LANGUAGE ASSESSMENT REMEDIATION AND SCREENING PROCEDURE (LARSP): AN ADAPTATION AND STANDARDISATION IN HINDI

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CHAPTER 1

INTRODUCTION

1.1. Morpho-syntactic Development

Language is organized hierarchically into five interrelated components including, phonology (sound system), morphology (word formation), syntax (sentence formation), semantics (meaning) and pragmatics (reason to communicate). Syntax and morphology altogether termed as 'morphosyntax' alternatively, is referred to as 'grammar'.

Morphological acquisition is the internalization of the rules of language to combine morphemes that form word structure (Zapf & Smith, 2007). Acquisition of morphemes expands the vocabulary from smaller set of root words (e.g. *book, play*) to a larger set of derived forms (e. g. *bookish, played*). The first 50- word vocabulary stage is an important milestone for children's earliest morphological development. At this stage the child begins to use the first morpheme. Further morphological development continues up to 5-6 years of age. Syntactic development is child's internalization of the rules of language (Pinker, 1994). Child's language grows from one-word to multi-word stage to conveyer of complex thought and ideas that involves stringing many words together reflecting into the development of a fine tuned understanding of language, as well as how to organize words into sentences.

During the childhood language acquisition, grammatical development is one of the most important aspects of language development (Dixon & Marchman, 2007). The expressed linguistic structures of a child determine his/her level of acquisition of grammar

(Clark, 2009). More complex or compound grammatical structure the child uses, more complex is the language of that child.

During the past five decades, more has probably been written about morpho-syntax than about any other area within linguistics (Parker & Riely, 2010). It is mainly because of Noam Chomsky's influence on the study of syntax (McDaniel, McKnee, & Cairns, 1996), whose pioneer work on the syntax is entitled in 'Syntactic Structures' (Chomsky, 1957).

1.2. Morpho-syntax Assessment Tools

The tool to measure the morpho-syntactic development commonly utilizes the language sample analysis method. The different assessment tools based on sample analysis to quantify morpho-syntax include, Assessing Children's Language in Naturalistic Contexts (Lund & Duchan, 1988); Developmental Sentence Scoring (Lee, 1974); Indiana Scale of Clausal Development (Denver & Bauman, 1974); Language Assessment, Remediation and Screening Procedure (LARSP) (Crystal, Fletcher & Garman, 1976); Language Sampling, Analysis and Training (Tyack & Gottsleben, 1974); Length Complexity Index (Miner, 1969); Length of communication units (C units) or terminable units (T units) (Loban 1976); Linguistic analysis of Language Sample (Engler, Hannah & Longhurst, 1973); Mean length of utterance (MLU) in morphemes (Brown, 1973); Structural Stage (Miller, 1981)

1.3. LARSP

Amongst the above mentioned measures, LARSP is argued as one of the best assessment tools for grammatical analysis of a child (Ball, 2010; Kim, 2012). It is commonly used to obtain a wide-ranging syntactic structure and inflectional morphology of

child's language (Ball, 1999). Moreover, it provides developmental hierarchies of syntax development which in turn formulate goals for remediation.

Primarily LARSP was intended to report the syntax and inflectional morphology of English-acquiring children. Furthermore it was also developed in other languages viz *French* (Maillart, Parisse, & Tommerdahl, 2011), *Spanish* (Codesido-Garcia, Coloma, Garayzabal-Heinze, Marrero, Mendoza, & Pavez, 2012), *German* (Clahsen & Hansen, 2012), *Dutch* (Bol, 2012), *Frisian* (Dijkstra & Schlichting, 2012), Welsh (Ball 1988), *Irish* (Hickey, 1990), *Sylheti* (Bengali) (Stokes, 2012), *Persian* (Samadi & Perkins, 1998), *Turkish* (Topbas, Yasar, & Ball, 2012), *Hebrew* (Berman & Lustigman, 2012), and *Mandarin* (Jin, Oh, & Razak, 2012).

1.4. Morpho-Syntax Assessment Tools: An Indian Scenario

In Indian context, very few tools have been developed to document morpho-syntactic structure of children acquiring different Indian languages. The earliest attempt in direction of developing language tools to quantify the language acquisition of Indian children was "Linguistic Profile Test" (LPT). LPT was developed in Bengali, Gujarati, Hindi, Kannada, Marathi, Oriya, and Tamil languages under the United Nations Children's Fund (UNICEF) project (1990) with joint collaboration of Ali Yavar Jung National Institute for the Hearing Handicapped (AYJNIHH) Mumbai and Regional Rehabilitation Training Center (RRTC) Chennai. Later on parallel versions were adapted in Telugu (Suhasini, 1997) and Malayalam (Asha, 1997). LPT quantifies semantic and syntactic abilities of children within 6-15+ years of age range. Similarily, Kannada language test (KLT) (Chengappa, 2003) and Malayalam language test (MLT) (Rukmini, 1994) also assess certain domains of morphosyntax as LPT. In the same line 'Screening Test for the

Acquisition of Syntax in Kannada' (STAS-K) was formulated by Vijayalakshmi (1981) and further adapted into Hindi language under 'All India Institute of Speech and Hearing Research Fund' (ARF) project (2010). STAS-H (Basavaraj, Goswami & Priyadarshi, 2010) assesses various grammatical categories and sentence structures of 2-5 years old children on comprehension and expression domains. This tool is also available in Malayalam - STAS-M (Preethi, Basavaraj & Goswami, 2012) and Telugu-STAS-T (Gopikishore, Basavaraj & Goswami, 2012) as well. Similarly, Murthy (1981) devised 'A Syntax Screening Test' in Tamil language to screen the morphosyntactic deficits in children within 2-5 years. Therefore one can conclude that insufficient quantity of indigenous tests is available to measure syntactic growth of children in various Indian languages. Moreover these tools could not profile the phrase and clause level development as profiled in the LARSP.

1.5. Need of the Study

India is a multilingual country, including 6661 mother tongues (Census of India, 2011) and 22 official languages (Turnbull & Justice, 2012). Majority of population are trilingual, speaking Hindi, English and dialects of their community. According to Census of India (2011), Hindi is the predominant language spoken by 41% of the total population of country. LPT and STAS-H are the available tools to measure syntactic development in Hindi- acquiring children. Both the tools utilize sets of picture stimuli to evaluate the fixed set of syntactic structures. Moreover, the children might have more syntactic forms other than the syntactic structures utilized in LPT and STAS-H. These variations could be idientifed from child's natural language sample. Many researches have suggested utilizing spontaneous language samples to quantify the detailed picture of a child's syntactic

knowledge (Ball, 1999, 2010; Kim, 2012; Crystal et al., 1976), but are rarely practiced. This might be because of lack of age appropriate syntax development norm in Hindi language and language assessment tools that utilizes spontaneous language sample for analysis.

Therefore, it would be valuable to construct a language tool that is endowed with developmental norms of Hindi-acquiring children, as well as follows language sample analysis. The tools mentioned in section 1.2 accomplish linguistic analysis of spontaneous language samples. Amongst these, LARSP is reported as the best tool and is widely used, as pointed out in previous section 1.3. In addition, the LARSP profiles language according to age. The structured profiling of language sample provides fine resolution of child's syntactic competence. The English and Hindi vary across the morphosyntax. Moreover, the LARSP was standerdised on English acquiring children. Hence the results of English version of LARSP could not be generalized over Hindi-acquiring children.

Therefore, there is a need of adaptation and standardization of LARSP in Hindi language. Till date LARSP is available only in one Indian language i.e., Sylheti.

1.6. Aim of the Study

On account of the above considerations, the present study is aimed at adaptation and standardisation of LARSP in Hindi language. Furthermore, the study addresses the following research questions –

i. How the morphosyntactic skills are hierarchically organized in Hindi-acquiring children in the age range of 0;9 to 4;6+ years?
ii. What do Hindi-acquiring children in the age range of 0;9 to 4;6+ years, know about the morphosyntactic structure of Hindi language?

CHAPTER II

REVIEW OF LITERATURE

2.1 Morphosyntax acquisition in typically developing children

Morphosyntax is a composite domain of language that forms the structure of language; therefore it is a central element of human language (Van Valin, 2001). Researchers working in the area of morphosyntactic acquisition documented four components of morphosyntax including syntactic constituents, syntactic categories, structural position, and thematic role (Gerken, 2009). In the present study both morphological and syntactic acquisitions have been reviewed separately.

2.1.1. Morphological acquisition

Morphological acquisition is the internalization of the rules of language to combine morphemes that form word structure (Zapf & Smith, 2007). Acquisition of morphemes expands the vocabulary from smaller set of root words (e.g. *book, play*) to a larger set of derived forms (e. g. *bookish, played*). The first 50- word vocabulary stage is an important milestone for children's earliest morphological development. Children's 50-word mark vocabulary co-occurs with -

i. Emergence of first grammatical morphemes,
ii. Beginning of longer utterances by combining words,
iii. Emergence of different types of sentence forms.

Studies related to morphological acquisition are being reviewed in subsequent paragraphs.

The earliest findings on acquisition of English grammatical morpheme were reported by Brown (1973). Brown documented the morphosyntactic development of three children (Adam, Eve & Sarah). This is one of the most well-known longitudinal studies documented in the area of morphosyntactic acquisition in children. The morphemic acquisition pattern was relatively the same amongst them. The morphemic development with respect to age is depicted in Figure 2.1.

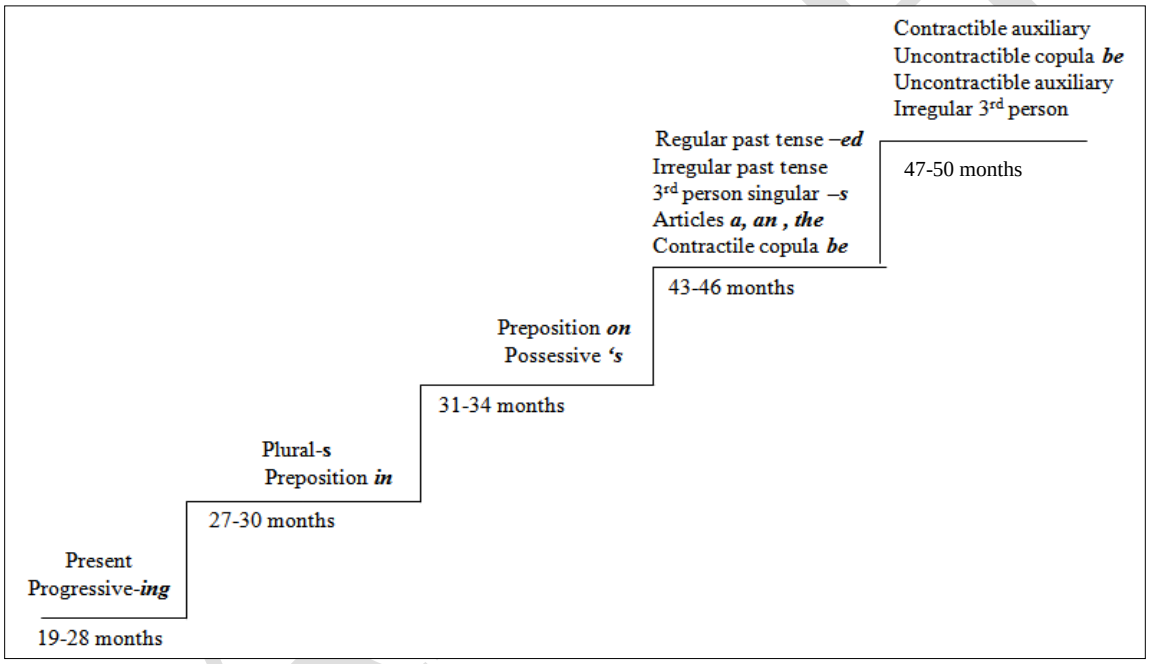


Figure 2.1 Acquisition of grammatical morphemes acquired in early childhood.

Source: Information from: *Language Development from Theory to Practice* (2nd ed., p.208) by K. L. P. Turnbull & L. M. Justice, 2012, New Jersy: Pearson Edu.

Similarly, in 1973, de Villiers and de Villiers documented morphological acquisition in a cross-sectional study including 24 English children of varying age groups. The pattern of morpheme acquisition was similar to the study of Brown.

In sequence, Hatch (1983) performed a comparative study between development of bound and free morphemes. Three important findings were noted down. Firstly, free

morphemes were acquired relatively earlier as compared to bound morphemes. Secondly, phonological factors had an important role in morphological development. The phonologically constant morphemes were acquired relatively effortlessly as compared to morphemes which were pronounced in different ways. Thirdly, semantics also contributed to acquisition of morphemes. Affixes linked with semantic functions were acquired sooner than those which had only grammatical function.

In the recent decades researchers shifted their attention from order of morpheme acquisition to procedure utilized by the children in acquiring morphemes. O'Grady, Dobrovolsky, and Arnoff (1997) studied the order of morpheme acquisition. Six factors were identified as contributing to the order of acquisition of morphemes. These are -

i. *Frequent occurrence in utterance-final position*: Children are most sensitive to the sounds that occur in final position of the utterances. Therefore children acquire the suffixes earlier as compared to prefixes.

ii. *Syllabicity:* Children acquire the morpheme that constitute to their own syllable (e.g., present progressive-*ing*) and later on single sound containing morphemes (e.g., 3rd person singular- *s*) are acquired.

iii. *Single relation between morpheme and meaning:* Morpheme contributing to a single meaning (e.g., the) are acquired earlier than morphemes with multiple meaning (e.g., -*s*: present tense, 3rd person, plural number).

iv. *Consistency in use:* Consistently used morpheme (e.g., possessive noun-*'s*) are acquired earlier than morphemes which vary in their use.

v. *Allophonic variation:* Morphemes with stable pronunciation (e.g., present progressive-*ing*) are acquired earlier than morphemes having allophonic

variations as exemplified in the case of plural forms viz. Cats, Dogs and Buses (plural forms pronounced as /s/, /z/, /Iz/ respectively, presenting the allophonic representations).

vi. *Clear semantic function:* Morphemes having clear meaning (e.g., plural morphemes) are acquired before the morphemes having less clear meaning (e.g., 3rd person singular morpheme in *he runs*).

In addition, Pinker (1999) noticed the overgeneralization of past tense verb to incorporate the irregular verb in the course of morphological acquisition. Children who had acquired past tense verbs in regular form, often overgenaralize it to the irregular form as well. It was concluded that overgeneralization is because of insufficient exposure and limited practice with words and rule.

Wood, Kouider, and Carey (2009), formulated manual search method to find out when the children begin to comprehend certain morphemes. This method was utilized to explore toddler's comprehension of singular-plural morphology in English. It was found that toddlers begin to understand verbal morphology between 20-24 months of age. However to comprehend some morphemes like *a, the* some extra cues were required.

Although, the grammatical morphemes begin to appear in toddlerhood, but mastery is not achieved until preschool age. The most significant development in the morphological development in preschoolers is verbal morphology. English speakers change the verb with tense. Verb *'to be'* is used to indicate time. The preschool age children master the verb '*to be'* in both copula (e.g., Ram *is* a boy) and auxiliary form (e.g, Ram *is* dancing with girls), indicating significant morphological achievements (Turnbull & Justice, 2012).

Recently, Apel & Thomas-Tate (2009) studied the morphological development in school age children. The major morphological development in the school age children is the use of derivational prefixes and derivational suffixes. They found that some of the difficult derivational suffixes including *–y* (e.g., fatt*y*) and *–ly* (e.g., cost*ly*) are acquired at around 11 years of age and at adolescence respectively. It was concluded that, morphological awareness have been found to be associated with literacy skills, receptive language skills, word level reading and spelling of a child.

2.1.2. Syntactic acquisition

Syntactic development is child's internalization of the rules of language (Pinker, 1994). As child steps forward from one-word stage to conveyer of complex thought and ideas that involves stringing many words together, they develop a fine tuned understanding of how to organize words into sentences that carefully specify who did what to whom; as well as want (e.g., *May I play in the rain*), remember (e.g., *Uncle yesterday told me not to play in rain*) and imagine (e.g., *I will have cold if play in the rain*). Children develop this ability to organize words into larger propositions by gradually internalizing the grammatical system of the language (Pinker, 1994). As children internalize they exhibit three major syntactic achievements (Turnbull & Justice, 2012). These are -

i. Increase in utterance length

ii. Use of different sentence modalities (i.e. produce sentence of various types)

iii. Development of complex syntax (i.e. linking phrase and clause)

2.1.2.1. Increase in utterance length

As infants begin to produce their first word about one year of age, the morphosyntactic achievements upto this age is considered as minimal or nonexistent. Around 18 months of age, toddlers begin to produce a remarkable syntactic form. But on an average around 6 years of age, their utterance lengths are comparable to those of adults (Jacobs, 1995). Estimation of utterance length is based on number of morphemes in utterances. Number of morphemes per utterance is called as 'mean length of utterance' (MLU). Brown (1973) documented 5 stages of language development on the basis of MLU. Accordingly, MLU is significantly correlated with language age of children as compared to chronological age. The five stages are depicted in Table 2.1.

Table 2.1

Brown's (1973) stages of language development

Brown's stage	MLU	MLU range	Age in months (upper limit)	Major achievements
I	1.31	0.99-1.64	18	One-word sentences are used. Noun and uninflected verbs are used.
II	1.92	1.47-2.37	24	Two-element sentences are used. True clauses are not evident.
III	2.54	1.97-3.11	30	Three-element sentences are used. Independent clause emerges.
IV	3.16	2.47-3.85	36	Four-element sentences are used. Independent clause continues emerging.
V	3.78	2.96-4.60	42	Recursive elements predominate. Coordinating conjunctions emerges.
Post -V	5.02	3.96-6.08	54	Complex syntactic pattern appear.

Source: Information from: *Language Development from Theory to Practice* (2nd ed., p. 90) by K. L. P. Turnbull & L. M. Justice, 2012, New Jersy: Pearson Edu.

2.1.2.2. Sentence modalities

During early phase of syntactic development children are gradually able to produce different types of sentences of varying syntactic complexity. The syntactic complexities depend upon the organization of grammatical constituents of the sentence modalities. Different sentence modalities are- (i) declaratives, (ii) negatives and, (iii) interrogatives.

(i) Declaratives - Declarative sentences are statement, which emerges as children begin to combine two-word utterances around 18-24 months. The two – word sentence structure based on syntactic relationships in English acquiring children was documented by Brown (1973), as shown in Table 2.2.

Table 2.2

Eight early syntactic relationships (Brown, 1973)

Relationship	Examples
Agent + Action	*Ram plays*
Action + Object	*Eat mango*
Agent + Object	*Ram milk*
Action + Locative	*Sit chair*
Entity + Locative	*Doggie bed*
Possessor + Possessed	*Papa shoe*
Attribute + Entity	*Small cat*
Demonstrative + Entity	*This dog*

Source: Information from*: Linguistics for non-linguistics. A primer with exercises* (5th ed., p. 190) by F. Parker & K. Rilley 2010, New Jersy: Pearson Edu.

Further, children begin three-word sentence structure around 26-27 months of age. At this stage gradual addition of grammatical morphemes (present progressive – *ing, preposition –in, -on and plurals*) appear in utterances. Children also use some auxiliaries such as *gonna, gotta* etc. Language displayed in this age is telegraphic in nature, because key grammatical markers are not emerged. They omit or misuse pronouns in their sentences (e.g. *him* playing). Eastwood and Mackin, (1982) found six syntactic organizations of declarative sentences in 3 years old children, which are depicted in Table 2.3.

Table 2.3

Syntactic organizational schemas in children (Eastwood & Mackin, 1982)

Syntactic organization	Examples
Subject + Verb	*I eat.*
Subject + Verb + Object	*I eat mango.*
Subject + Verb + Complements	*I run fast.*
Subject + Verb + Adverbial Phrases	*I run fast today.*
Subject + Verb + Indirect Object	*I gave Mohan the piano.*
Subject + Verb + Direct Object	*I give the piano to Mohan.*

Source: Information from: *Language Development from Theory to Practice* (2nd ed., p. 90) by K. L. P. Turnbull & L. M. Justice, 2012, New Jersy: Pearson Edu.

Justice and Ezell (2002) compared the syntactic structures of toddlers and preschoolers. It was noticed that preschoolers were significantly advanced in using complex sentences. Their syntactic constructions shift from simple declarative 'subject + verb + object'; 'subject + verb + complements' to more complex patterns (Table 2.4).

The complex syntactic structures can be noticed in the form of compound as well as complex sentences with embedded clauses.

Table 2.4

Syntactic organizational schemas in preschoolers (Justice & Ezell, 2002)

Syntactic organization	Examples
Subject + Verb + Object + Adverb	*Mohan playing the game outside*
Subject + Verb + Compliment + Adverb	*Mohan is happy now.*
Subject + Auxiliary + Verb + Adverb	*I am playing now.*

Source: Information from: *Language Development from Theory to Practice* (2nd ed., p. 248) by K. L. P. Turnbull & L. M. Justice, 2012, New Jersy: Pearson Edu

Vasilyeva, Waterfall, and Huttenlocher (2008) studied the syntactic aspects of school age children. It was noticed that 'complex syntax' was one of the major achievements of school aged children. The 'complex syntax' is grammatically advanced syntactic framework that mark a 'literate' or decontextualized, language style form (Paul, 1995). The complex syntax is depicted in Table 2.5.

Table 2.5

Complex syntax in school-age children (Vasilyeva, Waterfall, & Huttenlocher (2008)

Syntactic organization	Examples
Noun-phrase postmodification with past participles	*A game called the cricket*
Adverbial conjunction	*Only, consequently*
Passive voice construction	*The book was read by me*

Source: Information from: *Language Development from Theory to Practice* (2nd ed., p. 248) by K. L. P. Turnbull & L. M. Justice, 2012, New Jersy: Pearson Edu

(ii) Negatives - The modality express negation by incorporating words including *no, not, can't, don't, won't* in their syntactic structures. Bellugi (1967) found that syntactic structure of negative sentences follow a developmental pattern. Children first use the negative sentence modality in which the word *no* appears in the beginning of the sentences (e.g. *no eat*). Afterwards negative word sifts inside the sentences next to the main verb (e.g. *I no eat that*). By the age of four years negation is used in auxiliary form (e.g. *I can't eat*) that approximate adult like syntactic form. Similarly, Brown (1973); Hulit and Howard (2005) documented the milestones for developments of the negation syntax structure, as shown in Table 2.6.

Table 2.6

Developmental milestone of negation syntactic form

Age (in months)	Negation syntactic form	Example
12-26	No/not + word	*No book*
27-30	Agent + no/not + verb	*Mohan no go*
31-34	Agent + auxiliary + negation + verb	*He is not crying*
35-40	Addition of negative contraction	*He isn't crying*
41-46	Negative past tense form	*He wasn't crying*

Source: Information from*: Linguistics for non-linguistics. A primer with exercises* (5th ed., p. 223) by F. Parker & K. Rilley 2010, New Jersy: Pearson Edu.

