

PRAGMATIC CHARACTERISTICS OF INFANT DIRECTED SPEECH¹

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ABSTRACT

A longitudinal study of the pragmatic characteristics of the Infant Directed Speech (IDS) of middle class Thai mothers when talking to their babies at birth (Newborn), and when the infants were 3-, 6-, 9-, and 12-months-old was conducted. Three aspects were investigated: (1) the verbal acts which the mothers use with their infants using the framework of Thai linguistic action verbs (LAVs), and speech act verbs (SAVs) found in IDS; (2) the use of interrogative sentences in IDS both in quantitative and qualitative terms, and (3) the use of final particles incorporating both the status and mood particles which the mothers use in IDS.

Regarding SAVs, overall IDS was made up of 38.6% expressives, 23.2% assertives, 20% directives, 15.3% questions, and 2.4% interaction-management. Comparison of SAVs in IDS directed to the five age groups shows a similarity in the pragmatic characteristics of the 3- and 6-month-olds, as opposed to the 9- and 12-month-olds. IDS to Newborns is unique compared with these two groups. It was found that 27.8 % of the IDS utterances were interrogatives, with a peak incidence of interrogatives at 3 months. The incidence of Yes-No interrogatives decreased as the age of the infants increased, whereas the incidence of WH- interrogatives increased as the age of the infants increased. Regarding the type of information mothers were seeking in WH- interrogatives, VP information-seeking is prominent for the Newborn and 3-month speech, but decreased as the infants got older. NP information-seeking was low for speech to the Newborns and 3-month-olds, and increased in speech to the 6-, 9-, and 12-month-olds. The information-seeking in adjuncts (location, time, manner etc.) was high in the 9- and 12-month-olds, when the infants were able to move about and started to explore their physical world. Interrogatives are used mostly for didactic functions; mothers asked and then answered the questions themselves. A large number of repetitive question forms are found, and these are used to draw the attention of infants in the mother-child interaction. Analysis of the use of the final particles reflects very clear didactic and emotive functions in IDS.

The pragmatic characteristics of IDS during the first twelve months of the infants' lives varied significantly across ages. Mothers adapted their communication strategies in talking to their babies. These variations were found to help accommodate the mother-child interaction from the time when the infants were not able to communicate at all (Newborns), to the time when they started to communicate with nonverbal acts such as gazing, smiling and crying with eye contact (3 to 6 months), and in turn to the time when they started to communicate with

hand touching and rudimentary verbal communication (9 to 12 months). IDS input is not just input data for infants to learn linguistic forms, but plays an important role in the development of the linguistic behaviour with the ultimate goal of communicating with other human beings successfully.

1. Theoretical Background

The great debate in the 50s between the two oppositions (Skinner 1957, Chomsky 1959) on language acquisition theories is whether we learn the language through our experience or whether the structure of language is biologically specific to humans as part of their genetic endowment or "innateness". Although these two opposite theories are so different in terms of what determines language acquisition, parental modeling or innate knowledge of universally valid syntactic properties of language, they share some common interest. Research on language acquisition from these two schools of thought put the emphasis on the forms or the rules governed the forms of the output language. Arguments are based on the production of the child as related to the parental modeling, or on the output language revealing the rationality in linguistic competence. An aspect which these two schools do not pay attention to is the study of the input parental language especially in the first year prelinguistic period or to use Brown's representation of human infant as a conjunction of values of these features [+ inspiring affection, + inspiring tenderness, + inspiring intimacy, - verbal production, - verbal comprehension, - cognitive competence] (Brown 1977).

We may say that the human infants in their first year of life do not acquire verbal production. However, we may not say for certain that they do not acquire verbal comprehension and cognitive competence. They can communicate with us with nonverbal language and can comprehend our verbal representation quite well at the age of 9 to 12 months. Human as a social animal acquires linguistic competence to fulfil their need to communicate with other human beings. Human does not acquire just the forms of the language, s/he also acquires the functions of it, i.e., the communicative competence is as essential as linguistic competence in cognitive-linguistic competence. In the early 70s there was a trend moving towards the research on the input language, not as the modeling language but rather as the social interaction between the infants and adults (Snow and Ferguson 1977). Snow stated clearly that the first descriptions of mothers' speech to young children were undertaken in the late sixties in order to refute the prevailing view that language acquisition was largely innate and occurred almost independently of the language environment (Snow 1977, 31). Research in infant-directed-speech - IDS across languages (Fernald et al 1989, Greiser and Khul 1988, Kitamura 1992, Khaonoo 1996) reveals common prosodic characteristics of IDS: high utterance pitch, longer mean length of utterance. It

also reveals that there are common pragmatic characteristics of IDS (Snow 1994; Bornstein et al 1992; Newport 1976; Fernald and Mazzie 1991) : affection oriented speech, high proportion of questions.

