DISCOVERING THE NON-PROSODIC FACTORS OF INFANT-DIRECTED SPEECH IN LANGUAGE ACQUISITION

[1]PURVA AMIT JANORIKAR, [2]SUSHAMA BHOSALE

[1]College of Engineering, Pune
[2]Principal, Mamasaheb Mohol College, Pune
E-mail: purvajanorikar@gmail.com

Abstract - 'Motherese' or 'Infant-Directed Speech' (IDS) has been a pivotally influential factor in language acquisition. Previous studies have identified prosodic factors of IDS which describe the acoustic features of IDS such as tempo, pitch, sound. Experimental Studies have also explained influence of IDS on the infant's brain through brain imaging techniques. Present paper aims to propose and describe the term of 'non-prosodic factors' of IDS. Through reviews and conceptual description, it aims at identifying features of IDS which accompany the acoustic features.

Keywords - Cognitive Psychology, Language Acquisition, Infant-Directed Speech, Non-Prosodic Factors.

According to Santrock. J.W.(2007), biological, cognitive, and socio-emotional are three types of developmental processes. Extensive research has been conducted on memory functions, language, attention and perception in Cognitive processes. Language acquisition is a broad area of the present paper. Language acquisition refers to the process by which humans acquire ability to comprehend and produce language. According to Chomsky (1968, 1978, 1991), a neural system of the brain hypothesized to permit understanding of language is termed as 'Language-acquisition Device (Feldman, R.S. 2002). The present paper focuses on one of the significant factors of language acquisition called Infant-Directed Speech (IDS). According to Sachs & Devin (1976), Infant-Directed Speech (IDS) may be defined as the distinctive mode of speech that adults adopt when talking to babies and very young children (Siegler et.al, 2003). In conversational terms, it is called as 'motherese', 'parentese' or 'baby talk'. Speech directed toward children elder than infants is termed as 'Child-Directed Speech'. For example, a sentence like "How is my little princess doing", involves addressing one's child as princess with more emphasized phonemes, and a distinct tempo and pitch. Adults or older children talking to younger children are programmed to use this speech. Parents, elders, or older siblings need not be taught to use Infant-Directed Speech. IDS can also be observed among romantic partners, and the speech directed to pets. Previous studies have indicated the importance of IDS on language acquisition of infants. (Kuhl, P.K., 2010).

Infants prefer the IDS over Adult-Directed Speech (ADS) as observed in some studies (Pegg, Werker & McLeod, 1992). Cross-linguistic studies of IDS indicate that after about 6 to 9 months of age, the infants begin to focus their attention on processing their native language more than the other languages (Cooper & Aslin, 1990; Kuhl et al, 2006). Besides, infants prefer mother's IDS over other adults (Fernald & Kuhl, 1987). Though, even fathers and other adults and even other adults do use IDS.

Hence, language development has a strong connection to IDS. The infants tend to process language by listening to the words emphasized in a different pitch and spoken slowly, that is, the prosodic factors of IDS. In older references, two classic ways of studying language development, that is, Jean Piaget's theory of cognitive development and Lev Vygotsky's theory of cultural influence in language development. Here, we would also refer to the current views that followed after these classic points of view: Chomsky's LAD (Language Acquisition Device) that infants develop in the brain, and on the other hand, Tomasello's Usage-based theory which argues the affirmative role of culture, and parents on language development. The theoretical framework of the present study stems from Michael Tomasello's Usage-based Theory of Language Acquisition which asserts that language development is based on the exposure and the use of the language as also shaped by parents and others (Tomasello, 2008).

Rationale

According to the National Portal of India, 9.7 per 1000 is the birth rate of India. Average fertility rate is more than 2 per woman. World fertility rate ranges from approximately 1.36 to 7.24, according to the World Bank figures of the year 2016. Critical period of learning language and impact of Infant-Directed Speech is significant in understanding language acquisition according to many studies. In addition, incidence of many psychological disorders is traced to influences from childhood. Hence, there is a need to work on the age group of infancy and toddlerhood. The present study proposes to focus on the parents' communication to their child in the form of Infant-Directed Speech. Although studies have shown the nature of acoustic features of IDS, it is significant to study the nature and content of this speech also because it influences the little brains more than has been expected in the olden days.