Bloom (1991) found that in early one and two-word stage, English children use negation to express (i) nonexistence (ii) rejection and (iii) denial. Similar findings were reported by Vaidyanathan (1991) and Tam & Stokes (2001) on Tamil and Cantonese children respectively.

Drozd (1995) found the use of pre-sentence *no* as a metalinguistic exclamatory negation. In this case, the child responds to the question along with repeating most of the adult utterance.

(iii) Interrogatives **-** The interrogative sentences represent the act of questioning. The major development in the interrogative modalities include *wh-question* and *yes-no question* form. In many children the earliest interrogative syntax form include *wh- words (what, why, where*). Later on the question words expand during preschool years that include *who, whose, when, which* and *how* (Jacob, 1995). What', 'where', and 'who' questions are mastered before 'why', 'how', and 'when' questions (Bloom, 1991). Brown (1973); Hulit and Howard (2005) documented the milestones for development of the interrogation syntax structures, as shown in Table 2.7.

Table 2.7

Developmental milestone of interrogative syntactic form

Age (month)	Type	Rule	Example
12-26	*yes-no*	Intonation	*Mummy going?*
27-30	*yes-no*	Intonation	*Mummy going?*
	wh-	Wh Movement	*Where mummy going*
31-34	*yes-no*	I-movement	*Is mummy going?*
	wh-	Wh-Movement (WHM)	*Where mummy going*
35-40	*yes-no*	I-movement (IM)	*Is mummy going?*
	wh-	WHM+ IM	*Where's mummy going*
41-40	*yes-no*	I-movement (IM)	*Is mummy going?*
	wh-	Addition of *why* form	*Why mummy going*

Source: Information from*: Linguistics for non-linguistics. A primer with exercises* (5th ed., p. 223) by F. Parker & K. Rilley 2010, New Jersy: Pearson Edu.

2.1.2.3. Complex syntax: Phrase and Clause

MLU is the primary measure for estimating syntactic development. But it doesn't provide much detail about syntactic achievements, especially of younger children whose syntax is primarily at phrase or clausal level (Turnbull & Justice, 2012). Therefore to understand syntactic development in the younger children it is crucial to focus on phrase and clause level syntactic structures along with their MLU.

Phrases

The phrasal syntactic structure consists of either one word or cluster of words. Within the clusters both a subject and a verb will not appear simultaneously. The central element of phrase is referred to as *head*. Based on head the phrases can be noun phrase, verb phrase, adjective phrase or preposition phrase (Justice, & Ezell, 2002).

i. *Noun Phrase (NP):* A syntactic structure in which the head is either a noun (N) or a pronoun (Pr) is referred to as noun phrase. Noun phrases might begin with a determiner (Det), adjective phrase (AP) or both. The determiner can be a *articles*, *demonstrative* (e.g., that, this), *quantifier* (e.g., every, some), *possessive* (e.g., his, him, -'s), and *wh-word* (e.g., when, where). Noun may be followed by preposition phrase (PP).

NP = (Det)-(AP)-N/Pr-(PP)

e.g., *that* *little* *girl*

Det Adj N

ii. *Verb Phrase (VP):* Verb phrase contains verb (V) and any auxiliary verb (AuV) as a head. The head might be followed by a noun phrase, or adjective phrase, or a prepositional phrase or none of them.

VP = V/AuV-(NP/AP)-(PP)

e.g. *hit* *the car*
V NP

iii. *Adjective Phrase (AP):* Syntactic structure whose head is an adjective (Adj) is referred to as adjective phrase. Head might be attached to either intensifier (I) or modifiers.

AP = (I)-Adj

e.g. *very* *happy*
I Adj

iv. *Prepositional Phrase (PP):* Prepositional phrases consist of preposition (Prep) and are followed by noun phrase.

PP = Prep-(NP)

e.g., *on* *the table*
Prep NP

Clauses

A clause is a syntactic structure consisting of a verb or a verb phrase (Turnbull & Justice, 2012). Usually clauses are classified into either independent (main) or dependent (subordinate) clause (Justice, & Ezell, 2002).

i. *Independent clause (IC):* The clausal structure which may stand or may be combined to additional clauses by coordinating conjunction (e.g., yet, but, or, and, so, nor, for) or conjunctive adverb (e.g., because, after, however, therefore).

ii. *Dependent clause (DC):* This clause cannot stand alone. It must be attached to an independent clause by a subordinating conjunction (e.g., *because, since, even*).

e.g, *that girl is running away* *because she pushed me*.

IC DC

When children are at the age of three years, sentence embedding capability begins to emerge. They begin to entrench dependent clauses which in turn construct complex sentence structures. At this point of time children's syntactic construction shifts from simple to complex syntax (Brown, 1973; Turnbull & Justice, 2012).

2.2. Influences on morphosyntactic development

Earlier research reported similarities in syntax acquisition among children (Brown, 1973). Syntax development in toddlers and preschoolers follow a uniform pattern with respect to type and timing of development (Shonkoff & Philips, 2000). However limited studies focused on individual differences in syntax development and the factors contributing to such difference (Craig, Washington, & Thompson-Porter, 1998; Huttenlocher, Vasilyeva, Cymerman, & Levine, 2002; Hoff, 2004). These researchers have documented the four important factors including gender, linguistic environment, socioeconomic class and language impairment influencing the morphosyntactic development in children.

i. Gender: Studies have compared the syntactic acquisition of boys and girls (Craig, et al., 1998; Ely, Gleason & McCabe, 1996). Van Hulle, Goldsmith and Lemery (2004)

found that, girls produce more words and more two-word combinations than boys. Understanding the factors contributing the gender differences including, differences in maturation rates of boys' and girls' with respect to neurological development; difference in parent's interaction style to boys' and girls' (Bauer, Goldfield & Reznick, 2002).

ii. ***Linguistic environment:*** Studies accounted the influence of linguistic environment on syntax development. Huttenlocher et al., (2002) reported that, children experience simple syntax i.e. simple noun phrases and verb phrases in their early age. Consequently similar structure appeared in children's utterance. Hoff (2004) noticed that children who had listened more amounts of complex syntactic structures, utter more complex structures as compared to those children who do not experience complex syntactic forms. Kirjavainen, Theakston, & Lieven (2009) found that most of time, the young children substitute the pronoun *'me'* in place of *'I'*. It was observed that, caregivers of these children were frequently using *me + verb* syntactic structure, that contributed to their children linguistic experiences.

iii. ***Socioeconomic class:*** Huttenlocher et al., (2002) compared the complex syntax of parents and classroom teachers; and their relationship with the syntactic development of children. Significant differences were found in the use of complex syntactic structure among the mothers belonging to different socioeconomic classes. Results suggested that there is a strong linear relationship between children's exposure to complex syntax and their development of complex syntactic structure.

iv. ***Language impairment:*** Developmental language disorder disrupt the syntactic development in both comprehension and expression domains. Conti-Ramsden &

Jones (1997) reported that children with Down syndrome have significant difficulties in syntactic development. Similarly, Laws & Bishop, (2003) reported that children with *'Specific language impairment'* (SLI) produces shorter sentences than language acquiring typical children.

2.3. Methods to Assess Syntax Development at different stages

i. ***Infancy*:** Infants do not produce first words until about one year of age; therefore syntactic measurement till one year is nonexistent (Turnbull & Justice, 2012).

ii. ***Toddlerhood:*** Toddlers provide larger amount of language data as compared to infants, because toddlers not only comprehend language but also produce it. Methods used to assess syntactic development in toddlers are grouped into three major categories (Table 2.8.).

Table 2.8

Methods to measure language development in toddlers

A. Production tasks	B. Comprehension tasks	C. Judgment tasks
Naturalistic observation	Picture selection task	Truth value judgment task
Elicited imitation task	The act-out task	Grammaticality judgment task
Elicited production task		

Source: Information from: *Language Development from Theory to Practice* (2nd ed., p. 248) by K. L. P. Turnbull & L. M. Justice, 2012, New Jersy: Pearson Edu

A. Production tasks

The production tasks allow toddlers to demonstrate their competence in various areas of language development. In these tasks, researchers ask children to produce, or say, the language target under investigation. The production tasks might be

unstructured or semi-structured (naturalistic observation); or structured and systematic (elicited production tasks).

i. *Naturalistic observations*- The naturalistic utterances of children are of great importance in analyzing children's syntax. The most famous naturalistic observation is Roger Brown's (1973) longitudinal observation of Adam, Eve, and Sarah.

ii. *Elicited imitation task*- In the elicited imitation task, a child has to repeat phrases which contain target linguistic skills and compare the child's utterance with adult like syntactic structure.

iii. *Elicited production task*- In elicited production tasks, adult elicits the target word with a prompt but does not provide the target for child to repeat. The most famous elicit production task is Wug test (Berko, 1958).

B. Comprehension tasks

Comprehension tasks reveal toddlers' language competencies not by asking them to produce language target, but by having them either match or point to pictures of target words and phrases or act out phrases they hear and experimenter says.

i. *The picture selection task*- This task is frequently used to assess the child's comprehension ability to make distinction between active and passive voice (e.g., active: *I played the piano*; passive: *The piano was played by me*).

ii. *The act-out task*- This task provides the child's competence with various language constructions. A series of props are provided to a child, and are instructed them to act out the sentences he or she heard.

C. Judgment tasks

In judgment tasks, children are asked to decide whether certain language constructions are appropriate so that their level of grammatical competence can assessed. Two types of judgment tasks that researchers routinely use are truth value judgment tasks and grammaticality judgment tasks.

Truth value judgment task assess the grammatical competence of a child. The child is asked to decide certain language construction to be correct or incorrect. *Grammaticality judgment tasks* are frequently used with preschool children.

iii. Preschoolers: Among preschoolers the commonly used methods to measure syntax includes-

1) Language sample analysis
2) Grammaticality judgment tasks
    (i) Well-formedness judgment task
    (ii) Judgment about interpretation

Language sample analysis is used throughout the preschool years to measure syntax growth. The general premise is the same as in toddlerhood.

Grammaticality judgment task is metalinguistic in nature that requires thinking about the language and making appropriate judgment regarding sentence constructions. In *well-formedness judgment,* child has to decide whether a provided sentence is syntactically acceptable or not. However in *judgment about interpretation* child makes judgment about interpretation of one or more parts of a sentence.

2.4. Syntax Assessment Tools

The tools commonly used to assess the syntactic development of children acquiring different Indian languages are depicted in Table 2.9.

Table 2.9

Syntactic assessment tools used for Indian population

Tests	Author
1) Linguistic Profile Test (LPT)	Karanth (1980)
2) Syntax Screening Test in Tamil	Murthy (1981)
3) Screening test of acquisition of syntax in Kannada (STASK)	Basavaraj (1981)
4) Kannada Language Test (KLT)	Shyamala, Vijayashree & Jayaram (2003)
5) Malayalam language test (MLT)	Rukmini (1994)

Linguistic Profile Test (LPT)

The earliest attempt in direction of developing language tools to quantify the language acquisition of Indian children was "Linguistic Profile Test" (LPT). LPT was proposed by Pratibha Karanth (1980) in Kannada language. Further it was developed in Bengali, Gujarati, Hindi, Kannada, Marathi, Oriya, and Tamil language under the United Nations Children's Fund (UNICEF) project (1990) with joint collaboration of Ali Yavar Jung National Institute for the Hearing Handicapped (AYJNIHH) Mumbai and Regional Rehabilitation Training Center (RRTC) Chennai. Later on parallel versions were adapted in Telugu (Suhasini, 1997) and Malayalam (Mary, 1997). LPT quantifies semantic and syntactic abilities of children

within 6-15+ years of age range. Sub categories of semantics including naming, lexical items, synonyms, antonyms, polar questions, semantic anomaly, paradigmatic relations, syntagmatic relations, semantic contiguity, and semantic similarity. Whereas syntactic sub-categories including morpho phonetic structures, plural form, tenses, PNG (person-number-gender) markers, case markers, transitive-intransitive and causatives, sentence types, conjuncture-quotatives and comparatives, conditional clauses, and participial construction.

Syntax Screening Test in Tamil

This test has been constructed by Sudha K. Murthy (1981) to screen the syntactic development in children within the age range of 2-5 years. The screening test consisted of ten subtests which include negation, definite determiners, wh-questions, yes-no questions, persons, adjectives, tenses, post-positions, comparative-superlatives and pronominal terminations. Each subtest has a comprehension and expression category.

Screening Test for the Acquisition of Syntax in Kannada (STAS-K)

'Screening Test for the Acquisition of Syntax in Kannada' (STAS-K) was formulated by Vijayalakshmi (1981) and further adapted into Hindi (STAS-H) (Basavaraj, Goswami & Priyadarshi) language under 'All India Institute of Speech and Hearing Research Fund' (ARF) project (2010). STAS-H assesses of a various grammatical categories and sentence structure of 2-5 years old children in comprehension and expression. The parallel version of STAS-K is also available in Malayalam (STAS-M) (Thomas, Basavaraj & Goswami, 2012) and Telugu (STAS-T) (Gopikishore, Basavaraj & Goswami, 2012) language.

Kannada Language Test (KLT)

The KLT is a screening tool developed by Shyamala K. Chengappa, Vijayashree and M. Jayaram (2003) to assess syntactic ability of children within the age range of 3-7 years. The KLT consisted of two subcategories including semantics and syntax. Sub categories of semantics including naming, lexical items, synonyms, antonyms, polar questions, semantic anomaly, paradigmatic relations, syntagmatic relations, semantic contiguity, and semantic similarity. Whereas syntactic sub-categories including morpho phonetic structures, plural form, tenses, PNG markers, case markers, transitive-intransitive and causatives, sentence types, conjuncture- quotatives and comparatives, conditional clauses, and participial construction. The parallel version in Malayalam language is **Malayalam language test (MLT)** (Rukmini, 1994).

Apart from these above mentioned indigenous syntactic assessment tools, the other tools which are used world widely to quantify syntax are depicted in Table 2.10. All these tools utilizing the language sample analysis method.

Table 2.10

Syntactic assessment tools based on language sample analysis

1) Assessing Children's Language in Naturalistic Contexts (Lund & Duchan, 1988)
2) Developmental Sentence Scoring (Lee, 1974)
3) Indiana Scale of Clausal Development (Denever & Bauman, 1974)
5) Index of Productive Syntax (IPsyn) (Scarborough, 1990)
6) Language Assessment, Remediation and Screening Procedure (LARSP) (Crystal, Fletcher & Garman, 1976)
6) Length Complexity Index (Miner, 1969)

7) Language Sampling, Analysis and Training (Tyack & Gottsleben, 1974)
8) Length of communication units (C units) or terminable units (T units) (Loban 1976)
9) Linguistic analysis of Language Sample (Engler, Hannah & Longhurst, 1973)
10) Mean length of utterance (MLU) in morphemes (Brown, 1973)
11) Structural Stage (Miller, 1981)

Source: Information from*: Diagnosis and Evaluation in Speech Pathology* (4th ed., p. 139) by W. O. Haynes, R. H. Pindzola & L. L. Emerick , 1992, New Jersey: Prentice Hall.

Amongst the above mentioned tools, LARSP is argued as one of the best assessment tools for grammatical analysis of a child (Ball, 2010; Kim, 2012). It is commonly used to obtain a wide-ranging syntactic structure and inflectional morphology of child's language (Ball, 1999). Moreover it provides developmental hierarchies of syntax development which in turn formulate goals for remediation.

The indigenous tools mentioned in Table 2.8 do not provide phrase and clause level syntactic development, as provided in LARSP. Moreover, during early stages of language development, phrases and clauses are the predominant syntactic structures, which need to be assessed in comprehensive manner. As the tests mentioned in Table 2.8 are very relevant, but these tests have their own limitations to provide such finer developmental syntactic details; therefore, there is a need to develop a test which would help in profililing the syntactic details of a child language in a much comprehensive manner.

2.5. Language Assessment, Remediation and Screening Procedure (LARSP)

David Crystal, Paul Fletcher and Michael Garman developed the LARSP in 1976, which was revised in the year 1989. In the year 2005, a LARSP user manual was developed by Boehm, Daley, Harvey, Hawkins, and Tsap. Klee (1985) describes LARSP as-

"Developmental description of children's language which is based on the grammatical framework of an adult reference grammar…. The grammatical system is divided into sentence types (simple and complex sentences which functioning as statements, questions and commands), clause structure (e.g. subject-verb-object (S-V-O)), phrase structure (e.g. S-Pronoun, V-Auxiliary + lexical verb, O-Determiner + Noun), and word structure (e.g. contracted auxiliary (e.g. 'm, 're), plural possessive). These subsystems are graded developmentally, covering seven stages from 9 months of age to over 4;6. LARSP is a criterion-referenced procedure which is aimed at analyzing every utterance in the sample" (p.185).

LARSP documents the grammatical structures of a child's language at various phase of typical language development. Moreover, child's language analysis verifies which grammatical structures the child has acquired, and which structures the child has not acquired (Donaldson, 1995). The LARSP profile classify the syntactic development into seven stages viz, stage I- 0; 9 years to 1; 6 years, stage II- 1; 6 years to 2; 0 years, stage III- 2; 0 years to 2; 6 years, stage IV- 2; 6 years to 3; 0 years, stage V- 3; 0 years to 3; 6 years, stage VI- 3; 6 years to 4; 0 years, and stage VII- 4; 6 years onwards. These seven developmental stages of syntax are analysed into four hierarchical stages of syntactic development including sentence, clause, phrase, and word types (Muller, Munro & Code, 1981).

A LARSP makes use of natural spontaneous language sample for analysis. Donaldson (1995) describes this form of sampling as "…*likely to be relevant to the child's ability to use language in everyday life*" (p.58). Muma (1973) reported that naturalistic language sample was

better than structured language sample gathered using standardized assessment procedures, as it minimizes the performance bias towards individual.

2.5.1. LARSP chart in English

The LARSP consisted of seven successive steps (Crystal et al. 1976).

i. Sampling,
ii. Transcription,
iii. Grammatical analysis,
iv. Structure count,
v. Pattern evaluation,
vi. Statement of remedial goals, and
vii. Statement of remedial procedures

The language sample comprised of 30 minutes spontaneous speech obtained during natural play and conversation across various settings that include at least 50 utterances.

The top portion of the chart documents the information about sample recording. Further main body of the LARSP profile described the seven stages of morphosyntactic achievements, between the age range of 0;9 to 4;6+.

Stage I profiles the single-word utterances which are classified as either a *noun* or *verb*. However stages II to IV document the clausal, phrasal structure or both the structures being used together. Stage V describes the coordination and subordination of syntactic structures. Whereas stages VI and VII document the discourse, and profile the errors, structure and style of discourse used.

A separate column of 'word' lists the morphological inflections in the order of their acquisition. The list is based on Brown's (1973) findings of morphological

development in children, which have been acquired over the stage II to IV. Finally the completed chart is utilized to profile syntactic pattern of a child's language and to plan remediation procedure if needed.

2.5.2. Adaptation of LARSP in other languages

Primarily LARSP was intended to report the syntax and morphology of English-acquiring children. Furthermore parallel version was developed in numerous languages. LARSP in different languages are shown in Table 2.11.

Table 2.11

LARSP in different languages

Language	LARPS version	Author
1) Dutch	GRAMAT	Bol (2012)
2) French	F-LARSP	Maillart, Parisse, & Tommerdahl (2011)
3) Frisian	T-ARSP	Dijkstra & Schlichting (2012)
4) German	G-LARSP	Clahsen & Hansen, (2012)
	COPROF	Clahsen & Hansen, (2012)
5) Hebrew	HARSP	Berman, Lustigman (2012)
6) Irish	ILARSP	Hickey (1990)
7) Mandarin	C-LARSP	Jin, Oh, & Razak (2012)
8) Persian	P-LARSP	Samadi & Perkins, (1998)
9) Spanish	PERSL	Codesido-Garcia, Coloma, Garayzabal-Heinze,

		Marrero, Mendoza, and Pavez, (2012)
10) Sylheti	--	Stokes (2012)
11) Turkish	TR-LARSP	Topbas, Yasar, & Ball (2012)
12) Welsh	LLALRSP	Ball (1988)

Source: Information from: *Assessing Grammar, The language of LARSP,* by M. Ball, D. Crystal & P. Fletcher, 2012, UK: Multilingual matters.

Keeping into consideration, the importance of this tool in detailed assessment of syntax development; it should be adapted and standardized in many more languages as possible. In Indian context, till date parallel version of LARSP is available only in Sylheti language. Hindi is the predominant language spoken by 41% of the total population of country (Census of India, 2011). Therefore, present study intends at developing LARSP in Hindi.

2.5.3. Application of LARSP

Apart from analyzing the child's language development, LARSP has a numerous different applications. It has been used for assessment of-

i. Comprehension (Crystal, Fletcher & Garman, 1989),
ii. Syntactic structures of person with aphasia (Kearns & Simmons, 1983)
iii. Language of children with hearing impairment (Bench & Bamford, 1979), and
iv. Acquisition of syntax in children who learn English as their second language (Saunders, 1998**)**.

2.6. Morphosyntactic structure of Hindi language

Knowledge of Hindi morphosyntactic framework is essential prior to begin the adaptation of LARSP in Hindi, particularly the frame of word-order across different sentence modalities, the composition of clause element and the details of Hindi morphology.

2.6.1. Hindi word order

The word-order of Hindi is not as the English Language. The typical frame work of Hindi sentences is '*subject-object-verb* (SOV), and in English is '*subject- verb-object'* (SVO). Abbi (2001) documented the typical feature of SOV structure includes -

i. Use of postpositions
ii. Modifiers such as adjectives, demonstratives and numerals precede nominals,
iii. The indirect object precede the direct object,
iv. The auxiliary verb follows the main verb,
v. Explicator follows the main verb,
vi. The genitive precedes the main verb,

The sentences modalities in Hindi typically follow the same framework. The common phrasal and clausal syntactic structure of Hindi declaratives, interrogatives, and negations are discussed in following paragraphs.

Declaration

Declarative is the sentence type used in the expression of statements. Syntax of declarative phrases Hindi language is depicted in Table 2.12. In Hindi, the use of determiners such as (a, an, the) is not mandatory in simple sentence constructions. The locatives in Hindi language are mostly used to represent determiners.