Studies of IDS across languages and across age groups exhibit developmental changes of the communicative intents in IDS (Snow 1977). However, these studies are based on cross sectional selection of mothers of infants at different ages. There is no work which is based on the longitudinal study of the speech of the same mother speaking to the same infant at different time in s/his first year of life. This study is based on a longitudinal data collection of 12 mothers talking to their babies at their first week of life (newborn) and when the infants were 3-, 6-, 9- and 12- months old.

2. The Input Speech Acts

Three aspects of the pragmatic characteristics were investigated : (1) The verbal acts in the speech of the 6 mothers directed to their infants (Thanavisuth 1997) (2) The forms and functions of interrogatives of the 4 mothers conversing with their infants (Sittigasorn 1997) and, (3) the phonetic characteristics and the use of final particles of the 2 mothers in our corpus (Rukkarangsarit - on going research).

2.1 The Verbal Acts of IDS

The verbal acts of our 6 subjects who are mothers of 3 female infants and 3 male infants were investigated. We have an inventory of 360 verbs of utterance in Thai. These verbs are followed by the word /waa 2/- to say, to signify their status as linguistic action verbs - LAVs (Verschuren 1985). For example : /khaw4 phuut2 waa2 cep1/ (he, say, say, painful) "He said that it was painful." or /khaw4 thian4 waa2 maj2 chaj2/ (he, argue, say, no, yes) "He argued that it was not so." After we analysed the speech of our subjects into utterances using auditory pause, we examined these 13,639 utterances in terms of speech actions,i.e., what the mother was doing to their babies using words. These LAVs can be analysed into 6 major types of SAVs, depending on their illocutionary points, the assertive, commissive, directive, declarative, expressive and turn manipulative. The first five types belong to the framework proposed by Verschuren (1990) and the last is our own category. We found only 24 LAVs which the mothers used. A bottom-up analysis of these LAVs, using Searle's (1969) and Verschuren's (1990) theory of Speech Acts, was done. Five major types of SAVs are found, commissive is not found in our IDS data. They are the expressives (38.6%), assertives (23.2%), directives (20%), questions (15.8%) and turn manipulatives (2.4%). Details are shown in Table 1 below.

Types of LAVs	Types of SAVs
tease, calm, praise, sing, exclaim, comfort, complain, reflect in word, greet	Expressives 38.6%
describe, inform, call, count, explain	Assertives 23.2%
order, blame, forbid, persuade, request, warn, threaten	Directives 20.0%
question	Questions 15.8%
keep turn, give turn	Turn Manipulations 02.4%

Table 1: IDS LAVs and Percentage of SAVs

Investigating these data across age groups we found a very interesting variation in the process of interaction between mothers and child, to which the infants make a great contribution to the way the mothers interact with them. Mothers adapted their speech not only in phonetic terms but also in pragmatic terms to accommodate the social interaction with their babies at different points of their babies' physical, emotional, and cognitive development. Table 2 illustrates the variation in terms of pragmatic characteristics of IDS across ages.

SAV Type	NB	3MO	6MO	9MO	12MO
Expressive	30.9	46.5	52.2	38.6	24.2
Assertive	24.0	18.1	18.6	24.1	31.2
Directive	21.4	12.5	13.7	25.5	27.9
Question	20.4	19.6	13.8	10.6	13.4
Turn Manipulative	03.3	03.3	01.8	01.2	02.5

Table 2 : Percentage of SAV Type across Age Groups

Three main points can be concluded from our SAV study: (1) Types of SAVs vary. The variation suggests that there are 3 major periods in the infants' first year of life, newborn, the 3-6 MO and the 9-12 MO. (2) Expressives are found most almost in all groups except the 12 MO where assertives are found most. (3) Directives are high in the newborns, decreasing in the 3-6 MO, then increasing clearly in the 9-12 MO. Classifying these SAVs into two major classes according to their roles (1) the interactive which is used to encourage , rouse, or evoke the hearer to do something or to interact with the speaker and (2) the non-interactive which is not used to rouse or evoke the hearer to interact with the speaker, we found 79.1% of interactives (interactive assertives: call, questions; directives; expressives; turn manipulatives) and only 20.9% of non-interactive assertives (describe, inform, count, and explain.) as illustrated below