Increasing number of nuclear families pose a need of conscious efforts to shape the child's language acquisition.

Objectives

1. To review the features of IDS and prosodic factors of IDS
2. To introduce the concept of Non-prosodic factors of Infant-Directed Speech

Prosodic factors of IDS

Prosodic factors of IDS refer to the acoustic features of IDS, viz. pitch, tempo, sound etc. (Foulkes et.al, 2005).

These prosodic factors are different in IDS than in Adult-Directed Speech. In IDS, studies indicate that verbal communication is prominent, with a slow tempo and more pronounced intonations (Cooper & Aslin, 1990).

Several references give an overview of the prosodic factors of the IDS through studies conducted through audio recordings; example, Liu, Tsao, & Kuhl (2009). Cross-cultural study on prosodic factors of IDS indicates similarity in terms of rate of speaking and frequency among Fijian, Korean and North American cultures (Broesch.T.L. & Bryant.G.A. 2015). Gender differences in the prosodic factors of IDS indicate more amount of talking by mothers to their child, especially with their daughters and more supportive speech compared to fathers' speech (Leaper et.al., 1998).

Study of IDS involved identifying prosodic (speech related) features of an individual's speech. In the present paper, the prosodic factors are reviewed and the concept of Non-prosodic factors has been termed to describe the features of IDS which accompany prosodic factors.

Non-Prosodic factors of IDS

Non-prosodic factors of Infant-Directed Speech: Infant-Directed Speech (IDS) refer to the non-acoustic factors of speech that adults adopt when talking to babies and very young children.

Non-prosodic Factors have been defined by the author Janorikar P.A. in the present paper as under:

Non-prosodic Factors of the Infant-Directed Speech refer to the content of the speech directed toward the infant or very young children which accompany the prosodic factors of Infant-Directed Speech.

The content, here, refers to the words or vocabulary used in the IDS, the grammatical structure used, the theme of the IDS, and distinct features like, the way we address infants, or, whether we consciously expose them to certain pragmatics, for example, ways of greeting elders and greeting family members.

It must be noted here that the Non-prosodic Factors of IDS are not independent of the Prosodic Factors of IDS because the acoustic features would still remain in any speech, except the communication means for hearing or visually impaired, as sign languages. However, since the focus here is on the content rather than the acoustic features of speech, they have been termed differently as Non-Prosodic factors of IDS. This invites a necessity for studying them distinctly as they represent the substance of the IDS.

However, fewer studies have been conducted on non-prosodic factors of IDS. An instance of that is an Indian study by Afia Dil in the research paper that observes endorsement of patriarchal culture through baby talk.

There have been some studies which can be related to the concept of Non-prosodic Factors of IDS, such as by O'Brien and Nagle.

According to O'Brien and Nagle (1987), mothers' speech was divided into seven categories which include number of words spoken, questions, repetitions, directive statements, statements asking for attention, and imaginative sounds. Cross-cultural study between Indian and Canadian mothers indicates that there is a difference in perception of speaking to children among cultures (Simmons and Johnston, 2009).

Kuhl,P.K., Stevens.E, et al(2006) have noted a substantial record of language acquisition across developmental stages of an infant. They depict how children focus on the mother tongue along with the increasing exposure of the mother tongue and are yet capable of acquiring a wide array of sounds, if they are exposed to a number of languages. This initiates a thought that although IDS is very much imbibed in the adults or older children, there is scope for enhancing language acquisition by training the adults for the content of the IDS, which is different than training them only for pitch, or tempo. For instance, if the parents are taught to expose children to language in a systematic way, considering the content of their own usage of IDS, it could help the children acquire a more enhanced vocabulary.

Non-prosodic Factors of IDS require further investigation on describing the content specifically as the content may encompass a vast pallet of factors like the ones mentioned above; words used or greetings, for instance. In this paper, they have been separately defined conceptually. This separation becomes necessary because the previous studies throw light on the nature of speech, and factors surrounding it, like the influence of IDS on children's language acquisition. By differentiating the Non-prosodic factors, it will be plausible to focus on the parent's or elder's nature of speech considering the matter or content of the actual speech. For instance, some mothers do not prefer using nick-names or pet names to address their children, whereas many of them do.