Table 2.12

Syntax of declarative at phrases level

Syntactic Structure	Example

DN (Determiner-Noun)*	/mere ʈʰɛle/
AdjN (Adjective-Noun)*	/ʃərarəʈI bəccʰe/
NN (Noun-Noun)*	/(vəh ʤIm ka) kuʈʈa (hɛ)/
NPP (Noun-Postposition)	/ka:r ke ənɖər/
VV (Verb-Verb)	/rUla ɖena/
Vpart (Verb-Participle)	/ʤa:ri rəho/
IntX (Intensifier - Entity)	/bəhuʈ UʈtedʒIʈ/
D Adj N (Determiner - Adjective-Noun)*	/mera pila ʈʰɛla /
Adj Adj N (Adjective-Adjective-Noun)*	/bəṛa nila gUbbara/
DNPP (Determiner-Noun – Postposition)	/ek gaṛi mẽ/
Adj N PP (Adjective-Noun – Postposition)	/əccʰi ka:r mẽ/
NP NP PP (Noun Phrase-Noun Phrase- Postposition)	/(vəh) ləṛka kar ke ənɖər/
DAdjN NP (Determiner- Adjective-Noun – Noun Phrase)	/ek bəṛe gʰər ke ənɖər /

*****Syntactic structure common in both Hindi and English language. The extended forms are presented in Appendix-III.

Apart from these above mentioned phrasal structures, expansion of phrasal structure shows the children's ability to embed clausal and phrasal level information within their single utterance. The expansion of noun phrase (NP), verb phrase (VP) and adjective phrase (AV) structures are commonly seen in children utterances are depicted in Table 2.13.

Table 2.13

Expansion of noun phrase (NP), verb phrases (VP) and adjective phrase (AV) structures

Syntactic structure	Example
NP = X + S	/mere pɪt̪adʒI k^{h}elt̪e hɛ̃/
NP = X + C	/bəhut̪ pagəl hɛ/
NP = X + O	/sva:d̪Iʃt piʒʒa k^{h}a/
NP = YX + S	/bIlli motI hɛ/
NP = XY + C	/mã sɑc mẽ gUssa hɛ/
NP = XY + O	/mɛ̃ rəsila p^{h}əl k^{h}at̪a hũ/
VP = X + V	/həm ʤa rəhe hɛ̃/
VP = XY + V	/pIlle adʒ so rəhe hɛ̃/
AP = X + A	/Us (ke) upər ʤat̪a hɛ/

The extended forms are presented in Appendix-III.

In Hindi-language, contracted copula does not exist. Thus, un-contracted copula (/hũ/, /hɛ̃/) receives credit at both phrase and word levels. However, in English, an un-contracted copula e.g. '*am'* receives credit at phrase level only and contracted copula e.g. '*I'm'* receives credit at both phrase and word level.

In addition, auxiliary verbs in Hindi are: -

i. Modal auxiliary (Aux^{M}): /-ʊ̃ga/, /c^{h}ahije/, /səkna/, /zərur/, /səkt̪a/, /-a/, /t̪a/, /kər/

ii. Other form (Aux^{O}): /hɛ/, /-o/, /d̪o/, /lIje/

The clausal level syntactic structure of Hindi declarative sentences that are commonly seen in children utterances are in Table 2.14.

Table 2.14

Syntax of declaratives at clausal level

Syntactic structure	Example
SV*	/məmmi a: rəhi (hɛ)/
SO*	/kU̪t̪ta k^{h}ana (k^{h}a) (rəha) (hɛ)/
SC*	/dɔli ʃərarə̪t̪i (hɛ)/
AX*	/d̪^{h}ire (se) cəl rəha (hɛ)/
OV	/(mɛ̃) pani pi̪t̪a hũ/
CV	/(vəh) devId hɛ/
SCV	/ bəcca ca:la:k hɛ/
SOV	/mUʤ^{h}e relgaṛi cahIje/
SAV	/məmmi d̪Ukanõ pər gəji t̪^{h}i /
ACA	/əb k^{h}Uʃ hũ /
OAV	/gẽð vəhã gIraji/
O_dO_iV	/(mɛ̃) t̪Um^{h}are (lIje) pej laja (hũ)/
SAOV	/ləṛka aʤ trəkõ (ke sat̪^{h} k^{h}elt̪a) (hɛ)/
SACV	/ vəh aʤ k^{h}Uʃ hɛ/
SO_dO_iV	/ maIkəl (ne) məmmi (ko) gẽd̪ fẽki/
SOCV	/mɛ̃(ne) Usko ba:vla kəha /

*Syntactic structures common in both Hindi and English language. The extended forms are presented in Appendix-III.

Interrogation

Interrogative is the sentence type used in the expression of questions. In Hindi language *'kya'* word functions as yes/no question. The *'x-question'* which are usually called as *'wh-question'* in English language includes who, what, how, when, where. Similarly in Hindi 'wh'- is replaced by /kɔn/, /kja/, /kɛse/, /kəb/ and /kəhɑ̃/. Syntax of interrogatives is depicted in Table 2.15.

Table 2.15

Syntax of Hindi interrogation

Syntax structures	Examples
XQ	/kuʈʈa kəhã (hɛ)/
XQY	/məmmi kəhã ʤa: rəhĩ (hɛ̃)/
S(X)V	/kUʈʈa ɖɔṛ rəha hɛ (kja)/
SQV	/ram kəhã hɛ/
X+QY	/canɖ pər fIslən kəhã hɛ/
SXV+	/ʈUm adʒ ʤa rəhe (ho) kja/
Tag	/Usne vo k^{h}a lIja kja/

The extended forms are presented in Appendix-III.

Negations

The simple negative markers in Hindi is */na/, /nəhĩ˜/and /mət/*. However double negative is also distinct in Hindi e.g., */nəhĩ˜……na/.* This construction has affirmative meaning.

The syntactic structures of Hindi negation are depicted in Table 2.16.

Table 2.16
Syntax of negation in Hindi language

Syntax structures	Examples
X Neg	/ k^{h}ana nəhĩ (hɛ)/
Y Neg X	/ɖ^{h}ul kəb^{h}i nəhĩ k^{h}aɔ /
VNeg	/ajegi nəhĩ/
X Neg	/ pɛsa nəhĩ (hɛ)/

The extended forms are presented in Appendix-III.

2.6.2. Hindi morphology

1. **Nouns-** A noun typology of Hindi language is similar to English.

   e.g. /ləṛka/, /ləṛki/, /kIʈab/.

2. **Pronouns-** Pronouns in Hindi can be divided into six classes-

   i. *Personal* e.g. /mɛ̃/, /mɛ̃ne/, /həm/, /həmẽ̃/, /həmlog/, /ʈ̪Um/, /ʈ̪Umne/, /ʈ̪U/ /ʈ̪Une/, /a:p/, /jəh/, /vəh/, /je/, /ve/, /velog/, /Isne/, /Ise/, /kɔi/, /kise/

   ii. *Demonstrative* e.g. /jəh/, /vəh/, /je/,/ve/

   iii. *Reflexive e.g.* /a:p/, /əpna/, /əpne ap/, /k^{h}uɖ̪/, /svʃ̃əm/

   iv. *Relative* e.g. /ʤo/, /so/, /ʤɛsa/, /vɛsa/

   v. *Indefinite* e.g. /kojI/, /kUc^{h}/, /kisI ko/, /kinhI ko/

   vi. *Interrogative* e.g. /koji/, /kja/, /kõ̃n/, /kisne/

3. **Adjectives**- Adjectives in Hindi language can be sub-divided into

   i. *Marked* e.g. /c^{h}ota/, /bUra/ and

   ii. *Unmarked* e.g.: /sa:f/, /b^{h}a:ri/

4. **Case markers-** There are eight case markers in Hindi.

   i. *Nominative* e.g. /ram ne k^{h}ana k^{h}aja/

   ii. *Objective* e.g. /ləṛka kU ʈ̪ ʈ̪e ko marʈ̪a hɛ/

   iii. *Instrumental* e.g. /ləṛki kələm se k^{h}əʈ̪ lik^{h} rəhi hɛ/

   iv. *Dative* e.g. /pIʈ̪aʤi mere lIje kIʈ̪ab laje/

   v. *Ablative* e.g. /pIʈ̪aʤi vIman se g^{h}ər gəje/

   vi. *Possessive* e.g. /sureʃ ka pətrə a:ja hɛ/

   vii. *Locative* e.g. /kɔa peṛ pər bɛt^{h}a hɛ/

   viii. *Vocative* e.g. /he b^{h}əgvan mUʤ^{h}e kʃ^{h}əma kəro/

5. **Verbs -** Hindi verbs are inflected with respect to

   i. Gender of the subject (masculine, feminine) (e.g. /so rəha hɛ/, /so rəhi hɛ/)

   ii. Number of the subject (singular, plural) (e.g. /ʤa rəha hɛ/, /ʤa rəhe hɛ̃/)

iii. Tense (present, past, future) (e.g. /k^{h}el rəha hɛ/, /k^{h}el̪ta/, /k^{h}elega/)

Iinflecting nature of language leads to a large number of portmanteau morphs. Thus in word */jaẽgi/-*

ja – is the root word,

-e- indicate third person,

nasalization indicates plural, and honorific

-g- is future tense marker

–i- indicate feminine gender

6. **Postpositions-** Hindi is a postpositional language. e.g. /kIt̪ab teb əl ke upər hɛ/. Contrarily English is a prepositional language. e. g. *the book is on the table.*
7. **Coordination-** The coordination has been described as syntactic construction that combines two or more similar units into a larger unit without altering the semantic relations with adjoining constituent (Haspelmath, 2000). In Hindi, coordinators are used for various semantic functions, as shown in Table 2.17.

Table 2.17

Coordinators in Hindi language

Coordinators	Examples
Conjunction	/ɔr/, /ɔr…b^{h}i/, /pər/, /pər…b^{h}i/, /kjo͂ki/
Disjunction	/ya/, /ət̪^{h}wa/, /ki/
Adversative	/bəlki/,
Negative coordination	/na/, /cahe….cahe/

Source: Information from*: A Manual of Linguistic Field Work and structure of Indian Language* (p. 213-215) by A. Abbi, 2001, EC: Lincom Europa.

A summary of morphosyntactic differences between English and Hindi languages:

	English	Hindi
Noun	Noun typology is similar to both language	
Pronoun	Four classes of pronoun including: Personal, Reciprocal, Interrogative and Relative	Six classes of pronoun including: Personal, Demonstrative, Reflexive, Relative, Indefinite and Interrogative
Adjective • Comparative • Superlative • Adjective to adverb	Adjective typology is similar to both language -er form -est form -ly form	/bəhU̱/ /səbse/ -/ṯa/, /pən/, - /ḏar/, /a:i/, /la:/
Case markers	Five case markers in English: Genitive, Dative, Ablative, Locative Comitative	Eight case markers in Hindi: Nominative, Objective, Instrumental, Dative, Ablative, Possessive, Locative and Vocative
Verb	Inflected with respect to tense only.	Inflected with respect to gender, number of subjects and tense
1) Copula verb	• Contracted into words that precede it. • Clause element following the copula verb must be a complement	• Not contracted into words that precede it. • Clause element following the copula verb may be a complement
2) Auxiliary verb	contracted into words that precedes it	Not contracted into words that precedes it
Present continuous	-ing	-/rəha/
Simple past tense	-ed; and irregular pattern	/a/, /i/; no irregular pattern
Past perfect tense	-en; and irregular pattern	/ṯa/, /ṯi/; no irregular pattern
3rd person singular	3s and also irregular pattern.	/vəh/ and also irregular pattern

Determiner	A, an the	Locative represents determiner
Plural	-es, -e	-/e/, -/jã/, -/õ/
Coordination	In English, coordinators acts as conjunctions only.	In Hindi, co-coordinators are used as conjunction, disjunction, adversative and negative coordination.
Noun phrase	Head can be noun/ pronoun/ modifiers/ determiner/ complements.	Head can be nominal or modifiers
Adjectival phrase	An adjective is head, and accompanied by modifiers and/ or quantifiers.	Adjective phrase are simple as well complex
Post/ prepositional phrase	Prepositional phrase	Postpositional phrase
Adverbial phrase	An adverb is head, and accompanied by modifiers and/ or quantifiers	Combination of simple or compound postposition to a noun.
Canonical syntax • Declarative • Interrogative • Negation	 subject- verb-object Question- verb- subject Neg-XY	 subject-object-verb Subject-question-verb X- Neg-Y

CHAPTER III
METHOD

The present study intended to adapt and standardize the "Language Assessment Remediation and Screening Procedure" (LARSP) (Crystal, Fletcher & Garman, 1976) in Hindi language. The study utilized cross-sectional research design to appreciate the sequential acquisition of syntactic skills of native Hindi speaking, typically developing children in the age range of 0.9 -to- above 4.6 years.

3.1. Participants

Participants were one hundred and seventy five (97 boys & 78 girls) typically developing children in the age range of 0.9 -to- above 4.6 years. Based on age, they were classified into seven age groups. Each group had 25 participants, comprising of both male and female participants (Table 3.1).

Table 3.1
Age-group wise distribution of participants

Group	Age range	N	Males/ Females
I	0;9 – 1;6 years	25	14/11
II	1;6 – 2;0 years	25	16/9
III	2;0 – 2;6 years	25	14/11
IV	2;6 – 3;0 years	25	13/12
V	3;0 – 3;6 years	25	11/14
VI	3;6 – 4;6 years	25	16/9
VII	Above 4;6 years	25	16/9

3.2. Inclusion criteria

The participants were recruited in the study considering the following inclusion criteria-

1) *Native Hindi speaker:* The study intends to look into the sequential acquisition of syntactic skills of native Hindi speaking children. The term "native Hindi speaker" in this study means that language provided by the parents/ caregivers; and language used by the participant at different settings (home, school, market, play, relatives, etc) should follow the grammar as similar as the grammar used by Hindi speakers of that region. All the participants of the study were native Hindi speakers.
2) *Monolinguals (Hindi):* In the era of modern technology it is difficult to get a monolingual person in a multilingual nation like India. During speech and language development of children or even afterwards, the familiarity of two or more different languages might be observed in their samples. Therefore, in order to understand the syntactic structures of Hindi in a better manner, the study considered monolinguals that were using Hindi language (L1) most of the time (more than 90%) in their daily routine. They were exposed to the other language (L2) English as a second language rarely (less than 10%) at school and or by electronic media.
3) *Age appropriate developmental milestone:* All the participants should have achieved developmental milestone age appropriately. This was insured using 'Communication DEALL development checklist' (Karanth, 2007). The checklist assesses the developmental milestones across seven dimensions, viz gross motor, fine motor, activity of daily living, receptive language, expressive language, cognitive skill, social skill and emotional skill.
4) *Absence of neurological, psychological problems and sensory deficits:* Participants had no record of any neurological or psychological problems and sensory deficits as per parents' report and researcher's observation. In addition, the WHO Ten Questions

(Singhi, Kumar, Malhi, & Kumar, 2007) was used to screen the above problems or deficits.

5) *Physically healthy:* Physical health influences the amount and quality of linguistic output. Participants were not under any medication. All the participants were physically healthy while participating into the study.
6) *Unaware about recording of speech sample:* Apart of physical fitness, any consciousness of participants regarding his/her recording of speech, might limit the linguistic output. Therefore, only the samples of the participant's unawareness of recording their speech samples were included in this study (without examiner - parent based; discussed in the pilot study section).
7) *Middle socio-economic strata*: To control the effect of socioeconomic condition on speech outcome, participants were taken from middle socio-economic status. The socio-economic strata were calculated using Kuppuswamy's socioeconomic status scale (Kumar, Gupta & Kishore, 2012).

3.3. Procedure

The study was completed in a series of three phases in order to achieve the stated aims. Phase I: Development of the test material and pilot study; Phase II: Administering the test material on typically developing children; and Phase III: Checking reliability and validity of test the material.

Phase I: Development of the test material

The development of the test material was a stepwise procedure as follows-

1) ***Translation:*** Although, the current study was planned on the LARSP (Crystal, et al., 1976) but for translation from English to Hindi language the LARSP Users Manual

(Boehm, Daley, Harvey, Hawkins, & Tsap, 2005) were preferred due to its clarity and simplicity. Both English and Hindi language belonged to different language families and differ in their grammatical compositions, therefore an equivalent translation was done.

2) ***Comparison*:** After equivalent translation, a comparison of LARSP profile in Hindi and English was done to bring out the similarity and differences in syntactic structures between the languages. The comparisons of Hindi and English syntactic structures based on LARSP are described in chapter IV.

3) ***Modification:*** After comparison, suitable modifications in translated version were carried out. For this purpose, several transcripts of child language in Hindi were analyzed by two language experts of Hindi language. They also reviewed the available literature in Hindi from books, journals and web-based sources and existing tools in India. The syntactic structures which did not exist in the English version were noted down and added up into them.

4) ***Appropriateness judgment and finalization:*** The modified version was rated by two language experts for the appropriateness of each syntactic structure. This was performed on Likert-type scale (0 = not appropriate at all; 1 = can be accepted but not most appropriate; 2 = most appropriate). After appropriateness rating, modifications were again made if needed and preliminary Hindi version was finalized (appendix I).

Pilot Study

The primary aim of the pilot study was to determine whether the test material developed as well as the procedure of test administration appropriately met the aim of the study. In the pilot phase the test was administered on a total of 21 children (3 in each age group). During this phase of study, the samples of four children obtained by researcher

and parents separately were compared. It was found that in the presence of researcher, the children became conscious about their responses and quantity of output was hence reduced. However, no differences were obtained in syntactic structures. Therefore, it was concluded that the sample might be obtained in the absence of researcher by providing the digital audio recorder to the parents. Hence, parents based recording was used for data collection which was actively monitored by the researcher. After incorporating the above modifications the test was administered on 175 participants.

Phase II: Test administration

The adapted LARSP-Hindi was administered on 175 typically developing participants (100 boys and 75 girls) in the age range of 0.9 - to- above 4.6 years. Typically developing participants were enrolled from homes and primary schools in Patna and their immediate surrounding areas following the above mentioned inclusion criteria.

At first written consent was obtained from the parents of the participants. The document informed the objectives, justifications, and procedures of this investigation. Then after, demographic information, and background information were obtained prior to the collection of speech samples.

Collection of speech sample

Two types of speech samples were collected from each participant.

1) ***Dyadic interaction****:* Each participant underwent dyadic interaction for approximately 15 minutes with familiar adults/ peer mates in an unstructured, free-play setting at his/her home or setting which was familiar to the participant and preferred by him/her. If the interaction sample was less than 15 minutes duration, pictures, books, and sensory social routines were used to elicit the samples and or continue the interaction.

Prompted dialogues (eg. what are you doing, where is your mummy. etc) were also provided to some of the participants who stayed fairly quiet during the interaction.

2) ***Dialogue:*** After dyadic interaction, an approximately 15 minutes of dialogue (narration, explanation) on different topics based on participant's knowledge, experience and interest were collected in an unstructured setting at home or setting which was familiar to the participants and preferred by them.

The 30 minutes (dyadic: 15 minutes and dialogue: 15 minutes) sample from typically developing children includes 100-200 sentences (Crystal, etal, 1989). Amongst those collected sample a minimum of 50 sentences (both the tasks taken together) were considered for analysis, as recommended by Lee and Canter (1971). All the samples were audio recorded in digital voice recorder (Olympus WS-550M) at quiet and distraction free environment. The recorder was kept out of the participant's vision to make him /her unaware regarding the recording of speech sample. The total time for data collection for each participant was 35-40 minute.

The recorder was provided to their parents to record the sample in the absence of examiner, as participants did not interact or played with the examiner or strangers. For this, parents were trained to operate the digital voice recorder. They were instructed to record both types of speech samples as mentioned above, according to his/her convenience. After recording the recorded speech sample was collected from the parents.

Transcription of speech sample

The recorded speech samples were transcribed. A transcription sheet with right and left sided margin were used. Information about the participants and their recording session were mentioned on the top of the page. Right sided margin included any information for

someone (examiner other than the researcher) that had not heard the recording, but can read through transcription. For example, the information about material used (e.g. while showing the car to the participant; book), informations about quality of recording at specific points (eg. call bell sound; participant looking towards kitchen). This information helped to analyze immature articulation, zero response, inattention, incomprehension, etc. Whereas, left sided margin included the utterances of partners and participants which were written down in sentence-per-line convention; and also, glossing of the utterances, which described situational events (e.g. *bye bye* to someone waving while going out).

Analysis and profiling of speech sample

Finally, the transcribed sample was analyzed at four levels of structural organizations viz., sentence, clause, phrase, and word types. Finally the analyzed sample was profiled using the LARSP chart developed for the Hindi language.

Phase III: Reliability and validity of the material

To assess inter-judge reliability ten percent of the audio recorded data were retested by another SLP. To assess the validity, the LARSP-Hindi was administered on 21 participants (3 in each group) comprising of language impaired children.

3.4. Statistical Analysis

All data were recorded into Statistical Program for Social Sciences (SPSS) 16.0 for statistical analysis. Chi-square test was utilized to evaluate statistical differences between the categorical data. Two-Sample test for equality of proportion was also done to see the significant difference between proportions of syntactic structures occurring in one age group to the proportion of cues occurring in another age group. The inter-judge reliability was calculated by the Cronbach's alpha coefficients for each of the syntactic structures.

CHAPTER IV

COMPARISON OF ENGLISH AND HINDI SYNTACTIC STRUCTURES BASED ON LARSP PROFILE

In the LARSP The syntactic development of English–acquiring children has been described across the stage I (0;9-1;6 years) to stage VII (above 4;6 years). Infants begin to produce their first word at about one year of age, therefore, at stage I morphosyntactic achievements are considered to be minimal or nonexistent. Around stage II (1;6-2;0 years) toddlers begin to produce syntactic forms. Hence, clausal and phrasal structures of each stage of LARSP-English have been analyzed and compared with the clausal and phrasal structures of Hindi language starting from this stage only.

STAGE II (1;6-2;0 YEARS)

The clause and phrase structures of English language in second stage (1;6-2;0 years) of the LARSP profile is presented in Table4.1.

Table 4.1

Clause and phrase structures of stage II (1;6-2;0 years) in LARSP-English.

Clause			Phrase
Comm.	Ques.	Statement	
V*X*	Q*X*	SV A*X* SO VO SC VC Neg*X* Other	DN VV Adj N Vpart NN Int *X* Pr N Other

The above mentioned clausal and phrasal structures of English-acquiring children are being compared with the children who were acquiring Hindi language. The comparisons for each of the clausal and phrasal structures are as follows:

1. Comparison at clausal level

a) Command (Comm.)