Pragmatic Classes	NB	3MO	6MO	9MO	12MO
Interactive	77.8	85.2	84.8	78.5	70.0
Non-Interactive	22.2	14.8	16.2	21.4	30.0
Total	100	100	100	100	100

Table 3: Percentage of Pragmatic Classes across Age Groups

This variation supports the suggestion about the 3 periods in the first year of the infant life. The mothers are less interactive with the newborns than with the 3 and 6 MO, then the interactive class decreases clearly as the age of the infants increases. Mothers are most interactive with the 3 and 6 MO

2.2 Forms and Functions of IDS Questions

Research in IDS reports that there is a high proportion of questions (Newport 1976, Fernald and Mazzie 1991) which is claimed to play a very important didactic role in mother-child interaction. We are interested to know what kind of interrogative sentences are used in IDS and whether these interrogatives are used as questions. We also want to know whether there is a quantitative and qualitative change in the forms and functions of interrogative sentences found in IDS directed to the infants of different age groups. The data of other

4 mothers which has not been studied in 2.1 is used here. IDS of 2 mothers of female infants and 2 of male infants consisting 8,289 utterances is investigated. We found 27.8% (2,308/8,289) interrogative sentences. There are 4 types of interrogative found. The proportions of interrogatives are high in the 3 and the 6 MO IDS (29% and 24.2%). It is lowest in the newborn IDS (16.3%). In the 9 and 12 MO IDS the same proportion (20.2%) is found. These interrogatives are classified into 4 types: Yes-No Interrogatives (YN) marked by interrogative final particles, WH interrogatives (WH) marked by interrogative words, Alternative interrogative (Alt) which is composed of more than one preposition and marked by an 'or' between the propositions proposed, Repetitive interrogatives (Repe). The Repe is very similar to the Y-N in its form which is always marked by an interrogative final particle and preceded by another interrogative. Most of the time the Repe is composed of one interrogative particle by itself. Table 4 gives the details of the qualitative and quantitative differences in the use of interrogatives across age groups.

Interrogative type	NB	3MO	6MO	9MO	12MO
Yes - No	44.2	40.3	48.4	49.7	40.0
Repetitive	37.9	26.0	16.2	19.0	08.9
WH	17.9	33.7	35.0	31.3	51.1
Alternative	00.0	00.0	00.4	0.00	0.00
Total	100	100	100	100	100

Table 4 Qualitative and Quantitative (percentage) Differences across Ages Groups

YN type is found high in every age group except in the 12 MO when WH type prevails. Repe type is found very high in the newborns and decreases as the infants get older. Theoretically speaking, YN type is not a real question. It is used to express the attitude of the speaker about the truth value of a proposition. Its role in term of speech acts is clearly expressive rather than question. Repe type is also not a real question. It is used to reinforce the listener to respond to a question which can be a real question (WH or Alt), or a YN expressive question preceded Repe. Repe is found very high (37.9%) in the newborns. The proportion is about 4 to 1 compare to IDS of the 12 MO (37.9% vs 8.9%) WH type is found highest in the 12 MO (51.5%) and lowest in the newborns (17.9%). The proportion is about 3 to 1. WH interrogative is mainly real question. It is used to seek for information from the learner. The role of WH in IDS in this study is very interesting since, in terms of speech production, the infants are still in their prelinguistic period. Mothers ask the question and answer them by themselves. The infants respond to the question by non-verbal acts such as gazing, pointing, head turning, or movements towards the answer. For example, the mother may ask 'Where is mummy?' and the infant responds by smiling at her or crawling towards her. We interpret that WH is used for didactic function and is used in a way that it helps to evoke the interaction between the child and the world around s/him. We also investigate the type of information these WHs are seeking for, i.e., we examine the answers the mothers gave to their

babies. The questions is, if WH is used for didactic function, what information is given to infants and whether this information varies quantitatively across age groups. We divide the type of information into 3 groups according to their semantico-syntactic categories : the nouns-referring to things, the verbs referring to the acts or characteristics of things, and the adjuncts referring to the place, time, manner, etc of the acts. The result is illustrated in Fig.1 below

