middle class backgrounds are less likely to fit into the Discourse of the school environment. Instead, they will have to learn a new Discourse before they are able to effectively engage in language learning at school (Hayes, 2013).

Because language is inextricably linked to culture (Emmitt, et al., 2015), children from cultures that are not the dominant culture will have difficulties with effective language development at school (Hayes, 2013). If the child does not speak English at home, she will
first have to learn English before even discovering the various Discourses within the language. Second language acquisition is not an easy process, and without adequate support, the child will have great difficulties in mastering the language, especially in its written form (Emmitt et al., 2015). Furthermore, the child’s own culture will give her a reference point for language that is quite different from that of the dominant language. This means that much of the accompanying non-verbal communication that the child uses is likely to be quite different from that used by the speakers of the dominant language (Emmitt et al., 2015). Children will not only have to learn the words and grammar of the new language, but also the cultural aspects that come along with it (the language Discourse).

Language learning is a complex process which begins in utero and continues into early adolescence. While Chomsky has argued that language learning is innate, the home and school environments to which a child is exposed can have influence on her language development. Children whose home Discourse is similar to the Discourse of the school have an advantage over children from other backgrounds.

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References