The clausal structure for command type sentence in the LARSP-English is presented as verb-element (V*X*).

e.g. *(He) eat carrots!* (2.1)

V N

(You) sit now! (2.2)

V A

In example (2.1) a verb '*eat'* combines with a noun (N) '*carrots',* whereas in example (2.2), a verb '*sit'* combines with an adverb (A) '*now'* to form the commands. In both the examples, verb precedes to an element (e.g. noun, adverb). The equivalent translation of examples (2.1) and (2.2) into Hindi language is shown in examples (2.3) and (2.4) respectively.

e.g. /gadʒərõ (ko) k^hao/ (2.3)

N V

/əb bɛt^ho/ (2.4)

A V

In both the examples (2.3) and (2.4) a verb (/k^{h}ao/, /bɛt^{h}o/) followed an element (noun: /gadʒərõ/, adverb: /əb/) to form the commands respectively in Hindi. Thus V*X* clause of English is equivalent to *X*V in Hindi language.

b) Question (Ques.)

The clausal structures for question type sentence in the LARSP-English are presented as verb-element (Q*X*).

e.g. Where doggie? (2.5)

Q N

Who happy? (2.6)

Q Adj

Why me? (2.7)

Q Pr

In example (2.5) a noun '*doggie'* combines with a question (Q) word '*where'*. However, in example (2.6), an adjective '*happy'* combines with question '*who'* and in example (2.7) a pronoun (Pr) '*me*' attached with a question word *'why'* to form the interrogative utterances. In these examples (2.5), (2.6) and (2.7), question (where, who, why) preceded to an element (e.g. noun, adjective & pronoun) which forms Q*X* clausal structure. The equivalent translation of examples (2.5), (2.6) and (2.7) into Hindi language are shown in examples (2.8), (2.9) and (2.10) respectively.

e.g. /kutta kəhã/ (2.8)

N Q

/k^{h}Uʃ kɔn (hɛ)/ (2.9)

Adj Q

/mUdʒʰe kjõ/ (2.10)
Pr Q

In examples (2.8), (2.9) and (2.10) interrogative words (/kəhã/, /kɔn/, / kjõ/) followed an element (noun: /kutta/, adjective: /kʰUʃ/, pronoun: / mUdʒʰe/) to form the interrogative utterances in Hindi. Thus Q*X* clause of English is equivalent to *X*Q in Hindi language.

c) Statement

Seven clausal structures (SV, SO, A*X*, VO, SC, VC and Neg*X*) for the statement type utterances were presented in LARSP-English. Each of these structures is compared with Hindi which is as follows:

(i) Subject- verb (SV)

The examples of SV clausal structures in English are shown in examples (2.11) and (2.12).

e.g. Mummy (is) coming (2.11)
S V

Dolly come(s) (2.12)
S V

In example (2.11) a subject (S) '*Mummy'* combines with the verb (V) *'coming'* to the SV clausal structure. Similarly in the example (2.12) a subject 'Dolly' combines with a verb '*come'*, which forms SV structure. The equivalent translation of examples (2.11) and (2.12) into Hindi language is shown in examples (2.13) and (2.14) respectively.

e.g. /məmmi a:rəhi (hɛ)/ (2.13)
S V

/dɔlI a:(o)/ (2.14)

S V

In both examples (13) and (14) the subject (/məmmi/, /dɔlI/) appeared prior to verb (/aːrəhi/, /aː/) to form the SV clausal statement in Hindi. Thus SV clausal structure in Hindi is similar to English language.

(ii) Subject- object (SO)

The illustrations of SO clausal structures in English are shown in examples (2.15) and (2.16).

e.g. Doggie food (2.15)

S O

John(‘s) ball (2.16)

S O

In example (2.15) a subject (S) ‘*Doggie’* precedes the object (O) *‘food’* to form the SO clausal structure. Similarly in example (2.16) a subject ‘*John*’ combines with an object *‘ball’*, which forms SO structure. The equivalent translation of examples (2.15) and (2.16) in Hindi language is shown in examples (2.17) and (2.18) respectively.

e.g. / kU̪tta (ka) k^{h}ana / (2.17)

S O

/ ʤɔn (ki) gẽḏ / (2.18)

S O

In both examples (2.17) and (2.18) the subject (/kU̪t̪a/, /ʤɔn/) appeared prior to verb (/k^{h}ana /, /gɛ̃d̪/) to form the SO clausal statement in Hindi. Thus, SO clausal structure in Hindi is similar to English language.

(iii) Subject- Complement (SC)

The illustration of SC clausal structures in English is shown in examples (2.19) and (2.20).

e.g. (The) Dolly (is) naughty (2.19)

S C

You (are) happy (2.20)

S C

In example (2.19) a subject (S) '*Dolly'* precedes the complement (C) *'naughty'* to form the SC clausal structure. Similarly in example (2.20) a subject '*you*' combines with an object '*happy'*, which forms SC structure. The equivalent translation of examples (2.19) and (2.20) in Hindi language is shown in examples (2.21) and (2.22) respectively.

e.g. /dɔli ʃərarəṯi (hɛ)/ (2.21)

S C

/ṯUm k^{h}Uʃ (ho)/ (2.22)

S C

In both examples (21) and (22) the subject (/dɔli/, /ṯUm/) appeared prior to verb (/ʃərarəṯi/, /k^{h}Uʃ/) to form the SC clausal statement in Hindi. Thus, SC clausal

structure in Hindi is similar to English language. Moreover, in Hindi language the use of determiners such as (the, a) is not compulsory in simple sentence constructions.

(iv) Negative- any element (Neg *X*)

The clausal structure for negative sentence in the LARSP-English is being presented as negative-element (Neg *X*).

e.g. (I) don't want food (2.23)

Neg O

I cannot hear (2.24)

Neg V

In example (23) an object (O) '*food'* precedes negation (Neg) '*don't'*, whereas in example (24), a verb '*here'* precedes a negation '*cannot'* to form the negation clausal structure. In both examples, negation precedes to an element (e.g. object, verb). The equivalent translation of examples (2.23) and (2.24) into Hindi language is shown in examples (2.25) and (2.26) respectively.

e.g. /mɛ̃ kʰana nəhĩ cahṯa/ (2.25)

O Neg

/mɛ̃ sUn nəhĩ səkṯa (hũ)/ (2.26)

V Neg

In both examples (25) and (26) a negation (/nəhĩ/) followed an element (object: /kʰana/, verb: /sUn/) to form the negation clausal structure in Hindi. Thus Neg X clause of English is equivalent to X Neg in Hindi language.

(v) Adverb- Any element (A*X*)

The arrangement of AX clausal structures in English are shown in examples (2.27) and (2.28)

e.g. Slowly moving (2.27)

A V

Today (is) really sunny (2.28)

A Int. Adj

In example (2.27) an adverb (A) '*slowly'* precedes the verb (V) *'moving'* to form the AV clausal structure. Similarly in example (2.28) an adverb '*today*' combines with an intensifier (Int) '*really'*, and an adjective (Adj) *'sunny'* which forms A IntAdj clausal structure. In both examples, an adverb precedes to an element (e.g. verb, IntAdj) to form the A*X* clausal structure in English. The equivalent translation of examples (2.27) and (2.28) into Hindi language is shown in examples (2.29) and (2.30) respectively.

e.g. /d̪^{h}ire (se) cəl rəha (hɛ)/ (2.29)

A V

/adʒ səcmUch cəmkila (hɛ)/ (2.30)

A Int. Adj

IntAdj

In both examples (2.29) and (2.30) an element (verb: /cəl/, IntAdj: /səcmUch cəmkila/) appeared prior to adverb (/d̪^{h}ire/, /adʒ/) to form the A*X* clausal statement in Hindi. Thus, A*X* clausal structure in Hindi is similar to English language.

(vi) Verb-Object (VO)

The example of VO clausal structures in English are shown in examples (2.31) and (2.32).

e.g. (I) drink water (2.31)

V O

I am reading books (2.32)

V O

In the examples (2.31) and (2.32) the verb (V) '*drink' and 'reading'* precedes to object (O) *'water'* and *'books'* respectively which form the VO clausal structure in English. The equivalent translation of examples (2.31) and (2.32) into Hindi language is shown in examples (2.33) and (2.34) respectively.

e.g. /(mɛ̃) pani piʇa hũ/ (2.33)

O V

/(mɛ̃) kIʇabɛ̃ pəɽʰ rəha hũ/ (2.34)

O V

In both examples (2.33) and (2.34) object (/pani/, /kIʇabɛ̃/) appeared prior to verb (/piʇa/, /pəɽʰ/) to form the OV clausal statement in Hindi. Thus, OV clausal structure in Hindi is equivalent to VO clausal structure of English language.

(vii) Verb-Complement (VC)

The illustration of VC clausal structures in English are shown in examples (2.35) and (2.36).

e.g. (He) is David (2.35)

V C

(You) are hungry (2.36)

V C

In examples (2.35) and (2.36) the verb (V) '*is' and 'are'* combined with complement (C) *'David'* and *'hungry'* respectively, which form the VC clausal structure in English. The equivalent translation of examples (2.35) and (2.36) in Hindi language is shown in examples (2.37) and (2.38) respectively.

e.g. /(vəh) devId hɛ/ (2.37)

C V

/(ʈ̪Um) $b^h uk^h e$ ho/ (2.38)

C V

In both examples (2.37) and (2.38) complement (/devId/, /$b^h uk^h$e/) appeared prior to verb (/hɛ/, /ho/) to form the CV clausal statement in Hindi. Thus, CV clausal structure in Hindi is equivalent to VCC clausal structure of English language.

The verb /hɛ/ is a copula, thus the clause element preceding the verb element may be a complement in Hindi language. However in English, the verb '*is*' a copula, so the clause element following the verb element must be a complement.

2. Comparison at phrase level

Seven phrasal structures (DN, AdjN, NN, PrN, VV, V part and Int*X*) were presented in LARSP-English. Each of these structures is compared as follows:

(i) Determiner-Noun (DN)

The illustrations of DN phrase structures in English are shown in examples (2.39) and (2.40).

e.g. My bags (2.39)

D N

A chocolate (2.40)

D N

In example (2.39) determiner (D) '*my'* precedes the noun (N) *'bags'* to form the DN phrasal structure. Similarly in the example (2.40) determiner '*a*' combines with a noun '*chocolate'* to DN structure. The equivalent translation of example (2.39) and (2.40) into Hindi language is shown in examples (2.41) and (2.42) respectively.

e.g. /mere t^{h}ɛle/ (2.41)

D N

/ek cɔkəlet/ (2.42)

D N

In both examples (2.41) and (2.42) the noun (/t^{h}ɛle/, / cɔkəlet/) follows the determiner (/mere/, /ek/) to form the DN phrase in Hindi. Thus, DN phrasal structure in Hindi is similar to English language.

(ii) Adjective-Noun (Adj N)

The illustrations of Adj N phrase in English are shown in examples (2.43) and (2.44).

e.g. Slow snail (2.43)

Adj N

Naughty children (2.44)

Adj N

In examples (2.43) and (2.44) the adjective (Adj) '*slow'* and *'naughty'* combined with noun (N) *'snail'* and *'children'* respectively, which form the AdjN

phrasal structure in English. The equivalent translation of examples (2.43) and (2.44) into Hindi language is shown in examples (2.45) and (2.46) respectively.

e.g. /ɖ̤^{h}ima g^{h}õg^{h}a / (2.45)

Adj N

/ʃərarəʈ̤i bəcc^{h}e / (2.46)

Adj N

In both examples (2.45) and (2.46) the noun (/g^{h}õg^{h}a /, /bəcc^{h}e/) follows the adjective (/ɖ̤^{h}ima/, /ʃərarəʈ̤i/) to form the AdjN phrase in Hindi. Thus, AdjN phrasal structure in Hindi is similar to English language.

(iii) Noun-Noun (NN)

The illustration of NN phrase in English is shown in example (2.47).

e.g. Ram's doggie (2.47)

N N

In example (2.47) noun (N) '*ram'* and *'doggie'* combined to form the NN phrasal structure in English. The equivalent translation of example (2.47) into Hindi language is shown in example (2.48).

e.g. /ram (ka) kUʈ̤ta/ (2.48)

N N

Similar to example (2.47), in example (2.48) again the noun '/ram/' and '/kUʈ̤ta/' combined to form the NN phrase. Thus, NN phrasal structure in Hindi is similar to English language.

(iv) Preposition-Noun (PrN)

The illustration of PrN phrase structures in English are shown in examples (2.49) and (2.50).

e.g. At (the) home (2.49)

Pr N

In (the) car (2.50)

Pr N

In examples (2.49) and (2.50) the preposition (Pr) '*at'* and *'in'* are combined with noun (N) *'home'* and *'car'* respectively, which form the PrN phrasal structure in English. The equivalent translation of examples (2.49) and (2.50) in Hindi language is shown in examples (2.51) and (2.52) respectively.

e.g. /gʰər pər/ (2.51)

N PP

/ ka:r (ke) ənḍər/ (2.52)

N PP

In both the examples (2.51) and (2.52) noun (/gʰər/, /ka:r/) appeared prior to post position (PP) (/pər/, /ənḍər/) to form N PP phrase in Hindi. Thus, N PP phrasal structure in Hindi is equivalent to Pr N phrase of English language.

(v) Verb-Verb (VV)

The illustration of VV phrase in English is shown in example (2.53).

e.g. Make cry (2.53)

V V

In example (2.53) verb (V) '*make'* and *'cry' are* combined to form the VV phrasal structure in English. The equivalent translation of example (2.53) in Hindi language is shown in example (2.54).

e.g. /rUla ɖena/ (2.54)
V V

Similar to example (2.53), in example (2.54) the verb '/rUla/' and '/ɖena/' are combined to form the VV phrase. Thus, VV phrasal structure in Hindi is similar to English language.

(vi) Verb-part (V part)

The illustration of V part phrase in English is shown in example (2.55).

e.g. Carry on (2.55)
V part

In example (2.55) a verb (V) '*carry'* and a part *'on'* are combined to form the V part phrasal structure in English. The equivalent translation of example (2.55) into Hindi language is shown in example (2.56).

e.g. /ʤa:ri rəho/ (2.56)
V part

Similar to example (2.55), in example (56) the verb '/ʤa:ri/' and a part '/rəho/' are combined to form the V part phrase. Thus, V part phrasal structure in Hindi is similar to English language.

(vii) Intensifier- element (Int *X*)

The illustration of Int X phrase in English is shown in example (2.57).

e.g. Very exited (2.57)

Int Adj

In example (2.57) a intensifier (Int) '*very'* and an adjective element *'exited'* are combined to form the Int *X* phrasal structure in English. The equivalent translation of examples (2.57) into Hindi language is shown in example (2.58).

e.g. /bəhut̪ Ut̪ʈedʒIt̪/ (2.58)

Int Adj

Similar to example (2.57), in example (2.58) the Int /bəhut̪/ and an adjective element /Ut̪ʈedʒIt̪/ are combined to form the Int *X* phrase. Thus, Int *X* structure in Hindi is similar to English language. In summary, after comparison and equivalent translation of phrasal and clausal structures of the second stage (1;6-2;0 years) of LARSP English into Hindi language, the depiction is shown in Table 4.2.

Table 4.2.

Clause and phrase structures of stage II (1;6-2;0 years) in Hindi language.

Clause				Phrase	
Comm.	Ques.	Statement			
XV	XQ	SV	AX	DN	VV
		SO	OV	Adj N	Vpart
		SC	CV	NN	Int X
		XNeg	Other	NPP	Other

STAGE III (2;0-2;6 YEARS)

The clause and phrase structures of English language in third stage (2;0-2;6 years) of the LARSP profile is presented in Table 4.3.

Table 4.3

Clause and phrase structures of the stage III (2;0-2;6 years) in LARSP-English.

Clause				Phrase	
Comm.	Ques.	Statement			
V *X Y*	Q *X Y*	SVC	VCA	DAdjN	Cop
let X Y	VS*(X)*	SVO	VOA	AdjAdjN	$Aux^{M}o$
do X Y		SVA	VOdOi	Pr DN	Other
		Neg *XY*	Other	$Pron^{P}{}_{o}$	

The above mentioned clausal and phrasal structures of English-acquiring children were compared with the children who were acquiring Hindi language. The comparisons for each of the clausal and phrasal structures are as follows:

1. Comparison at clausal level

a) Command (Comm.)

The clausal structures for command type utterance in the LARSP-English were presented as verb-one element-another element (*XY*), let-one element-another element (*let XY*) and do- one element- another element (do *XY*). The comparisons for each of the clausal structures are as follows:

(i) Verb-One element- Another element (V*XY*)

The illustrations of V *X Y* clausal structure are shown in examples (3.1) and (3.2).

e.g. Put (the) ball down! (3.1)

V *X* *Y*

Eat the orange cake now! (3.2)

V *X* *Y*

In example (3.1) a verb '*put'* combines with a noun element (*X*) '*ball'*, followed by another preposition element (*Y*) *'down'*. Similarly in example (3.2), a verb '*eat'* combines with a noun element (*X*) '*the orange cake'* followed by another adverb element (*Y*) '*now'* to form the V *XY* clausal structure of commands. In both the examples, verb precedes to both the element *X* and *Y*. The equivalent translation of examples (3.1) and (3.2) into Hindi language is shown in examples (3.3) and (3.4) respectively.

e.g. /gɛ̃d̪ (ko) nic^{h}e rək^{h}o/ (3.3)

X *Y* V

/əb ɔrendʒ kek (ko) k^{h}a/ (3.4)

X *Y* V

In examples (3.3) and (3.4) a verb (/rək^{h}ao/, /k^{h}a/) is followed by an element *X* (noun: /gɛ̃d̪ (ko)/, adverb: /əb/) and another element *Y* (preposition: /nic^{h}e/, noun: /ɔrendʒ kek/) respectively to form the *XY*V clausal level structure of commands in Hindi. Thus *XY*V clause of Hindi is equivalent to V*XY* of English language.

(ii) *let*-One element- Another element (*let X Y*)

The illustrations of *let XY* clausal structure are shown in examples (3.5) and (3.6).

e.g. Let (the) doggie go! (3.5)

X *Y*

Let baby play! (3.6)

X *Y*

In example (3.5) '*let'* combines with an element (*X*) '*doggie'*, followed by another element (*Y*) *'go'* which belongs to noun and verb grammatical category. Similarly in the example (3.6), '*let'* combines with a noun element (*X*) '*baby'* followed by another verb element (*Y*) '*play'* to form the *let XY* clausal structure of commands. In both the examples, *let* precedes the element *X* and *Y*. The equivalent translation of examples (3.5) and (3.6) into Hindi language is shown in examples (3.7) and (3.8) respectively.

e.g. / kU̪t̪e (ko) ʤane d̪o/ (3.7)

X *Y*

/ bəcce (ko) kʰelne d̪o/ (3.8)

X *Y*

In the examples (3.7) and (3.8) an element *X* (noun: /kU̪t̪e/, /bəcce/) combined with another element *Y* (verb: /ʤane/, /kʰelne/) is followed by /d̪o/, which in turn form the *XY* d̪o clausal structure of commands in Hindi . Thus *XY* d̪o clause of Hindi is equivalent to let *XY* of English language.

(iii) *do*-One element- Another element (*do X Y*)

The illustrations of *do X Y* clausal structure are shown in examples (3.9) and (3.10).

e.g. Do sing now! (3.9)

X *Y*

Do tie my shoelace! (3.10)

X *Y*

In example (3.9) '*do'* combines with a verb element (*X*) '*sing'*, followed by another adverb element (*Y*) *'now'*. Similarly in example (3.10), '*do'* combines with a verb element (*X*) '*tie'* followed by another noun element (*Y*) '*shoelace'* to form the *do XY* clausal structure of commands. In both examples, *do* proceed to both the element *X* and *Y*. The equivalent translation of examples (3.9) and (3.10) into Hindi language is shown in examples (3.11) and (3.12) respectively.

e.g. /əb ga ɖo/ (3.11)

Y X

/mere ʤuṯe ke p^{h}ite ko band^{h} ɖo/ (3.12)

Y X

In examples (3.11) and (3.12) an element *Y* (/əb/, /mere ʤuṯe ke p ^{h}ite ko/) combined with another element *Y* (/ga/, /band^{h}/) is followed by /ɖo/, which inturn form the *YX* ɖo clausal structure of commands in Hindi . Thus *YX* ɖo clause of Hindi is equivalent to *XY* /ɖo/ of English language.

b) Question (Ques.)

The clausal structures for question type utterances in the LARSP-English for stage third were presented as question-one element-another element (Q *XY*) and verb- subject-(element) [VS(X)]. The comparisons for each of the structures are as follows:

(i) Question-One element- Another element (Q *XY*)

The illustrations of Q *XY* clausal structure are shown in examples (3.13) and (3.14).

e.g. Where (is) mummy going? (3.13)

Q *X Y*

Which is yellow? (3.14)

Q X Y

In example (3.13) an interrogative word '*where'* combines with a noun element (*X*) '*mummy'*, followed by another verb element (*Y*) *'going'*. Similarly in example (3.14), an interrogative word '*which'* combines with a verb element (*X*) '*is'* followed by another adjective element (*Y*) '*yellow'* to form the Q *XY* clausal structure of interrogative utterances. In both the examples, interrogative word precedes to both the elements *X* and *Y*. The equivalent translation of examples (3.13) and (3.14) into Hindi language is shown in examples (3.15) and (3.16) respectively.

e.g. /məmmi kəhã ʤa: rəhĩ (hɛ̃)/ (3.15)

X Q *Y*

/pila kɔnsa hɛ̃/ (3.16)

X *Q* Y

In the examples (3.15) and (3.16) an interrogative word (/kəhã/, /kɔnsa/) is followed by an element (*X*) (noun: /məmmi/, adjective: /pila/) and proceeded by another element *Y* (verb: /ʤa: rəhĩ/, /hɛ̃/) to form the *X*Q*Y* clausal level structure of interrogative utterances in Hindi. Thus *XQY* clause of Hindi is equivalent to Q*XY* of English language.

(ii) Verb- Subject-(Element) [VS(*X*)]

The illustrations of VS(X) clausal structure in English are shown in examples (3.17) and (3.18).

e.g. Is doggie running ? (3.17)

V S *(X)*

Will Meghna go? (3.18)

V S *(X)*

In example (3.17) a verb '*is'* combines with a subject (*S*) '*doggie'*, followed by an element (*X*) *'running'*. Similarly in example (3.18), a verb '*will'* combines with a subject '*Meghna'* followed by an element '*go'* to form the VS(*X*) clausal structure of interrogative utterances. In both the examples, verb appeared prior to both the subject and an element (*X*). The equivalent translation of examples (3.17) and (3.18) into Hindi language is shown in examples (3.19) and (3.20) respectively.

e.g. /kU̪tta d̪ɔṛ rəha hɛ (kja)/ (3.19)

S (X) V

/mIɛgəna dʒaj(-egi) kja/ (3.20)

S (X) V

In examples (3.19) and (3.20) an element (X) (/d̪ɔṛ rəha/, /dʒajegi/) is followed by verb (/hɛ/, /(-egi) kja/) and preceded by subject (/kU̪tta/, /mIɛgəna/) to form the S(*X*)V clausal level structure of interrogative utterances in Hindi. Thus S(*X*) V clause of Hindi is equivalent to VS(*X*) of English language.