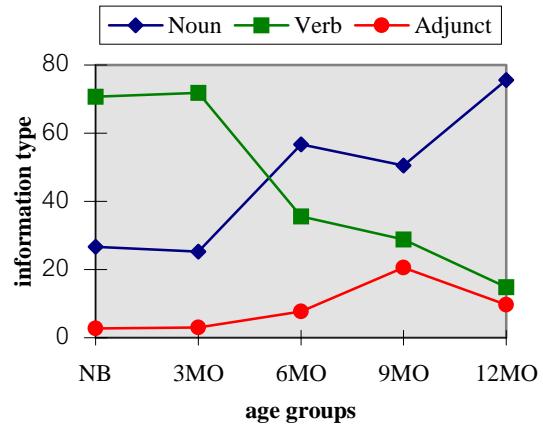


Fig 1: Percentage of SAVs across Age Groups

The conclusion is that the information given by the mother is mainly about things and the acts or characteristics of these thing (N and V). However there is an interesting variation. The N information increases clearly with the 6 MO and highest in the 12 MO, whereas the V information is very high in the NB and the 3 MO and decreases clearly in the 6 MO and continues to decrease towards 12 MO. Adjunct information is fairly low in all age groups, however, this type of information is very high with the 9 MO when the babies can move around to explore his world

2.3 The Final Particles in IDS

The third aspect of IDS investigated here is the final particles in IDS. Final particles in languages like Thai are used to express mood, social status, as well as the social relationship between the speakers and the hearer. Male and Female speakers use different final particles, for examples, /khrap3/ is used by males expressing maleness as well as politeness, whereas /kha3/ is used by females expressing femaleness and politeness. The prosodic characteristics in terms of pitch, length, and glottal termination of particles are used to convey emotive attitudinal meaning of the utterance to which it belongs. The speech of other two mothers from our corpus, one of male infant and one of female, is analyzed. The prosodic characteristics of these particles are investigated acoustically. The use of particles is also examined. This project is still on going. However, there are some primary results which we would like to present here. IDS directed to the male infant contains more particles compared to IDS of the female infant (56.7% VS 43.3%). Quantitatively speaking, particles are distributed highly in the speech directed to the newborns and the 12 MO (25% and 22.6%). The distribution of particles is very low in the 3 MO (15.1%) and about the same in the 6 and 9 MO (19% and 18.3%). When the

particles are classified into 2 types, the mood particles and the status particles, it is found that mood particles are found more than status particles in IDS (78.5% VS 21.5%). This may be conformed to conversational ADS with intimate relationship as we have observed. The most interesting point in the aspect of particles in IDS is that mother of the male infant used 94.6% of /khrap3/ which is a marker of male speaker and the mother of the female infant used 100% of /kha3/ which is a marker of female speaker. Other status particles which are sex neuter, such as /ha3/, /ca3/, /wa3/ are hardly found in our corpus. /khrap3/ and /kha3/ are the 2 particles which are clearly used to mark the sex of the speaker while other status particles are used to mark intimacy. We interpret that these 2 particles are used in IDS for didactic function in terms of teaching the child to be polite and to learn their sex roles.

In ADS it is common that female speakers use /kha3/ which mark the femaleness of themselves in polite speech. However, our study reveals that mother of the male infant used /khrap3/ which marks maleness most of the times. Only 5.4% of /khrap3/ is used in IDS directed to the female infant. When we examined these utterances of /khrap3/ directed to the child we found that mother used /khrap3/ to her daughter when she played the role of the father speaking to the child.

3. Conclusion and Discussion

The pragmatic characteristics of IDS reported here reveal that during the prelinguistic period (in terms of production) mothers try to accommodate the communication with infants by different pragmatic strategies. The SAVs in IDS are very interactive both in their forms and functions. These characteristics are also very adaptive to the physical and cognitive development of the infants during the first year of live. In terms of LAVs and SAVs, mothers use their speech to show their affection to the babies as well as to evoke the interaction from the babies. This input speech is very essential for the infants to acquire their linguistic competence. Mothers also use IDS to teach the babies the world around themselves. Cognitive words used in IDS are quite limited and referred to the world to which the babies belong, for example, the people, the thing which they can see, the action and the quality of the things around themselves. IDS is not just the adult model of speech for the child to learn the forms of the language. It plays a crucial role in the development of social communication between the child and world around s/him.

Note¹: This study is based on the IDS data of 12 mothers belong to the extensive collaborative research program on mother-child interaction between the Infant Research Center, the University of New South Wales and the Linguistics Research Unit, Chulalongkorn University.

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