Suggested methods of identifying and measuring IDS comprise categorizing speech with the help of computer applications according to the content, with respect to emotions, or names addressed to the infant, for instance. The categorization of IDS according to the content is likely to throw light on the nature of speech, like being majorly complaining, or directive, etc.

IDS encompass strong distinctly recognized Prosodic factors. However, Non-prosodic factors need to be

explored further. Describing and distinguishing the concept is sought in order to give a clearer understanding of the use of this rather significantly influential speech for language acquisition.

REFERENCES

[1] Afia Dil.(1971). Bengali baby talk. Word. 27:1-3, 11-27. DOI: 10.1080/00437956.1971.11435612.

[2] Cooper.R.P. & Aslin.R.N.(1990). Preference for infant-directed speech in the first month after birth. Child Development. 61(5). 1584-1595.

[3] Broesch.T.L., & Bryant.G.A. (2015). Prosody in infant directed speech is similar across western and traditional cultures. Journal of Cognition and Development. 16(1). 31-43. Taylor and Francis Group LLC. DOI:10.1080/15248372/2013.833923.

[4] Cooper.R.P. & Aslin.R.N.(1990). Preference for infant-directed speech in the first month after birth. Child Development. 61(5). 1584-1595.

[5] Feldman,R.S.(2002).Understanding Psychology.4th Ed. Tata McGraw-Hill.New Delhi.

[6] Fernald.A. & Kuhl.P. (1987). Acoustic determinants of infant preference for motherese speech. Infant Behavior and Development. 279-293.

[7] Foulkes.P., Dokherty.G., & Watt.D.(2005). Phonological variation in child-directed speech. Language. 81(1).

[8] https://data.worldbank.org/indicator/SP.DYN.TFRT.IN

[9] https://www.india.gov.in

[10] Kuhl,P.K.2010. Brain Mechanisms in Early Language Acquisition.Neuron. CellPress. USA.

[11] Kuhl, P. K., Stevens, E., Hayashi, A., Deguchi, T., Kiritani, S. & Iverson, P. (2006). Infants show a facilitation effect for native language phonetic perception between 6 and 12 months. Developmental Science 9:2. F13-F21. Blackwell Publishing Ltd.

[12] Leaper.C., Anderson.K.J., & Sanders.P. (1998). Moderators of gender effects on parents' talk to their children: A meta-analysis. Developmental Psychology. 34. 3-27.

[13] Liu.H.M., Tsao.F.M, & Kuhl.P.K.(2009). Age-related changes in acoustic modifications of mandarin maternal speech to pre-verbal infants and five-year old children: A longitudinal study. Child Language. 36. 909-932. DOI: 10.1017/S03050009080092.

[14] Pegg.J.E., Werker.J.F., & McLeod.P.J. (1992). Preference for infant-directed over adult- directed speech: Evidence from seven-week-old infants. Infant Behavior and Development.15.3.325-345. Retreived from https://doi.org/10.1016/0163-6383(92)80003-D.

[15] Santrock.J.W.(2007). Child Development.11th Ed. Tata McGraw-Hill Publishing Company Ltd. New Delhi.

[16] Siegler.R., Deloache.J., & Eisenberg.N. (2003). Children Develop. Worth Publishers. New York.

[17] Simmons.N. & Johnston.J.(2009). Cross-cultural differences in beliefs and practices that affect the language spoken to children: Mothers with Indian and western heritage. International Journal of Language and Communication Disorders. 42. 445-465. Tandfonline. Retreived from https://www.tandfonline.com/doi/abs/10.1080/13682820600988892.

[18] Solso.R.L. (2006). Cognitive Psychology. 6th Ed. Pearson Education. New Delhi. India.

[19] Tomasello.M. (2008). The Usage-based theory of language acquisition.//FS2/CUP/3-PAGINATION/CHEL/2-PROOFS/3B2/9780521883375C05.3D.Retreived from https://www.princeton.edu/~adele/LIN_106:_UCB_files/Tomasello-BavinChapter09.pdf

★★★