S(*X*) V in Hindi and VS(*X*) in English are credited when knowledge is demonstrated through separation of auxiliary from the main verb to form a question. The brackets indicate that there are only two elements, and the auxiliary now receives credit as it no longer directly follows the verb in Hindi whereas it precedes the verb in English.

c) Statement

There were seven clausal structures (SVC, VCA, SVO, VOA, SVA, VO_dO_i, and Neg *XY*) for the statement type utterances were presented in LARSP-English. Each of these structures is compared with Hindi syntactic structure which is as follows:

(i) Subject-Verb-Complement (SVC)

The illustration of SVC clausal structures in English are shown in examples (3.21) and (3.22).

e.g. Baby is clever (3.21)
S V C

Flowers are pretty (3.22)
S V C

In examples (3.21) a verb (V) '*is'* is followed by a subject (S) '*baby*' and precedes the complement (C) *'clever'* to form the SVC clausal structure. Similarly in the example (3.22) a verb '*are*' is followed by a subject '*flowers*' and precedes the complement (C) *'pretty'*. The equivalent translation of examples (3.21) and (3.22) into Hindi language is shown in examples (3.23) and (3.24) respectively.

e.g. /bəcca ca:la:k hɛ/ (3.23)
S C V

/p^{h}ul sUnn̪dər hɛ̃/ (3.24)
S C V

In both the examples (3.23) and (3.24) complement (C) (/ca:la:k/, /sUnn̪dər/) is followed by verb (/hɛ/) and preceded by subject (/bəcca/, /p^{h}ul/) to form the SCV

clausal level structure of statements type utterances in Hindi. Thus SCV clause of Hindi is equivalent to SVC of English language.

(ii) Subject-Verb-Object (SVO)

The illustration of SVO clausal structures in English are shown in example (3.25).

e.g. Me want train (3.25)

S V O

In example (3.25) a subject (S) '*me'* comes at the beginning of the structure, which is followed by verb '*want*'. Moreover the object (O) '*train*' comes at the last of the structure. The equivalent translation of example (3.25) into Hindi language is shown in example (3.26).

e.g. /mUdʒʰe relgaɽI ʧahIje/ (3.26)

S O V

In example (3.26) subject '/mUdʒʰe/' comes in the beginning, which was followed by an object '/relgaɽI/' and verb '/ʧahIje/' comes at the last. Thus SOV clause of Hindi is equivalent to SVO of English language.

(iii) Subject-Verb-Adverb (SVA)

The illustration of SVA clausal structures in English are shown in example (3.27).

e.g. Mummy gone to the shop (3.27)

S V A

In the example (3.27) a subject (S) '*mummy'* comes at beginning of the structure, which was followed by verb '*gone*'. Moreover the adverb (A) '*to the shop*' comes at the last of the structure. The equivalent translation of example (3.27) into Hindi language is shown in example (3.28).

e.g. /məmmi ɖUkanõ pər gəji ʈʰi / (3.28)

S A V

In the example (3.28) subject '/məmmi/' comes in the beginning, which was followed by an adverb ' /ɖUkanõ pər/' and verb '/gəji ʈʰi/' comes at the last. Thus SAV clause of Hindi is equivalent to SVA of English language.

(iv) Negative-Another element-One element (Neg*YX*)

The illustration of Neg *YX* clausal structures in English are shown in example (3.29).

e.g. Never eat dirt (3.29)

Neg *Y* *X*

In the example (3.29) a negative word (Neg) '*never'* comes at beginning of the structure, which was followed by another element (*Y*) '*eat*'. The element (*X*) '*dirt'* comes at the last in the structure. The equivalent translation of example (3.27) into Hindi language is shown in example (3.30).

e.g. /ɖʰul kəbʰi nəhĩ kʰa/ (3.30)

Y Neg *X*

In the example (3.30) element (Y) '/ɖʰul /' comes in the beginning, which was followed by negation '/kəbʰi nəhĩ/' and other element (*X*) '/kʰa/' comes at the last in the structure. Thus *Y*Neg*X* clause of Hindi is equivalent to Neg *YX* of English.

(v) Verb (copula)-Complement -Adverb (VCA)

The illustration of VCA clausal structures in English are shown in example (3.31).

e.g. Am (I) happy now (3.31)

V C A

In the example (3.31) a copula verb '*am'* comes at the beginning of the structure, which was followed by complement (C) '*happy*'. The adverb (A) '*now'* comes at the last in the structure to credit VCA clausal structure of English. The equivalent translation of example (3.31) into Hindi language is shown in example (3.32).

e.g. /əb (mɛ) k^{h}Uʃ hũ/ (3.32)

A C V

In the example (3.32) an adverb /əb/ comes in the beginning, which was followed by complement '/k^{h}Uʃ/', and finally a copula verb '/hũ/ comes at the last in the structure to credit ACV clausal structure of Hindi. Thus ACV clause of Hindi is equivalent to VCA of English language.

(vi) Verb-Object -Adverb (VOA)

The illustration of VOA clausal structure in English is shown in example (3.33).

e.g. (I) dropped (the) ball there (3.33)

V O A

In the example (3.33) a verb (V) '*dropped'* comes at beginning of the structure, which was followed by an object (O) '*happy*'. The adverb (A) '*there'* comes at the last in the structure to credit VOA clausal structure of English. The equivalent translation of example (3.33) into Hindi language is shown in example (3.34).

e.g. /(mɛne) gẽd̪ vəhã gIra d̪i/ (3.34)

O A V

In the example (3.34) an object /gẽd̪/ comes in the beginning, which was followed by an adverb /vəhã/, and finally a verb /gIra d̪i / comes at the last in the

structure to credit OAV clausal structure of Hindi. Thus OAV clause of Hindi is equivalent to VOA of English language.

(vii) Verb- Object (direct) –Object (indirect) (VO_dO_i)

The illustration of VOA clausal structure in English is shown in example (3.35).

e.g (I) (have) $\underbrace{\text{brought a}}_{V}$ $\underbrace{\text{drink}}_{O_i}$ for $\underbrace{\text{you}}_{O_d}$ (3.35)

In the example (3.35) a verb (V) '*brought'* comes at beginning of the structure, which was followed by an indirect- object (O_d) '*drink*'. The direct-object (O_i) '*you'* comes at the last in the structure to credit VO_dO_i clausal structure of English. The equivalent translation of example (3.35) into Hindi language is shown in example (3.36).

e.g. /(mɛ̃) $\underbrace{\text{ʈ̪Um}^{h}\text{are}}_{O_d}$ (lIje) $\underbrace{\text{pej}}_{O_i}$ $\underbrace{\text{laja}}_{V}$ (hũ)/ (3.36)

In the example (3.36) a direct-object /ʈ̪Um^{h}are/ comes in the beginning, which was followed by an indirect-object'/pej/', and finally a verb '/laja/ comes at the last in the structure to credit O_dO_iV clausal structure of Hindi. Thus O_dO_iV clause of Hindi is equivalent to V O_dO_i of English language.

2. Comparison at phrase level

Six phrasal structures (DAdjN, Cop, Adj Adj N, $Aux^{M}{}_{o,}$ Pr DN, and $Pron^{P}{}_{O}$) were listed in LARSP-English for the third age group. Each of these structures is compared with Hindi syntactic structure which is as follows:

(i) Determiner-Adjective-Noun (DAdjN)

The illustration of DAdjN phrase structures in English are shown in examples (3.37) and (3.38).

e.g. My yellow bags (3.37)

D A N

A colourful chocolate (3.38)

D A N

In the example (3.37) determiner (D) '*my'* comes in the beginning of syntactic structure, which is followed by an adverb '*yellow*'. The plural form of noun '*bags*' comes at the last to credit DAN phrasal structure. Similarly in the example (3.38) a determiner '*a*' comes in the beginning of syntactic structure, followed by an adverb '*colourful*' and the of noun '*chocolate*' comes at the last. The equivalent translation of examples (3.37) and (3.38) into Hindi language is shown in examples (3.39) and (3.40) respectively.

e.g. /mere pila ʈ̪^{h}ɛle/ (3.39)

D A N

/ek rəŋila cɔkəlet/ (3.40)

D A N

In both the examples (3.39) and (3.40) the determiner comes in the beginning (/mere/, /ek/), followed by adverb (/pIla/, /rəŋila/). Finally the noun (/ʈ̪^{h}ɛle/, /cɔkəlet/) comes at the last to credit DAN phrase in Hindi. Thus, DAN phrasal structure in Hindi is similar to English language.

(ii) Adjective-Adjective-Noun (AdjAdj N)

The illustrations of Adj Adj N phrase in English are shown in examples (3.41) and (3.42).

e.g. Big blue balloon (3.41)

Adj Adj N

Naughtiest little boy (3.42)

Adj Adj N

In the example (3.41) the adjectives (Adj) '*big'* and *'blue'* comes consecutively and combined with noun (N) *'baloon'*, to credit AdjAdjN phrasal structure in English. Similarly in example (3.42) the two consecutive adjectives '*naughtiest*' and '*little*' combined with a noun 'boy'. The equivalent translation of examples (3.41) and (3.42) into Hindi language is shown in examples (3.43) and (3.44) respectively.

e.g. /bəṛa nila gUbbara/ (3.43)

Adj Adj N

/səbse ʃərarəʇi ʧota lərka/ (3.44)

Adj Adj N

In both the examples (3.43) and (3.44) the two consecutive adjectives combined with noun to credit Adj Adj N phrase structure in Hindi. Thus, Adj Adj N phrasal structure in Hindi is similar to English language.

(iii) Deteminer-Noun-Postposition (Pr DN)

The illustration of Pr DN phrase in English are shown in examples (3.45) and (3.46)

e.g. In a car (3.45)

Pr D N

On the table (3.46)

Pr D N

In the example (3.45) preposition (Pr) '*in'* comes in the beginning of syntactic structure, which is followed by a determiner (D) '*a*'. The noun (N) '*car*' comes at the last

to credit Pr DN phrasal structure. Similarly in the example (3.46) a preposition '*on*' comes in the beginning of syntactic structure, followed by determiner '*the*' and noun '*table*' comes at the last. The equivalent translation of examples (3.45) and (3.46) into Hindi language is shown in examples (3.47) and (3.48) respectively.

e.g. /ek gaṛi mẽ/ (3.47)

D N PP

/vəh medʒ (ke) upər/ (3.48)

D N PP

In the examples (3.47) determiner '/ek/' comes in the beginning, which was followed by noun '/gaṛi/', and finally a postposition ' /mẽ/' comes at the last in the structure to credit DNPP phrase structure of Hindi. Similar syntactic pattern was seen in example (3.48). Thus DNPP phrase of Hindi is equivalent to PrDN of English language.

(iv) Copula

Contracted copula does not exist in Hindi-language. Thus, un-contracted copula receives credit at both phrase and word levels. However, in English, an un-contracted copula e.g. *am* receives credit at phrase level only and contracted copula e.g. *I'm* receives credit at both phrase and word level.

e.g. I'm Sam (3.49)

Cop

/mɛ̃ sɛm hũ/ (3.50)

Cop Cop

(v) Auxiliary modal / other (Aux^{M}_{O})

The example of $Aux^{M}{}_{O}$ structures in English are shown in examples (3.51) and (3.52).

e.g. Should leave (3.51)

Aux^{M} V

Be going (3.52)

Aux_{o} V

In the example (3.51) '*should'* is a modal auxiliary where as in example (3.52) *'be'* is other form of auxiliary. In both the examples auxiliary form comes prior to the main verb. The equivalent translation of examples (3.51) and (3.52) into Hindi language is shown in examples (3.53) and (3.54) respectively.

e.g. /ʤana cahIje/ (3.53)

V Aux^{M}

/ʤaṯe rəho/ (3.54)

V Aux_{o}

In the examples (3.53) /cahIje/ is modal auxiliary whereas in example (3.54) /rəho/ is after the main verb. Thus, $VAux^{M}{}_{o}$ phrasal structure in Hindi is equivalent to $Aux^{M}{}_{o}V$ phrase of English language.

(vi) Pronoun –personal /other ($Pron^{P}{}_{o}$)

Personal pronouns ($Pron^{P}$) in English language are 'me', 'you', 'they', 'him', 'her', and 'he' etc. Their equivalent translations in Hindi are /mɛ̃/, /ṯUm/, /ve/, /Uska/, /Uski/, /vəh/. Similarly the other pronouns ($Pron_{o}$) in English are 'someone', 'this', and 'mine' etc. Their equivalent translations in Hindi are /koI/, /jəh/, /mera/.

In summary, after comparison and equivalent translation of phrasal and clausal structures of the stage III (2;0-2;6 years) of LARSP English into Hindi language, the depiction is shown in Table 4.4.

Table 4.4.

Clause and phrase structures of stage III (2;0-2;6 years) into Hindi language.

Clause				Phrase	
Comm.	Ques.	Statement			
X Y V	*X*Q *Y*	SCV	ACV	DAdjN	Cop
X Y /d̪o/	S*(X)* V	SOV	OAV	Adj Adj N	Aux^{M}_{O}
Y X / d̪o/		SAV	OdOiV	DN PP	$Pron^{P}_{o}$
		*Y*Neg*X*			

STAGE IV (2;6-3;0 YEARS)

The clause and phrase structures of English language in stage IV (2;0-2;6 years) of the LARSP profile is presented in Table 4.5.

Table 4.5.

Clause and phrase structure for the stage IV (2;6-3;0 years) in LARSP-English.

Clause			Phrase
Comm.	Ques.	Statement	
+ S V*XY*+	Q VS QXY+ VS(X+) Tag	SVOA AAXY SVCA SVOdOi SVOC	NPPrNP NegV PrDAdjN NegX Cx 2Aux

The above mentioned clausal and phrasal structures of English- acquiring children are being compared with the children who were acquiring Hindi language. The comparisons for each of the clausal and phrasal structures are as follows:

1. Comparison at clausal level

a) Command (Comm.)

Two clausal structures for command type utterances in the LARSP-English includes (i) subject with any number and or combination of elements (+S); (ii) Verb-one element-another element-any other elements (V*XY*+). The comparisons of each structure are as follow.

(i) Subject with any number and combination of elements (+S)

The illustration of +S clausal structure is shown in examples (4.1) and (4.2)

e.g. *Give me (the) ball !* (4.1)

X_1 ~~S~~ ~~X_2~~

You eat the cake now! (4.2)

S ~~X_1~~ ~~X_2~~ ~~X_3~~

In the example (4.1) a subject '*me'* combines with a preceding element (X_1) '*give'*, and another element *(X_2) 'ball'* which follows the subject. However, in example (4.2) a subject '*you*' is combined with elements X_1 (eat), X_2 (the cake) and X_3 (now) in a sequence. The equivalent translation of examples (4.1) and (4.2) into Hindi language are shown in examples (4.3) and (4.4) respectively.

e.g. /gẽd̪ mudʒʰe d̪o/ (4.3)

X_1 ~~S~~ ~~X_2~~

/t̪um əbʰi kek (ko) kʰao/ (4.4)

S ~~X_1~~ ~~X_2~~ X_3

In the examples (4.3) and (4.4) similar syntactic pattern were seen as similar as examples (4.1) and (4.2). Thus *+S* clause structure is similar to both Hindi and English language as well.

(ii) Verb-one element- another element-any other elements (V*XY*+)

The illustration of *VXY+* clausal structure is shown in example (4.5).

e.g. Go there now mummy! (4.5)

V *X* *Y* *+ (other element)*

In the example (4.5) a verb '*go'* combines with an element (*X*) '*there'*, followed by element (*Y*) *'now'* and another additional elements (+) *'mummy'*. The equivalent translation of example (4.5) into Hindi language is shown in example (4.6).

e.g. /məmmi əb vəhã ʤa(o)/ (4.6)

\+ *Y* *X* V

In the example (4.6) another element (+) 'mummy' combined with element *Y* (əb əb) is followed by element *X* /vəhã/ and verb /ʤa/, which inturn form the +*YX*V clausal structure of commands in Hindi. Thus +*YX*V clause of Hindi is equivalent to V*XY*+ of English language.

b) Question (Ques.)

In the LARSP-English for stage-IV, the clausal structures for question type utterances were presented as question- verb- subject (QVS), question-first element-second element- any other elements (QXY+), verb-subject-(elements) [VS(X+)] and tag question. The comparisons for each of the structures are as follows:

(i) Question-Verb-Subjects (QVS)

The illustration of QVS clausal structure is shown in examples (4.7) and (4.8)

e.g. Where is Kate? (4.7)

Q V S

Who are you? (4.8)

Q V S

In the example (4.7) an interrogative word '*where'* combines with a verb (V) '*is'*, followed by subject (S) *'Kate'*. Similarly in the example (4.8), an interrogative word '*who'* combines with a verb '*are'* followed by subject '*you'* to the QVS clausal structure of interrogative utterances. The equivalent translation of examples (4.7) and (4.8) into Hindi language is shown in examples (4.9) and (4.10) respectively.

e.g. /ket kəhã hɛ/ (4.9)

S Q V

/t̪Um kɔn ho/ (4.10)

S Q V

In examples (4.9) and (4.10) an interrogative word (/kəhã/, /kɔn/) is followed by verb (/hɛ/ /ho/) and preceded by subject (/ket/, /kɔn/) to form the SQV clausal level structure of interrogative utterances in Hindi. Thus SQV clause of Hindi is equivalent to QVS of English language.

(ii) Question-first element- second element- any other elements (Q*XY*+)

The illustrations of (Q*XY*+) clausal structure in English are shown in example (4.11).

e.g. When on the moon is slippery? (4.11)

Q *X* *Y* +

In the example (4.11) a question word '*when'* combines with an element (*X*) '*on the moon'*, followed by element (*Y*) *'is'* and another elements (+) *'slippery'*. The equivalent translation of example (4.11) into Hindi language is shown in example (4.12).

e.g. /cand̪ pər fIslən kəhã hɛ/ (4.12)

X + Q *Y*

In the example (4.12) element (X) /cand̪ pər/ combined with another elements (+) /fIslən/ followed by question word (Q) / kəhã/ and element *Y* i.e., /hɛ/. Thus Q*XY*+ clause of English is equivalent to X+QY of Hindi language.

(iii) Verb-Subject-(elements) [VS(X+)]

The illustrations of VS(X+) clausal structure is shown in examples (4.13) and (4.14)

e.g. Are you going today? (4.13)

\+ S V *X*

Were they taking you? (4.14)

\+ S V *X*

In the example (4.13) an element (+) '*are'* combines with a subject (S) '*you'*, which is followed by followed by verb (V) '*going*' and an element *(X)* 'today'. Similarly, in example (4.14), an interrogative word '*were',* combines with the subject '*they*'. Which are followed by verb '*taking'* and an element X to form the VS(X+) clausal structure of interrogative utterances. The equivalent translation of examples (4.13) and (4.14) into Hindi language is shown in examples (4.15) and (4.16) respectively.

e.g. / ʈ̪Um adʒ dʒa rəhe (ho) kja/ (4.15)

S X V +

/ve ʈ̪Umhe le dʒa rəhe (ʈ̪ʰe) kja/ (4.16)

S X V +

In the examples (4.15) and (4.16) a subject (/ʈ̪Um/, /ve/) is followed by an element *X* (/adʒ /, /ʈ̪Umhe/. Further followed by verb /dʒa rəhe/ and another element (+) /kja/ to credit SXV+ clausal structure in Hindi. Thus S*X*V+ clause of Hindi is equivalent to VS*X*+ of English language.

(iv) Tag

The example of tag clausal structure in English is shown in examples (4.17) and (4.18)

e.g. She ate it, did she? (4.17)

tag

He is silly, isn't he? (4.18)

tag

In the example (4.17) 'did she' is a tag marker. Similarly in example (4.18) 'isn't he' represents the tag marker. The equivalent translation of examples (4.17) and (4.18) into Hindi language is shown in examples (4.19) and (4.20) respectively.

e.g. /Usne vo k^halIja, k^haja kja/ (4.19)

tag

/vəh nasəməd$ʒ^h$ hɛ, hɛ na/ (4.20)

tag

In the example (4.19) the verb /k^haya/ along with question marker /kja/ is the tag question form. Similarly, in example (4.20) /hɛ na/ is the tag marker for interrogative sentences.

c) Statement

There were five clausal structures (SVOA, SVCA, SVO_dO_i, AA & SVOC) for the statement type utterances which were presented in LARSP-English. Each of these structures is compared with Hindi syntactic structure which is as follows:

(i) Subject- verb-object-adverb (SVOA)

The example of SVOA clausal structures in English are shown in example (4.21).

e.g. I want Dolly now (4.21)

S V O A

In the example (4.21), subject (S) '*I'* combined with verb (V) '*wants*' followed by an object (O) '*Dolly'* and the adverb (A) *'now'* to form the SVOA clausal structure. The equivalent translation of example (4.21) into Hindi language is shown in example (4.22).

e.g. /mUdʒʰe əbʰi dɔli cahIje/ (4.22)

S A O V

In the examples (4.22), subject /mUdʒʰe/ combines with adverb /əbhi/, which is followed by object /dɔli/ and verb / cahIje / to form SAOV clausal structure in Hindi language. Thus SAOV clause of Hindi is equivalent to SVOA of English language.

(ii) Subject-Verb-Complement-Adverb (SVCA)

The example of SVCA clausal structures in English are shown in example (4.23).

e.g. He is happy today (4.23)

S V C A

In the example (4.23) a subject (S) '*he'* comes at beginning of the structure, which is followed by verb (V) '*is*' and complement (C) *'happy'*. Moreover the adverb (A) '*today*' comes at the last of the structure. The equivalent translation of example (4.23) into Hindi language is shown in example (4.24).

e.g. /vəh adʒ kʰUʃ hɛ/ (4.24)

S A C V

In the examples (4.24) subject '/vəh/' comes in the beginning, which was followed by an adverb '/adʒ/' and complement '/kʰUʃ/'. However verb /hɛ/ comes at

the last of the structure to form SACV clause. Thus SACV clause of Hindi is equivalent to SVCA of English language.

(iii) Subject-Verb- Direct object- Indirect object (SVO_dO_i**)**

The illustrations of SVO_dO_i clausal structures in English are shown in example (4.25).

e.g. I gave a book (to) the boy (4.25)

S V O_d O_i

In the example (4.25) a subject (S) '*I'* comes at beginning of the structure, which was followed by a verb '*gave*'. Finally the verb combines with the direct object (O_d) *'a book'* followed by an indirect object (O_i) *'the boy'*. The equivalent translation of example (4.25) into Hindi language is shown in example (4.26).

e.g. /mɛ̃(ne) lə̥rke (ko) (ek) kɪt̪ab d̪i/ (4.26)

S O_d O_i V

In the example (4.26) a subject comes at beginning of the structure, which is followed by the direct object (O_d) *'and* an indirect object (O_i). Verb (V) finally comes at the last to form SO_dO_iV clausal structure of Hindi language. Thus SO_dO_iV clause of Hindi is equivalent to SVO_dO_i of English language.

(iv) Adverb-Adverb- one element-another element (AA*XY*)

The illustrations of AA*XY* clausal structures in English are shown in example (4.27).

e.g. Tomorrow mummy is working there. (4.27)

A A *X* *Y*

In the example (4.27) one adverb (A) *'tomorrow'* joins with another adverb *'at school*. The latter adverb combines with an element (*X*) *'working'* which is followed by another element (*Y*) *'there'* to form the AAXY clausal structure. The equivalent translation of example (4.27) into Hindi language is shown in example (4.28).

e.g. /kəl məmmi vəhã kam kər rəhi hɛ̃/ (4.28)

A A *Y* *X*

In the example (4.28) both the adverb remains at the same place as in previous example (4.27). Only the position of element X and Y were changed. The element *Y* came prior to element *X*. Thus AA*YX* clause of Hindi is equivalent to AA*XY* of English.

(v) Subject-Verb-Object -Complement (SOVC)

The illustrations of SOVC clausal structures in English are shown in example (4.29).

e.g. I called him crazy (4.29)

S V O C

In the example (4.29) a subject *'I'* comes at beginning of the structure, which is followed by a verb (V) '*called*' and object (O) *'him'*. The complement (C) '*crazy'* comes at the last in the structure to credit SVOC clausal structure of English. The equivalent translation of example (4.29) into Hindi language is shown in example (4.30).

e.g. /mɛ̃(ne) Usko ba:vla kaha/ (4.30)

S O C V

In the examples (4.30) a subject comes at the beginning followed by an object and complement. Finally a verb comes at the last in structure to credit SOCV clausal structure of Hindi. Thus SOVC clause of Hindi is equivalent to SVOC of English language.

2. Comparison at phrase level

There are six phrasal structures (NPPrNP, NegV, PrDAdjN, NegX, Cx & 2Aux) which are listed in LARSP-English for the fourth age group. Each of these structures is compared with Hindi syntactic structure as follows:

(ii) Noun phrase- Preposition-Noun phrase (NPPrNP)

The illustrations of NPPrNP structures in English are shown in example (4.31).

e.g. The boy in the car (4.31)
NP Pr NP

In the example (4.31) the noun phrase (NP) '*the boy'* comes in the beginning of syntactic structure, which is followed by the preposition (Pr) '*in*' and another noun phrase *'the car'*. The equivalent translation of example (4.31) into Hindi language is shown in example (4.32).

e.g. /(vəh) ləṛka kar ke ənd̪ər/ (4.32)
NP NP PP

In the example (4.32) the NP /(vəh) ləṛka/ combined with another NP /kar/, followed by postposition (PP) /ke ənd̪ər/ to form the NPNPPP phrasal structure. Thus, NPNPPP phrasal structure of Hindi is comparable with NPPrNP phrase structure of English language.

(ii) Negative-Verb (Neg V)

The example of Neg V phrase in English is shown in example (4.33).

e.g. Will not come (4.33)

Neg V

In the example (4.33) the negation *'not'* appear prior to the verb (V) *'come'* to form the NegV phrasal structure. The equivalent translation of example (4.33) into Hindi language is shown in example (4.34).

e.g. /(aje)gi nəhĩ/ (4.34)

V Neg

In the example (4.34) the negation word /nəhĩ/ appears after to the verb (V) /ajegi/ to form the VNeg phrasal structure. Thus, VNeg phrasal structure in Hindi is comparable to NegV phrasal structure of English language.

(iii) Negative – Element (Neg *X*)

The example of Neg X phrase in English are shown in example (4.35) and (4.36).

e.g. No money (4.35)

Neg *X*

Not crazy (4.36)

Neg *X*

In the examples (4.35) and (4.36) the negation word appeared prior to the element *(X)* (noun: money; adjective: crazy) to form the Neg*X* phrasal structure. The equivalent translation of examples (4.35) and (4.36) into Hindi language is shown in examples (4.37) and (4.38) respectively.

e.g. /pɛsa nəhĩ/ (4.37)

X Neg

/ḍərt̪a nəhĩ/ (4.38)

X Neg

In the examples (4.37) and (4.38) the negation /nəhĩ/ appeared after the element (noun: /pɛsa/; verb: /ḍərt̪a/) to form the *X* Neg phrasal structure of the Hindi language. Thus *X*Neg phrase of Hindi is comparable to Neg*X* phrasal structure of English language.

(iv) Coordinator- Element (c*X*)

The examples of cX phrasal structure are shown in examples (4.39) and (4.40).

e.g. And Jim (4.39)

c *X*

But wait (4.40)

c *X*

In the examples (4.39) and (4.40) the coordination word (and, but) appeared prior to the element *(X)* (noun: Jim; verb: wait) to form c*X* phrasal structure. The equivalent translation of example (4.39) and (4.40) into Hindi language is shown in examples (4.41) and (4.42) respectively.

e.g. /ɔr dʒIm/ (4.41)

c *X*

/lekIn Int̪ɛʒar kəro/ (4.42)

c *X*

In the examples (4.41) and (4.42) the coordinating structure /ɔr/ and /lekIn/ appeared prior to the element. Thus *cX* phrase structure of both the Hindi and English languages are similar.

(v) Element-Coordinator-Element (*X*c*X*)

The illustrations of *X*c*X* structures in English are shown in examples (4.43) and (4.44).

e.g. Water or milk (4.43)

X c X

Jack and Jill (4.44)

X c X

In the examples (4.43) and (4.44) the coordinating structure (c) *'or, and'* coordinates both the elements (X). The coordinating word 'or' combines *'water'* with *'milk'*. Similarly *'and'* combines '*Jack'* with '*Jill'*. The equivalent translation of example (4.43) and (4.44) into Hindi language is shown in examples (4.45) and (4.46) respectively.

e.g. /pani ja dud^{h}/ (4.45)

X c *X*

/ʤɛk ɔr ʤIl/ (4.46)

X c *X*

In the examples (4.45) and (4.46) the coordinating structure /*ja*/, /ɔr/ coordinates both the elements (X) similar to examples (4.43) and (4.44). Thus, XcX phrasal structure in Hindi and English languages are appear to be similar.

(vi) 2 Auxiliary (2Aux)

The illustrations of '2Auxiliary' phrasal structures in English are shown in example (4.47).

e.g. Will be helping (4.47)

Aux Aux V

In the example (4.47) a verb appeared after two consecutive auxiliary verb *'will'* and *'be'* to form the 2Aux phrasal structure. The equivalent translation of example (4.47) into Hindi language is shown in example (4.48).

e.g. /məd̪əd̪ kər rəha hoũga/ (4.48)

V 2 Aux

In the example (4.48) the two consecutive auxiliary verb /ho/ and /ũga/ appeared after the verb to form the 2Aux phrasal structure in Hindi language. Thus, 2Aux phrasal structure in Hindi and English languages appear to be similar. In summary, after comparison and equivalent translation of phrasal and clausal structures of the stage IV (2;6-3;0 years) of LARSP English into Hindi language, the depiction is shown in Table 4.6.

Table 4.6.

Clausal and phrasal structures for stage IV (2;6-3;0 years) in Hindi language.

Clause			Phrase
Comm.	Ques.	Statement	

+ S	SQV	SAOV	SOCV	NPNPPP	VNeg
+ YXV	X+QY	SACV	XAAY	DAdj NPP	X Neg
	SXV+	SO_dO_iV	Other	cX	2Aux
	Tag			XcX	Others

STAGE V (3;0-3;6 YEARS)

The clause and phrase structures of English language in fifth stage (3;0-3;6 years) of the LARSP profile is presented in Table 4.7.

Table 4.7.

Clause and phrase structures for the stage V (3;0-3;6 years) in LARSP-English.

Connectivity	Clause			Phrase
	Comm.	Ques.	Statement	
And C S Other	Cord. Other	Cord. Other	Coord. 1 1+ Subord. A 1 1+ S C O Comparative	Postmod.clause 1 1+ Postmod. phrase 1 1+

The above mentioned connectivity, clausal and phrasal structure of English-acquiring children was compared with the children who were acquiring Hindi language. The comparisons for each of the connectivity, clausal and phrasal structures are as follow.

1. **Comparison of connectivity (Conn.)**

The connectivity described in Table 4.7 is found at clausal as well as phrasal levels. Comparisons of connectivity across English and Hindi languages are depicted in Table 4.8

The coordinating conjunction *'and'* in English language is comparable to /ɔr/ of Hindi language. However the coordinating conjunction other than *'and'* are represented as 'c'. *'But'* and *'so'* conjunctions belonged to 'c'. *But'* 'and *'so'* conjunctions are comparable to /lekIn/, /IslIje/ respectively in Hindi language. Similarly the's' category includes '*because,'* and *'while'* coordinating conjunctions. Both are comparable to /kjõki/, /hUe/ respectively in Hindi. In addition, *'then'* conjunction is similar to /Uske baɖ/ conjunction in Hindi language.

Table 4.8

Comparison of connectivity between Hindi and English language of stage V (3;0-3;6 years)

	ENGLISH		HINDI	
Conn.	Conn.	Example	Conn.	Example
And	*And*	I'm going *and* you're coming too	/ɔr/	/mɛ̃ ʤa rəha hũ ɔr ʈUm bʰi a: rəhe ho/
c	*But, So*	I should have done homework *but* I was tired.	/lekIn/, /IslIje/	/mUʤʰe grəhkarj kər lena cahIje ʈʰa lekIn mɛ̃ ʈʰək gəja ʈʰa/
s	*Because, while*	I like eating *while* watching TV	/kjõki/, /hUe/	/ti:vi ɖekʰʈe hUe mUʤʰe kʰana pəsənɖ hɛ/
Other	*Then*	I'll take you to the airport *then* I'll come and pick her	/Uske baɖ /	/mɛ̃ məmmi ko həvaiədde leke ʤaUŋa Uske baɖ mɛ̃

up.	ʈUmhe lene aUŋa/

2. Comparison at clausal level

a) Command (Comm.)

The coordinating conjunctions of Table 4.1 are used at clausal level to express commands type utterances. The *'and'* coordinating conjunction at the clausal level in English are shown in example (5.1).

e.g. Go over there *and* be quiet! (5.1)

VA VC

In the example (5.1) the verb-adverb (VA) clause *'Go over there'* combined with verb-complement (VC) clause *'be quiet'* with the coordinating conjunction *'and'*. The equivalent translation of example (5.1) is shown in example (5.2).

e.g. / vəhã pər ʤao ɔr cUp rəho / (5.2)

AV CV

In the example (5.2) the adverb-verb (AV) clause / vəhã pər ʤao/ combined with complement-verb (CV) clause /cUp rəho/ with the coordinating conjunction /ɔr/.

b) Question (Ques.)

The coordinating conjunctions depicted in Table 4.1 are used at clausal level to express question type utterances. The *'and'* coordinating conjunction at the clausal level in English are shown in example (5.3).

e.g. What is he doing and why is he here? (5.3)

QVS QVS

In the example (5.3) one question-verb-subject (QVS) clause *'What is he doing*' combined with another QVS clause *'why is he here'* combined with coordinating conjunction *'and'*. The equivalent translation of example (5.3) is shown in example (5.4).

e.g. /vəh kja kər rəha hɛ ɔr vəh jəhã kjõ hɛ/ (5.4)

SQV SQV

In the example (5.4) the subject-question-verb (SAV) phrases are combined with the coordinating conjunction /ɔr/.

c) Statement

The connectivity at of statement type clausal structures are represented by coordinate conjunction and subordinate conjunctions. Each of the connecting structures is described as follow.

1) Coordination 1 (Coord. 1)

It refers to use of only one coordinating structure in the syntactic structures. Illustrations of coord.1 in English and Hindi languages are shown in example (5.5) and (5.6) respectively.

e.g. We'll go to the shops *then* we'll go to the beach. (5.5)

SVA Coord. SVA

e.g. /həm d̪ukanõ pər ʤajẽge p^{h}Ir həm səmudrə ʈ̪ət pər ʤajẽge/ (5.6)

SAV Coord. SAV

In the example (5.5) *'then'* is the coordinating conjunction to combine both the SAV clausal structures. Similarly in the example (5.6) /p^{h}Ir/ is the comparable conjunction of *'then'* in the Hindi language that combines the SAV clausal structures.

2) Coordination 1+ (Coord. 1+)

It refers to use of more than one coordinating structure in the syntactic structures. The illustrations of coord.1+ in English and Hindi languages are shown in example (5.7) and (5.8) respectively.

e.g. The car is red and it's fast and it's cool (5.7)

SVC Coord. SVC Coord. SV

/kar la:l hɛ ɔr ʈez hɛ ɔr sUnɖər hɛ/ (5.8)

SCV Coord CV Coord CV

In the example (5.7) *'and'* occurs two times in the syntactic structures to combine SVC, CV and SVC clausal structures. Similarly in example (5.8) /ɔr/ is the comparable conjunction of *'and'* in the Hindi language that combines the SCV and CV clausal structures.

3) Subordination Adverbial 1 (Subord. A1)

It refers to use of only one subordinating structure in the syntactic structures. Illustrations of subord.A1 in English and Hindi languages are shown in examples (5.9) and (5.10) respectively.

e.g. I'll come because Shrek is showing. (5.9)

SV A SV

/mɛ̃ a:ũŋa kjõki ʃrek ɖIk^{h}a rəha hɛ ʤajẽge/ (5.10)

SV A SV

In the example (5.9) *'because'* is the subordinating adverbial conjunction to combine both the SV clausal structures. Similarly in example (5.10) / kjõki/ is the

comparable conjunction of *'because'* in the Hindi language that combines the SV clausal structures.

4) Subordination Adverb 1+ (Subord. A 1+)

It refers to use of more than one subordinating structure in the syntactic structures. The example of subord.A 1+ in English and Hindi language are shown in examples (5.11) and (5.12) respectively.

e.g. I jumped when the monster was chasing me because he was scary cool (5.11)

SV A SVO A SVC

/ʤəb d̪ɛt̪ja mUʤʰe bhəga rəha ʈʰa mɛ̃ ku:d̪ gəja kjõki vəh dəravəna ʈʰa/ (5.12)

A SOV SCV A SCV

In the example (5.11) *'when'* and *'because'* combines SV, SVO, and SVC clausal structures. Similarly in the example (5.12) /ʤəb/ and /kjõki/ is the comparable conjunction of *'when'* and *'because'* in the Hindi language that combines the SOV and SCV clausal structures.

5) Subordination subject (Subord S)

The illustrations of subord S in English and Hindi languages are shown in examples (5.13) and (5.14) respectively.

e.g. What I hate is homework. (5.13)

S SV VC

/ʤIsse mɛ̃ nəfrət̪ kərt̪a hũ grəhkarj hɛ/ (5.14)

S SCV CV

In the example (5.13) *'what'* is the subordinating subject conjunction structures that combines SV and VC clausal structures. Similarly in example (5.14) /ʤIsse/ is the comparable conjunction of *'what'* in the Hindi language that combines the SCV and CV clausal structures.

6) Subordination Complement (Subord C)

The illustrations of subord C in English and Hindi languages are shown in examples (5.15) and (5.16) respectively.

e.g. That is who she loves (5.15)

SV C SV

/vəh hɛ ʤIsse vəh pja:r kərt̪i hɛ/ (5.16)

SV C SAV

In the example (5.15) *'who'* is the subordinating complement conjunction structures that combines SV clausal structures. Similarly in example (5.16) /ʤIsse/ is the comparable conjunction of *'who'* in the Hindi language that combines the SV and SAV clausal structures.

7) Subordination Object (Subord O)

The illustrations of subord O in English and Hindi languages are shown in examples (5.17) and (5.18) respectively.

e.g. Ram takes what he wants. (5.17)

SV O SV

/ram ʤo ca;hṯa hɛ vəh leṯa hɛ / (5.18)

SOV SV

In the example (5.17) *'what'* is the subordinating complement conjunction structures that combines SV clausal structures. Similarly in example (5.18) /ʤo/ is the comparable conjunction of *'what'* in the Hindi language that combines the SV and SOV clausal structures.

8) Comparatives

The illustrations of comparatives in English and Hindi language are shown in example (5.19) and (5.20) respectively.

e.g. Ram is shorter than Mohan. (5.19)

Comparative

/ram mohən se bəhU̪ṭ c^{h}oti hɛ/ (5.20)

Comparative

In the example (5.19) *'shorter'* is the structure in English. Similarly in example (5.20) / bəhU̪ṭ/ is the comparative structure of *'shorter'* in the Hindi language.

3. Comparison at phrase level

Post modifying clause and phrases were listed in LARSP-English for the fifth age group. Comparative study of these structures across Hindi and English languages are as follows:

(i) Post modifying Clause (Postmod. clause)

The illustration of postmod. clausal structures in English are shown in example (5.21).

e.g. The fish which are swimming in the pond (5.21)

Postmod clause

In the example (5.21), the postmod structure *'which'* appears after head noun 'fish' in the NP. The equivalent translation of example (5.21) into Hindi language is shown in example (5.22).

e.g. /(vəh) məc^{h}lIjã ʤo ʈa:la:b mẽ ʈɛr rəhi hɛ̃/ (5.22)

Postmod clause

(ii) Post modifying phrase (Postmod. phrase)

The illustration of postmod phrase in English is shown in example (5.23).

e.g. A fly on the wall in the room is annoying (5.23)

Postmod phrase Postmod phrase

In the example (5.23) the preposition '*on*' and '*in*' the prepositional phrase is postmodifying phrase. The equivalent translation of example (5.23) into Hindi language is shown in example (5.24).

e.g. /kəməre ke ənɖər ɖiva:r pər ek məkk^{h}i gUssa ɖIla rəhi hɛ/ (5.24)

Postmod phrase Postmod phrase

In summary, after comparison and equivalent translation of phrasal and clausal structures of the fifth stage (3;0 -3;6 years) of LARSP English into Hindi language are depicted in Table 4.9.

Table 4.9.

Clausal and phrasal structures for stage V (3;0-3;6years) in Hindi language.

Connectivity	Clause			Phrase
	Comm.	Ques.	Statement	

And C S Other	Cord. Other	Cord. Other	Coord. 1 1+ Subord. A 1 1+ S C O Comparative	Postmod.clause 1 1+ Postmod. phrase 1 1+

STAGE VI (3;6-4;6 YEARS)

The syntactic structures of English language in stage VI (3;6-4;6 years) of the LARSP profile is presented in Table 4.10.

Table 4.10.

Clause and phrase structure for the stage VI (3;6-4;6 years) in LARSP-English.

NP	VP	Clause
Initiator Coord.	Complex	Passive Complement. How what

The above mentioned noun phrase (NP), verb phrase (VP) and clausal structures of English-acquiring children was compared with the children who were acquiring Hindi language. The comparisons for each of the NP, VP and clauses are as follow.

1. Comparison of Noun –Phrases (NP)

The NP section in stage VI includes initiator and coordination. Comparisons of both the structures across English and Hindi languages are described below.

a) Initiator

Initiator is a part of noun phrase that appears before the determiner in English but in Hindi language, use of determiners is not mandatory, thus, initiator is used before the

noun. E.g. '*All the dogs'* in English is the initiator, which is comparable to /sa:re kU̪t̪te/ in Hindi language.

b) Coordination

The illustrations of coordination is English are shown in example (6.1) and (6.2).

E.g. I brought my coat, hat, umbrella, beanie *and* scarf (6.1)

In the example (6.1) 'and' is the coordinating structure to combines NP. The equivalent translation into Hindi language (/ɔr/) is shown in example (6.2).

E.g. /mɛ̃ əpna kot, topi, chət̪ri, c^{h}oti topi ɔr ska:rf laja/ (6.2)

2. Comparison of Verb–Phrases (VP)

The complex verb phrases include more than one auxiliary verb in this stage VI. The examples of complex verb in English and Hindi language are shown in (6.3) and (6.4) respectively.

e.g. I would have been able to walk. (6.3)

S V V V V V

e.g. /mɛ̃ cəlne ke ka:bIl ho səkt̪i t̪^{h}i/ (6.4)

S V V V V V

Complex verb

In the example (6.3) the consecutive verbs *'would', 'have', 'been', 'able',* and *'walk'* form the complex verb structure. Similarly in example (6.3) /cəlne ke ka:bIl ho səkt̪i t̪^{h}i/ is the complex verb.

3. Comparison of clause

The verb phrase of the sixth stage includes passive utterances, complements, the question words (e.g. how, what). The examples of each of the structures in English language and their equivalent translation into Hindi language are shown in Table 4.11.

Table 4.11

Clauses of the stage VI (3;6-4;6 years)

Structures	English	Hindi
Passive	Samuel's been stung by a bee	/məd^{h}umək k^{h}i ke ɖvara sɛmUəl ko ḍənk ma:ra gəja/
Complement	This looks good enough to eat.	/kha:ne ke lije jəh kafi əccha ɖik^{h}ʈa hɛ/
How	How lovely!	/kIʈna pjara/
	How exciting to have you here!	/kIʈna roma:ncək ləg rəha hɛ ʈUmhe jəhã pa:kər/
What	What a beautiful day it is!	/kja sUnɖər ɖIn hɛ jeh/

In summary, after comparison and equivalent translation of NP, VP and clausal structures of the stageVI (3;6 -4;6 years) of LARSP English into Hindi language are depicted in Table 4.12.

Table 4.12.

NP, VP and clausal structures for stage VI (3;6-4;6 years) in Hindi language.

NP	VP	Clause
Initiator	Complex	Passive

Coord.		Complement. /kIt̪na/ /kja/

The error occurs in the syntactic structures are also described in stage VI. The error forms at the connectivity, clause, NP and VP are described in Table 4.13, 4.14, 4.15 and 4.16.

Table 4.13

Error in connectivity across Hindi and English languages with their corrected form

Coon.	Example (English & Hindi)	Correct form
And	Kelly cut her knee and fell over /keli ne əpna g^{h}Utna ka:ta ɔr gIr gəji/	Kelly fell over and cut her knee /keli gIr gəji ɔr Uska g^{h}Utna kət gəja/
C	Kelly cut her knee, but she fell over /keli ne əpna g^{h}Utna ka:ta lekIn vəh gIr gəji/	Kelly fell over but cut her knee /keli gIr gəji lekIn Uska g^{h}Utna kət gəja/
S	Kelly fell over because she cut her knee. /keli gIr gəji kjõki Usne əpna: g^{h}Utna ka:t lija:/	Kelly cut her knee because she fell over. /keli ne əpna: g^{h}Utna: ka:ta kjõki vəh gIr gəji:/

Note: c- coordinating structure other than *and.* S-subordinating connector

Table 4.14

Error in connectivity across Hindi and English languages with their corrected form

Element	Example	Correct form
Ø	She happy /vəh k^{h}UʃI/	She is happy /vəh k^{h}UʃI hɛ/
⇆	Sally a tree climbed /sɛli pər cə̤r^{h}i ek pe̤r/	Sally climbed a tree /sɛli ek pe̤r pər cə̤r^{h}i/
Concord	The child eat apples /(vəh) bəcc^{h}a: sebõ ko k^{h}a:t̪e hẽ/	The child eats apples /(vəh) bəcc^{h}a: sebõ ko k^{h}a:t̪a: hɛ/

Note: Ø- element omitted. ⇆ - element in wrong order. Concord.- incorrect syntax when connecting the verb to other elements.

Table 4.15

Error in VP across Hindi and English languages with their corrected form

VP	Example	Correct form
Aux^{M}	You play if you want /t̪Um k^{h}elo əgər t̪Um ca:ht̪e ho/	You <u>can play</u> if you want /t̪Um <u>k^{h}el səkt̪e ho</u> əgər t̪Um ca:ht̪e ho/
Aux_{O}	Kate going to school today /ket a:dʒ sku:l dʒa rəhi/	Kate <u>is going</u> to school today /ket adʒ skul <u>dʒa rəhi hɛ</u>/
Cop	Billy be naughty /bIlI ʃərarət̪I rəho/	Billy <u>is</u> naughty /bIlI ʃərarət̪I <u>hɛ</u>/

Note: Aux^{M} - modal auxiliary omitted. Aux_{O} - other auxiliary omitted. Cop = copula error.

Table 4.16

Error in NP across Hindi and English languages with their corrected form

NP	Example	Correct form
D	Give some cup to Johnny /ʤɔni ko kUc^{h} kəp ɖo/	Give a cup to Johnny /ʤɔni ko ek kəp ɖo/
D Ø	Throw ball to me /gẽɖ mere pa:s fẽko/ (correct form)	Throw the ball to me /vəh gẽɖ mere pa:s fẽko/
D ⇆	I ate food some mummy /mɛ̃ne k^{h}a:na: k^{h}a:ja: kUc^{h} məmmi/	I ate some food mummy /məmmi mɛ̃ne kUc^{h} k^{h}a:na: k^{h}a:ja:/
PP /Pr	Daddy is in the phone (Pr) /pIʈa:ʤi Us fon mẽ hɛ̃/ (PP)	Daddy is on the phone (Pr) /pIʈa:ʤi fon pər hɛ̃/ (PP)
PP/Pr Ø	The cat is the garden (Pr) /bIlli bəgi:ca hɛ/ (PP)	The cat is in the garden (Pr) /bIlli bəgi:ce mẽ hɛ/ (PP)
PP/ Pr ⇆	He's your behind car (Pr) /vəh ʈUmha:re pic^{h}e ka:r hɛ/ (PP)	He's behind your car (Pr) /vəh ʈUmha:ri ka:r ke pic^{h}e hɛ/ (PP)
Pron^{P}	Her is doing it /Uska vo kər rəhi hɛ/	She is doing it /vəh vo kər rəhi hɛ/

Note: D- wrong determiner. DØ- determiner omitted. D ⇆ - wrong order. PP /Pr - wrong post/pre position. PP/Pr Ø -post/pre position omitted. PP/ Pr ⇆ - wrong order. Pron^{P} = pronoun error

Stage VII (above 4;6 years)

Adverbial connectivity (AC), comment clause (CC) and emphatic order (EO) are the major syntactic structures that appeared in the discourse of the stage VII (above 4;6 years). Each of these structures are compared in Table 4.17.

Table 4.17

Comparison of adverbial connectivity (AC), comment clause (CC) and emphatic order (EO)

Structure	English	Hindi
AC	I was going to go, also my mum was going to come	/mɛ̃ ʤane ʤa rəha ʈ̪ʰa ɔr meri məmmi a:ne ʤa rəhi ʈ̪ʰi/
CC	As you know, I like strawberries	ʤɛsa ki ʈ̪Umʰe pəta̪ h ɛ, mUʤʰe strɔberija̰ pəsənd̪ hɛ̃
EO	That book she loves	vəh kIta̪:b Use bəhUʈ̪ pəsənd̪ hɛ

CHAPTER - V

RESULTS

The aim of the study was to adapt and standardize the "Language Assessment, Remediation and Screening Procedure (LARSP)" in Hindi language. The adapted Hindi version of LARSP was administered on one hundred and seventy-five (100 males & 75 females) participants of seven age groups. Each group included twenty-five participants, varying in gender distribution. Distribution of participants across seven age groups and their demographic information are shown in Table 5.1.

Table 5.1

Number of participants and across age groups, their mean age and standard deviation (SD)

Group	Age range	*N*	Number of males/ females	Mean age (in years)	SD
I	0;9 – 1;6 years	25	14/11	1.33	0.28
II	1;6 – 2;0 years	25	16/9	1.61	0.37
III	2;0 – 2;6 years	25	14/11	2.38	0.13
IV	2;6 – 3;0 years	25	13/12	2.76	0.12
V	3;0 – 3;6 years	25	11/14	3.49	0.11
VI	3;6 – 4;6 years	25	16/9	4.10	1.16
VII	Above 4;6 years	25	16/9	5.07	0.56
		175	100/75		

The results were analysed for the discourse, clause, phrase and word structure, which were described according to the age group of children.

5.1. STAGE I (0; 9-1; 6 YEARS)

5.1.1. Major statement

Majority of the utterances in the children of 0;9-1;6 years of age group were at one-word level. Some of the children started using the clausal and phrasal structure as well. The one-word utterances were in the form of command, question and statements. Percentage of children in which these one-word command, question and statements or other forms were seen is depicted in Table 5.2.

Table 5.2

One-word utterance (command, question and statement) found in children of first age group (0;9-1;6 years) and their percentages

One-word Utterance	Males (n=14)	Females (n=11)	Overall percentages
Command 'V'	14	11	100%
Question 'Q'	14	11	100%
Statement 'V'	12	9	84 %
Statement 'N'	14	11	100 %
Others	0	0	0%
Problems	4	5	36%

Among the one-word utterances command 'V', question 'Q' and statement 'N' were found in all the children of the first age group (0;9-1;6 years); whereas statement 'V' was observed in 84% of the children. Moreover, in 36% children the differentiation between

statement ‘V’ and statement ‘N’ was difficult. Other than noun and verb no other forms (e.g. adjective, adverb etc.) were observed in the language sample of first age-group children. In addition to these major utterances, minor utterances as vocative, response (/hɑ̃/, /nɑ̃/) were also found in all (100%) the children.

5.1.2. Clause

The results of the present study showed that the three clauses including subject-verb (SV), subject-object (SO) and element-verb (*X*V) clause begin to appear in the first age-group, 0;9-1;6 years. The percentage of children in which these three clauses were present in their spontaneous language sample is depicted in Table 5.3.

Table 5.3

Clause found in children of first age group (0;9-1;6 years) and their percentages

Utterance	Clauses	Males (n=14)	Females (n=11)	Overall percentages
Command	*X*V	2	5	28 %
Statement	SV	4	2	24 %
	SO	1	2	12 %

Amongst the above three clauses, the SV clause structure was observed in 24 % of the total number of children in 0;9-1;6 years age. SO clause structure appeared in the spontaneous speech of 12 % of the children. At the same time, 28 % of the children also constructed *X*V structure. However, except the SV clause, the remaining two clauses (*X*V & SO) were found more in the speech samples of females as compared to the male children.

5.1.3. Phrase

The results of the present study showed that only one phrase noun-noun (NN) begin to appear in the first age-group (0;9-1;6 years). The NN phrase was found in 32% of the children of this age group that includes four male and female out of total fourteen males and eleven female children.

5.1.4. Word

The results of the present study showed that only two structures /-o/ and /-a/ begin to appear in the first age-group (0;9-1;6 years). The percentage of children in which these structures were present in their spontaneous language sample is depicted in Table 5.4.

Table 5.4

Words found in children of first age group (0;9-1;6 years) and their percentages

word	Males (n=14)	Females (n=11)	Overall percentages
/-o/	11	10	84%
/-a/	10	9	76%

Among these above two structure, the /-o/ was observed in 84% of children in 0;9-1;6 years age. Whereas /-a/ was appeared in 76 % of the children. Both the structures were frequently observed among male as compare to female children.

Summarizing the findings of clause, word and phrase structure developed in the first age group (0;9-1;6) was depicted in Table 5.5.

Table 5.5

Clause, word and phrase structure developed in the first age group (0;9-1;6 years)

Age group	Clause				Phrase	Word	
	Command	Question	Statement				
Stage I 0;9-1;6 years	*X*V (28%)	--	SV (24%)	SO (12%)	NN (32%)	/-o/ (84%)	/-a/ (76%)

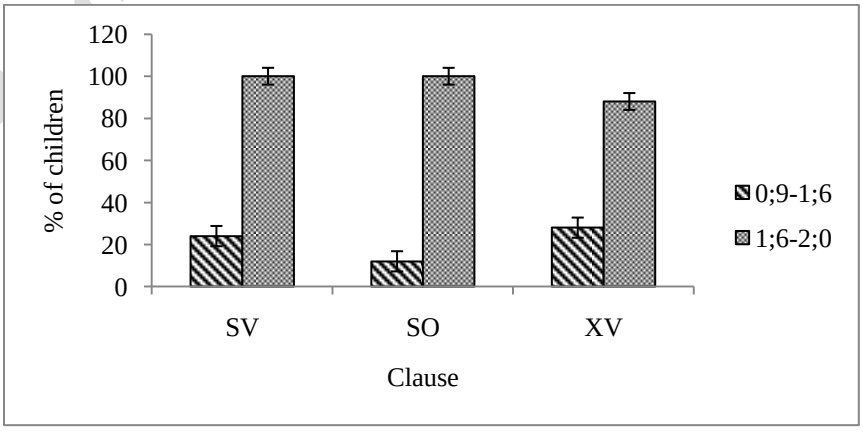
5.2. STAGE II (1; 6-2;0 YEARS)

5.2.1. Clause

The three clauses (SV= 24%, SO = 12% & *X*V= 28%) which began to develop in some children of the first age group (0;9-1;6 years) continue to be present in second age group (1;6-2;0 years). It was noted that SV and *X*V clauses were produced by all the children but SO clause was produced only by 88 % children of the second age group (1;6-2;0 years). Comparison of the development of three clauses between first (0;9-1;6 years) and second (1;6-2;0 years) age group are shown in Table 5.6.

Table 5.6

Comparison of the SV, SO and XV clausal between first and second age group.



Chi-square test revealed a significant association of age groups with SV clause $\{\chi^2(6) = 127.88, p < 0.001\}$, with SO $\{\chi^2(6) = 131.88, p < 0.001\}$ and with XV $\{\chi^2(6) = 120.38, p < 0.001\}$. Further two sample tests for equality of proportion was performed between first and second age group for *X*V clause only that showed a significant difference ($Z = 5.37$, $p < .01$). Moreover SV and SO clauses are present in all children of second age group (1;6-2;0 years), hence the tests for equality of proportion is not performed for these two clauses.

Most of the clausal structure begin to appear in second age group (1;6-2;0 years). Other than SV, SO and *X*V the other clauses, element-question (*X*Q), subject-complement (SC), object-verb (OV), complement-verb (CV), element-negative (*X*Neg), adverb-element (A*X*), subject-object-verb (SOV) and verb-element (V*X*) clause appeared in spontaneous language sample of the second age group (1;6-2;0 years). The percentages of children producing these clauses in spontaneous language sample are depicted in Table 5.7.

In addition, most of the clauses that emerged in second age group (1;6-2;0 years) have been produced by more than 50 % of the children of this age group. Subject-complement (SC) clause was produced by 88 % of the children, whereas object-verb (OV) clause by 72 %. Moreover adverb-element (A*X*), complement-verb (CV), element-negative (*X*Neg), negative-element (Neg*X*) was seen in 88 % of the children's spontaneous speech. At the same time, element-question (*X*Q), verb-element (V*X*) and subject-object-verb (SOV) clause appeared in 44%, 28% and 5% of the children respectively. The proportion of production of all the clausal structures in the second age group appear to be more in female as compared to male children.

Table 5.7

Clauses found in children of second age group (1;6-2;0 years) and their percentages (Other than the clauses which have appeared in the earlier age group)

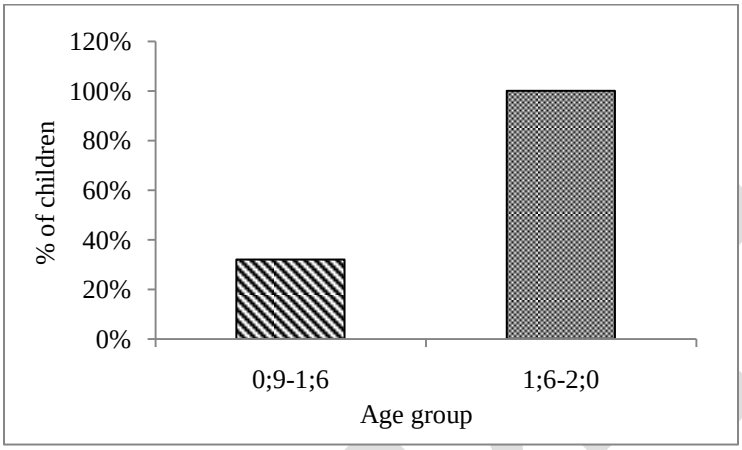
Sentence	Clauses	Males (n=16)	Females (n=9)	Overall percentage
Command	*X*V	16	9	100 %
	V*X*	6	1	28 %
Statement	SV	16	9	100 %
	SO	13	9	88 %
	SC	15	7	88 %
	A*X*	11	5	68 %
	OV	10	8	72%
	CV	9	8	68 %
	*X*Neg	9	8	68%
	Neg*X*	12	5	68 %
	SOV	4	1	5%
Question	*X*Q	5	6	44 %

5.2.2. Phrase

The NN phrase which began to develop in some children of the first age group (0;9-1;6 years) continue to be present in second age group (1;6-2;0 years). It was noted that NN phrase was produced by all the children of the second age group (1;6-2;0 years). Comparison of the development NN phrase between first (0;9-1;6 years) and second (1;6-2;0 years) age group are shown in Table 5.8.

Table 5.8

Comparison of the NN phrase between first and second age group.



Chi-square test revealed a significant association of age groups with NN phrase $\{\chi^2(6) = 112.97, p < 0.001\}$. Further two sample tests for equality of proportion between first (0;9-1;6 years) and second (1;6-2;0 years) age group for NN phrase showed a significant difference ($Z = 5.07$, $p < .01$).

Other than NN the other seven phrases including determiner-noun (DN), adjective-noun (AdjN), noun-postposition (N PP), verb-verb (VV), verb-part(V part), intensifier- word (Int X), determiner-adjective-noun (DAdjN) phrases appeared for the time in spontaneous language sample of the second age group (1;6-2;0 years). The percentages of children producing these phrases in spontaneous language sample are depicted in Table 5.9

Amongst these seven phrases, four were found in more than 50% of the second age groups' children. The two phrases DN and V part were found in 96% and 92 % of the children respectively. Whereas VV and Int*X* phrase structure was seen in 80% and 56% of the children.

Table 5.9

Phrases found in children of second age group (1;6-2;0 years) and their percentages (Other than the clauses which have appeared in the earlier age group)

Phrase	Males (n=16)	Females (n=9)	Overall percentage
DN	16	8	96 %
AdjN	8	4	48 %
NPP	5	3	32%
VV	15	5	80 %
V part	15	8	92 %
Int *X*	9	5	56%
DAdjN	2	4	24 %

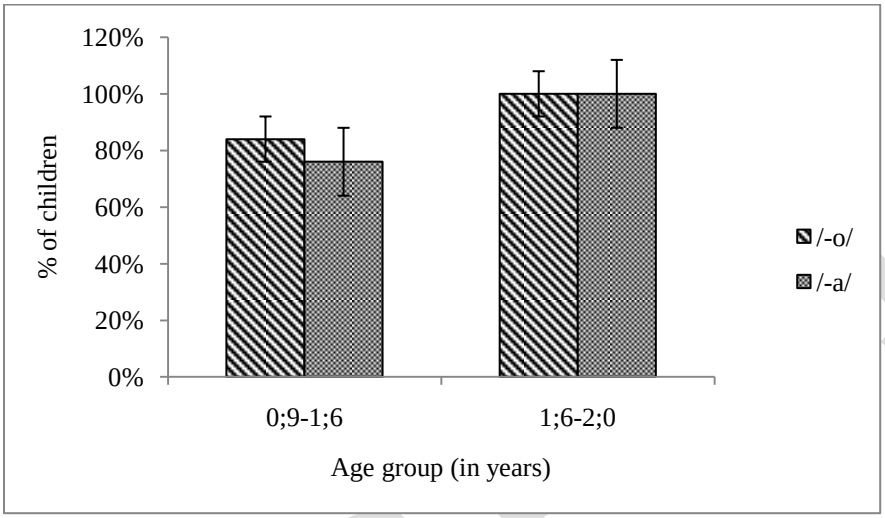
Moreover remaining three phrases were observed in less than 50% of the children. AdjN, NPP and DAdjN phrase was found in 46%, 32% and 24% of the children respectively. In addition, except DAdjN remaining other phrase structures were frequently observed among female as compare to male children.

5.2.3. Word

The /-o/ and /-a/ structures which began to develop in some children of the first age group (0;9-1;6 years) continue to be present in second age group (1;6-2;0 years). It was noted that both the structures were produced by all the children of the second age group (1;6-2;0 years). Comparison of the development of /-o/ and /-a/ structures between first (0;9-1;6 years) and second (1;6-2;0 years) age group are shown in Table 5.10.

Table 5.10

Comparison of the /-o/ and /-a/ structure between first and second age group.



Other than /-o/ and /-a/ the other five structures including past/-i/, past/-a/, past /-e/, /ka/ and /-rəha/ appeared for the time in spontaneous language sample of the second age group (1;6-2;0 years). The percentages of children producing these structures in spontaneous language sample are depicted in Table 5.11.

Table 5.11

Word structures found in children of second age group (1;6-2;0 years) and their percentages (Other than the clauses which have appeared in the earlier age group)

word	Males (n=16)	Females (n=9)	Overall percentage
Past/-i/	16	9	100 %
Past/-a/	13	9	88 %
Past /-e/	15	7	88 %

/ka/	11	5	68 %
/-rəha/	7	4	44 %

Amongst these five structures, four were found in more than 50% of the second age groups' children. The past /-i/ was seen in all the children whereas, past /-a/ and past /-e/ were found in 88% of the children. Remaining /ka/ and /-rəha / structures were seen in 68% and 44% of the children. In addition, all these structures were frequently observed among male as compare to female children.

Summarizing the findings of clause, word and phrase structure developed in the second age group (1;6-2;0 years) is depicted in Table 5.12.

Table 5.12

Clause, word and phrase structure developed in the second age group (1;6-2;0 years)

Clause				
Command	Question	Statement	Phrase	Word
***X*V** **(100%)**	***X*Q** (44%)	SV (100%) SO (88%) **SC** (88%)	NN (100%) **DN** (96%) **AdjN** (48%)	/-o/ (100%) /-a/ (100%)
V*X* **(28%)**		**OV** (72%) **CV** (68%) ***X*Neg** (68%)	**NPP** (32%) **VV** (80%) **Vpart** (92%)	**Past /-i/** (100%) **Past /-a/** (88%)
		SOV (5%) **A*X*** (68%) **Neg*X*** (68%)	**Int *X*** (56%) **DAdjN** (24%)	**Past /-e / ka/** (88%) (68%)
				/-rəha/, / -rəhi/ (44%)

Note: Clause, phrase and words represented in bold appeared for the first time in the given age group.

5.3. STAGE III (2;0-2;6 YEARS)

5.3.1. Clause

The ten clauses that appeared for the first time in second age group (1;6-2;0 years) including V*X*, SC SO, A*X*, CV, *X*Neg, Neg*X*, OV, *X*Q, SOV continue to appear in the third age group (2;0-2;6 years) as well. Comparison of the development of ten clauses between second and third age group are shown in Table 5.13.

Table 5.13

Comparison of development of VX, SO, SC, AX, OV, CV, XNeg, NegX, SOV and XQ clauses between second (1;6-2;0 years) and third (2;0-2;6 years) age group

			Test for equality of proportion	
Clause	1;6-2;0 years	2;0-2;6 years	*Z* value	*p*-value
V*X*	28%	72%	3.39	< .001
SOV	5%	80%	4.24	< .001
SO	88%	100%	--	--
SC	88%	100%	--	--
A*X*	68%	100%	--	--
OV	72%	100%	--	--
CV	68%	100%	--	--
*X*Neg	68%	100%	--	--
Neg*X*	68%	100%	--	--
*X*Q	44%	100%	--	--

Chi-square test revealed a significant association of age groups with V*X* {χ^2 (6) = 127.88, $p < 0.001$}, SC {χ^2 (6) = 155.35, $p < 0.001$}, SO {χ^2 (6) = 131.88, $p < 0.001$}, A*X* {χ^2 (6) = 139.45, $p < 0.001$}, CV {χ^2 (6) = 139.47, $p < 0.001$}, *X*Neg {χ^2 (6) = 139.47, $p < 0.001$}, Neg*X* {χ^2 (6) = 139.47, $p < 0.001$}, OV {χ^2 (6) = 141.27, $p < 0.001$}, *X*Q {χ^2 (6) = 175, $p < 0.001$} and SOV clause {χ^2 (6) = 135.8, $p < 0.001$}. Further, two -sample tests for equality of proportion was performed between second (1;6-2;0 years) and third (2;0-2;6 years) age group only for V*X* and SOV clauses. Moreover remaining clauses including, SO, SC, A*X*, OV, CV, *X*Neg, Neg*X*, and *X*Q were present in language samples of all children of third age group (2;0-2;6 years), hence the tests for equality of proportion is not performed for these clauses.

The clauses which appeared for the first time in third age group (2;0-2;6 years) children are depicted in Table 5.14. All these clauses are produced by more than 50% of the children in this age group. In the command type utterances *YX*V and *YX* /d̪o/ are seen in 76% whereas *XY* /d̪o/ was in 64% of the children.

Similarly in statement section O_iO_dV (indirect object-direct object-verb), ACV (adverb-complement-verb), SAV (subject-adverb-verb) clauses were seen among 64%, whereas *Y*Neg*X* (element-negative-element) and $SA_{dj}O$ (subject-adjective-object) were found in 72% children. Moreover A_{dj}OV (adjective-object-verb), OAV (object-adverb-verb) and SCV (subject-complement-verb) clauses were found in 52%, 56% and 60% of children respectively. In addition the S*X*V (subject-element-verb) and tag clausal form of interrogative utterance appeared in 92 % and 36 % of the children's utterance.

Table 5.14

Clauses found in children of third age group (2;0-2;6 years) and their percentages (Other than the clauses which have appeared in the earlier age group)

Utterances	Clauses	Males (n=14)	Females (n=11)	Overall percentage
Command	*YX*V	12	7	76 %
	XY /d̪o/	10	6	64 %
	YX /d̪o/	12	7	76 %
Statement	SCV	7	8	60 %
	SAV	11	5	64 %
	*Y*Neg*X*	10	8	72 %
	ACV	9	7	64 %
	OAV	7	7	56 %
	O_iO_dV	10	6	64 %
	$A_{dj}OV$	7	6	52 %
	$SA_{dj}O$	11	7	72 %
Question	S(X)V	12	11	92 %
	Tag	5	4	36%

5.3.2. Phrase

The seven phrases that appeared for the first time in second age group (1;6-2;0 years) including DN, AdjN, N PP, VV, V part, Int *X*, and DAdjN continue to appear in the third age group (2;0-2;6 years) as well. Comparison of the development of seven clauses between second (1;6-2;0 years) and third (2;0-2;6 years) age group are shown in Table 5.15.

Table 5.15

Comparison of development of DN, AdjN, N PP, VV, V part, Int X and DAdjN phrases between second (1;6-2;0 years) and third (2;0-2;6 years) age group

			Test for equality of proportion	
Clause	1;6-2;0 years	2;0-2;6 years	*Z* value	*p*-value
DN	96 %	100 %	1.01	.31
AdjN	48 %	72 %	1.73	.08
NPP	32%	68%	2.54	.01
VV	80 %	96 %	1.74	.08
V part	92 %	100 %	1.44	.14
Int*X*	56%	92 %	2.90	<.01
DAdjN	24 %	72 %	3.39	<.01

Chi-square test revealed a significant association of age groups with DN $\{\chi^2(6) = 167.41, p < 0.001\}$, AdjN $\{\chi^2(6) = 160.89, p < 0.001\}$, N PP $\{\chi^2(6) = 167.41, p < 0.001\}$, VV $\{\chi^2(6) = 175, p < 0.001\}$, V part $\{\chi^2(6) = 160.89, p < 0.001\}$, Int *X* $\{\chi^2(6) = 160.89, p < 0.001\}$ and DAdjN $\{\chi^2(6) = 175, p < 0.001\}$. Further, two -sample tests for equality of proportion was performed between second (1;6-2;0 years) and third (2;0-2;6 years) age group for all these phrase. Moreover NPP, Int*X* and DAdjN only revealed a significant difference ($p < .01$) between both the age groups.

Other than DN, AdjN, N PP, VV, V part, Int *X*, and DAdjN the phrase structures adjective-adjective-noun (AdjAdjN), determiner-noun-postposition (DNPP), pronoun-other ($Pron^{p}{}_{o}$), copula (Cop), auxiliary-modal (Aux^{m}) appeared for the first time in spontaneous

language samples of the third age group (2;0-2;6 years). The percentages of children producing these phrases in spontaneous language samples are depicted in Table 5.16.

Table 5.16

Phrases found in children of third age group (2;0-2;6 years) and their percentages (Other than the clauses which have appeared in the earlier age group)

Clauses	Males (n=14)	Females (n=11)	Overall percentage
AdjAdjN	9	7	64 %
DNPP	13	8	84 %
$Pron^{p}{}_{o}$	14	9	92 %
Cop	14	9	92 %
Aux^{m}	13	9	88 %

These entire five phrases were found in more than 50% of third age groups' children. The two phrases $Pron^{p}{}_{o}$ and Cop were found in 92 % of the children. Whereas Aux^{m} and DNPP phrase structures was seen in 88% and 84% of the children respectively. AdjAdjN phrase was reported in only 64% children of this age group. All these phrases were frequently observed among female as compare to male children.

Expansion of phrasal structure

Expansion of phrasal structure as noun phrase (NP), verb phrase (VP), adjective phrase (AP) and postposition phrase (PpP) were found in the utterances of 2;0-2;6 years age group

children. The percentages of children producing NP, VP, AV and PpP in spontaneous language sample are depicted in Table 5.17.

Table 5.17

Phrases expansion in children of third age group (2;0-2;6 years) and their percentages

Phrases	Males (n=14)	Females (n=11)	Overall percentage
NP: *X*+S	14	11	100 %
NP: *X*+O	14	11	100 %
NP: *X*+C	12	8	80 %
VP: *X*+V	14	11	100 %
AP: *X*+A	10	9	76 %
PpP: *X*+Pp	8	4	48%

Note: X = element; C = complement; V = verb; A = adjective

Among these six phrasal structures NP with subject or object as a constituent was found in all the children, whereas complement constituting the NP was seen only in 80% of the children. Other than NP, the VP was also observed in all the children. AP and PpP were seen among 76% and 48% of the children.

5.3.2. Word

Among the five structures that appeared for the first time in second age group (1;6-2;0 years) four structure including past/-a/, past /-e/, /ka/ and /-rəha/ continue to appear in the third age group (2;0-2;6 years) as well. Comparison of the development of these four structure between second (1;6-2;0 years) and third (2;0-2;6 years) age group are shown in Table 5.18.

Table 5.18

Comparison of development of past/-a/, past /-e/, /ka/ and /-rəha/ *between second (1;6-2;0 years) and third (2;0-2;6 years) age group*

Clause	1;6-2;0 years	2;0-2;6 years	Test for equality of proportion	
			Z value	*p*-value
Past/-a/	88 %	100 %	--	--
Past /-e/	88 %	92 %	1.43	.14
/ka/	68 %	100%	--	--
/-rəha/, /-rəhi/	44 %	100 %	--	--

Chi-square test revealed a significant association of age groups with Past/-a/ $\{\chi^2 (6) = 143.51, p < 0.001\}$, Past /-e/ $\{\chi^2 (6) = 175.89, p < 0.001\}$, /ka/ $\{\chi^2 (6) = 165.01, p < 0.001\}$, /-rəha/**,** /-rəhi/ $\{\chi^2 (6) = 165, p < 0.001\}$. Further, two -sample tests for equality of proportion was performed between second (1;6-2;0 years) and third (2;0-2;6 years) age group only for Past /-e/. Moreover no significant difference ($p < .01$) was found them. On the same time past/-a/, /ka/ and /-rəha/ structures were present in all children of third age group (2;0-2;6 years), hence the tests for equality of proportion is not performed for these three structures.

Other than past/-a/, past /-e/, /ka/ and /-rəha/ structures the remaning structures /ko/, /se/, /ne/, /t̪ʰa/, /t̪ʰi/, /hɛ/, /ho/, /vəh/, /uska/, /uski/, /mera/, /mɛ̃/, /hũ/ appeared for the first time in spontaneous language samples of the third age group (2;0-2;6 years). The percentages of children producing these structures in spontaneous language samples are depicted in Table 5.19.

Table 5.19

Word structures found in children of third age group (2;0-2;6 years) and their percentages (other than the clauses which have appeared in the earlier age group)

Clauses	Males (n=14)	Females (n=11)	Overall percentage
/ko/	12	10	88%
/se/	10	11	84%
/ne/	10	10	80%
/t̪^{h}a/, /t̪^{h}i/	14	11	100 %
/hɛ/	14	11	100 %
/ho/	9	8	68 %
/vəh/	7	8	60 %
/uska/, /uski/	12	10	88 %
/mera/	14	11	100%
/mɛ̃/	14	11	100%
/hũ/	14	11	100%

These thirteen structures were found in more than 50% of third age groups' children . The /t̪^{h}a, t̪^{h}i/, /hɛ/, /mera/, /mɛ̃/, /hũ/ constructions were found in all the children of this age group; whereas, /ko/, /uska/ and /uski/ structures were seen in 88% of the children. In addition, /se/ and /ne/ structures were found in 84% and 80% of the children respectively. However, /ho/ and /vəh/ structures were found in 68% and 60% of the children. Except /vəh/ the other phrases were frequently observed among females as compared to male children.

Summary of the findings related to clause, word and phrase structures which developed in the third age group (2;0-2;6 years) has been depicted in Table 5.20.

Table 5.20

Clause, word and phrase structure developed in the third age group (2;0-2;6 years)

Clause																				
Command			Question		Statement						Phrase						Word			
V*X*		***YX*V**	*X*Q		SO		SC		A*X*		DN		AdjN		NPP		Past /-a/		Past /-o/	
(72%)		**(76%)**	(100%)		(100%)		(100%)		(100%)		(100%)		(72%)		(68%)		(100%)		(92%)	
*X*Y/d̪o/		*X*/d̪o/	**S(X)V**		OV		CV		XNeg		VV		Vpart		Int*X*		/ka/ /-rəha/		**/t̪^{h}a/**	
(64%)		**(76%)**	(92%)		(100%)		(100%)		(100%)		(96%)		(100%)		(92%)		---(100%)---			
			Tag		Neg*X*		SOV		**SCV**		DAdjN		**AdjAdjN**				**/mera/ /mɛ̃/ /hũ/**			
			(36%)		(100%)		(100%)		(60%)		(72%)		(64%)				--(100%)--			
					SAV		***Y*Neg*X***		**ACV**		**DNPP**		**Pron^{p}**		**Cop**		**/hɛ/ /nɛ̃/**		**/ko//se/**	
					(64%)		(72%)		(64%)		(84%)		(92%)		(92%)		(80%)		(84%)	
					OAV		**O_iO_dV**		**A_{dj}OV**		**Aux^{m}**						**/uska/**		**/ho/**	
					(56%)		(64%)		(52%)		(88%)						(88%)		(68%)	
					SA_{dj}O												**/vəh/**			
					(72%)												(60%)			

Note: Clause, phrase and words represented in bold appeared for the first time in the given age group.

5.4. STAGE IV (2;6-3;0 YEARS)

5.4.1. Clause

The clauses which were appeared for the first time in third age group (2;0-2;6 years) including *YX*V, XY /d̪o/, *Y* /d̪o/, SCV, SAV, *Y*Neg*X*, ACV, OAV, O_iO_dV, A_{dj}OV, SA_{dj}O, S(X)V and tag, continued to appear in the fourth age group (2;6-3;0 years) as well.

Comparison of the development of these clauses between third (2;0-2;6 years) and fourth (2;6-3;0 years) age groups are shown in Table 5.21.

Chi-square test revealed a significant association ($p < .05$) of age groups with *YX*V, *XY* /d̪o/, *Y* /d̪o/, SCV, SAV, *Y*Neg*X*, ACV, OAV, O_iO_dV, $A_{dj}OV$, $SA_{dj}O$, S(X)V, tag. Further, a two-sample test for equality of proportion was performed between third (2;0-2;6 years) and fourth (2;6-3;0 years) age group only for SCV, SAV, *Y*Neg*X*, OAV and tag clauses. Moreover remaining clauses including, *YX*V, *XY* /d̪o/, *Y* /d̪o/, ACV, O_iO_dV, $A_{dj}OV$, $SA_{dj}O$, S(X)V were present in language samples of all children of fourth (2;6-3;0 years)age group, hence the tests for equality of proportion was not performed for those clauses.

The clauses appeared for the first time in fourth age group (2;6-3;0 years) of children are depicted in Table 5.19. Most of these clauses were found in utterance of more than 50% of the children within this age group. In the command type utterances +S and +*YX*V were seen in 88% and 72% of the children respectively.

Similarly in statement section SAOV and SACV were seen among 68% and 60% of the children's language samples respectively, whereas SO_dO_i and *X*AA*Y* clause were found in 56% and 44% of samples respectively. At the same time SOCV clause appeared maximally in 72% of samples. Moreover, 'coord 1' and 'coord 1+' were also observed amongst 36% and 12% children respectively.

Table 5.21

Comparison of development of YXV , XY /d̪o/, Y /d̪o/, SCV, SAV, YNegX, ACV, OAV, O_iO_dV, $A_{dj}OV$, $SA_{dj}O$, S(X)V and tag clauses between third (2;0-2;6 year) *and fourth* (2;6-3;0 year) *age group*

Utterances	Clauses	2;0-2;6 years	2;6-3;0 years	Test for equality of proportion	
				Z- value	*p*-value
Command	*YX*V	76 %	100 %	--	--
	XY /d̪o/	64 %	100 %	--	--
	YX /d̪o/	76 %	100 %	--	--
Statement	SCV	60 %	95 %	2.49	< .001
	SAV	64 %	92 %	3.24	< .001
	*Y*Neg*X*	72 %	88 %	3.39	< .001
	ACV	64 %	100 %	--	--
	OAV	56 %	98 %	3.39	< .001
	O_iO_dV	64 %	100 %	--	--
	A_{dj}OV	52 %	100 %	--	--
	SA_{dj}O	72 %	100 %	--	--
Question	S(X)V	92 %	100 %	--	--
	Tag	36%	83 %	4.14	< .001

On the other hand, among the interrogative utterances, *X*+Q*Y* were found in language sample of all the children. However, S*X*V+ and SQV were also seen in 83% and 84% of the children within the fourth age group (2;6-3;0 year). In addition, connecting words like 'ɔr' (or) and 'c' (/lekin/) were also found in 36% and 12% of the children respectively.

Table 5.22

Clause found for the first time by 2;6-3;0 years age groups children and their percentages (other than the clauses which have appeared in the earlier age group)

Utterances	Clause	Males (n=13)	Females (n=12)	Overall percentage
Command	+ S	10	12	88 %
	+ *YX*V	9	9	72 %
Statement	SAOV	9	8	68 %
	SACV	7	8	60 %
	SO_dO_iV	7	7	56 %
	SOCV	10	9	76 %
	*X*AA*Y*	5	6	44 %
	Coord 1	6	3	36 %
	Coord 1+	1	2	12 %
Question	*X*+Q*Y*	13	12	100 %
	S*X*V+	12	9	84 %
	SQV	12	10	83 %
Connector	or	11	11	22 %
	c	11	10	21 %

5.4.2. Phrase

Some of the phrases that developed in third (2;0-2;6) age group continued to be appearing in the fourth age group (2;6-3;0 years) as well. Comparison of the development of phrases between third (2;0-2;6) and fourth (2;6-3;0 years) age group are shown in Table 5.23.

Table 5.23

Comparison of development of AdjN, N PP, DAdjN, Aux^{m}, DNPP and AdjAdjN phrases between third (2;0-2;6 year) *and fourth* (2;6-3;0 year) *age group*

Clause	2;0-2;6 years	2;6-3;0years	Test for equality of proportion	
			Z value	*p*-value
AdjN	72%	96%	2.31	0.02
NPP	68%	100%	3.08	<.01
D Adj N	72 %	96 %	2.31	0.02
AdjAdjN	64%	96%	2.82	<.01
DNPP	84%	100%	1.41	0.15
Aux^{m}	88%	96%	1.04	0.29

Chi-square test revealed a significant association of age groups with AdjN {χ^2 (6) = 160.89, $p < 0.001$}, N PP {χ^2 (6) = 167.41, $p < 0.001$}, D Adj N {χ^2 (6) =175, $p < 0.001$}, AdjAdjN {χ^2 (6) = 175, $p < 0.001$}, DNPP {χ^2 (6) = 159.25, $p < 0.001$} and Aux^{m} {χ^2 (6) =162.49, $p < 0.001$}. Further, two -sample tests for equality of proportion was performed between third (2;0-2;6 years) and fourth (2;6-3;0 years) age group for all these phrase. Moreover AdjN, N PP, DAdjN, AdjAdjN only revealed a significant difference ($p < .01$) between both the age groups.

Other than AdjN, N PP, DAdjN, Aux^{m}, DNPP and AdjAdjN the other phrases that appeared for the first time in spontaneous language samples of the fourth age group (2;0-2;6 years) included NP NP PP, DAdjNPP, c*X*, *X*c*X*, V Neg, *X* Neg, 2Aux, Postmod. Phrase 1,

and Postmod.Phrase 1+. The percentages of children producing these phrases in spontaneous language sample are depicted in Table 5.24.

Table 5.24

Clause found in children of fourth age group (2;6-3;0 years) and their percentages (Other than the clauses which have appeared in the earlier age group)

Phrase	Males (n=13)	Females (n=12)	Overall percentage
NP NP PP	13	11	96 %
DAdjNPP	13	11	92 %
c*X*	14	11	96 %
*X*c*X*	11	12	92 %
V Neg	11	10	84 %
X Neg	13	11	92 %
2Aux	11	10	84 %
Postmod. Phrase 1	10	10	80 %
Postmod. Phrase 1+	12	10	88 %

Those phrases that appeared for the first time in fourth age group (2;6-3;0 years) were found in more than 50% of third age groups' children. The two phrases noun phrase-noun phrase-postposition (NP NP PP) and coordinator word (c*X*) were found in 96% whereas determiner-adjective-noun postposition (DAdjNPP), word –negation (*X*Neg) and word-coordinator-word (*X*c*X*) were found in 92% of the children. Verb-negation (VNeg) and two auxiliaries (2Aux) were seen in 84% of children as well. Postmodifying phrase one

(Postmod.Phrase 1) and postmodifying phrase more than one (Postmodifying phrase Postmod.Phrase 1+) were also observed among 80% and 88% of the children in fourth (2;6-3;0) age group. Except *X*c*X* other phrases were frequently observed among female as compared to male children.

Expansion of phrasal structure

Expansion of phrasal structure as noun phrase (NP), verb phrase (VP), adjective phrase (AP) and postposition phrase (PpP) were found in the utterances of 2;6-3;0 years age group children. The percentages of children producing NP, VP, AV and PpP in spontaneous language sample are depicted in Table 5.25.

Table 5.25

Phrases expansion in children of fourth age group (2;6-3;0 years) and their percentages

Phrases	Males (n=13)	Females (n=12)	Overall percentage
NP: *XY*+S	13	12	100 %
NP: *XY*+C	10	8	72 %
NP: *XY*+O	13	12	100%
VP: *XY*+V	13	12	100 %
AP: *XY*+A	11	8	76 %
PpP: *XY*+Pp	10	8	72%

Note: X , Y = element; C = complement; V = verb; A = adjective

Among these six phrasal structures NP with subject and or object, a constituent was found in all the children, whereas complement constituting the NP was seen only in 72% of

the children. Other than NP, the VP was also observed in all the children. AP and PpP were seen among 76% and 42% of the children.

5.4. 3. Words

Some of the words that developed in third (2;0-2;6) age group continued to be appearing in the fourth age group (2;6-3;0 years) as well. Comparison of the development of words between third (2;0-2;6) and fourth (2;6-3;0 years) age group are shown in Table 5.26.

Table 5.26

Comparison of development of /uska/, /uski/, /ho/, /vəh/ *structure between third* (2;0-2;6 year) *and fourth* (2;6-3;0 year) *age group*

			Test for equality of proportion	
Words	2;0-2;6 years	2;6-3;0years	*Z* value	*p*-value
/ho/	68 %	96%	2.82	<.01
/vəh/	60 %	100%	--	--
/uska/, /uski/	88 %	100%	--	--
/ko/	88%	100%	--	--
/se/	84%	100%	--	--
/nɛ̃/	80%	100%	--	--

Chi-square test revealed a significant association of age groups with /ho/{χ^2 (6) = 132.62, $p < 0.001$}, /vəh/{χ^2 (6) = 143.24, $p < 0.001$}, /uska/, /uski/ {χ^2 (6) = 175, $p < 0.001$}, /ko/ {χ^2 (6) = 145.67, $p < 0.001$}, /se/ {χ^2 (6) = 128.83, $p < 0.001$} and /nɛ̃/ {χ^2 (6) = 137.38, $p < 0.001$}. Further, two -sample tests for equality of proportion was performed

between second (1;6-2;0 years) and third (2;0-2;6 years) age group only for /ho/. Moreover a significant difference ($p < .01$) was found between them. At the same time remaining structures were present in all the children of third age group (2;0-2;6 years), hence the tests for equality of proportion is not performed for these three structures.

Other than /uska/, /uski/, /ho/, /vəh/, /ko/, /se/, /ne/ the other structures including /ke/, /ki/, /pər/, /-e/, /-o̰/, /-jã̰/, /ke lije / and /bəhuṯ/ appeared for the first time in spontaneous language sample of the fourth age group (2;6-3;0 years). The percentages of children producing these phrases in spontaneous language sample are depicted in Table 5.27.

Table 5.27

Words found in children of fourth age group (2;6-3;0 years) and their percentages (Other than the clauses which have appeared in the earlier age group)

Words	Males (n=13)	Females (n=12)	Overall percentage
/ke/	13	12	100 %
/ki/	13	12	100 %
/pər/	13	12	100 %
/-e/	9	8	68%
/-o̰/	7	8	60%
/-jã̰/	8	7	60%
/ke lije/	13	12	100%
/bəhuṯ/	8	9	68%

The entire eight structures were found in more than 50% of the children of the fourth age group . The /ke/, /ki/, /pər/ and /ke lije/ were found in all the children of this age group . Whereas /-e/ and /bəhuṯ/ structures were seen in 68% of the children

respectively. In addition, /-õ/ and /-jã/ were found in 60% of the children respectively. However, /ho/ and /vəh/ structures were found in 68% and 60% of the children. Except /-e/, /-õ/ and /bəhuṯ/ the other structures were frequently observed among male as compared to female children.

Summarizing the findings of clause, word and phrase structures that developed in the fourth age group (2;6-3;0 years) are depicted in Table 5.28.

Table5.28

Clause, word and phrase structure developed in the fourth age group (2;6-3;0 years)

Clause					
Command	Question	Statement		Phrase	Word
YXV ***XY/ḍo/*** **(76%)** **(64%)**	S(X)V (100%)	SAV (92%)	*Y*Neg*X* (88%) ACV (100%)	AdjN (96%) NPP (100%) DAdjN (96%)	/ko/ /uska/ /se/ --(100%)--
YX/ḍo/ +S **(76%)** **(88%)**	Tag (83%)	OAV (98%)	O_iO_dV (100%) SCV (95%)	**NPNPPP** **DAdjNPP** (96%) (92%)	/ne//vəh/ /ho/ (100%) (96%)
+*YX*V **(72%)**	***X*+QY** (100%)	$A_{dj}OV$ (100%)	$SA_{dj}O$ (1000%) **Coord 1+** (12%)	**c*X*** ***XcX*** **VNeg** (96%) (92%) (84%)	**/ke//ki//pər/ /-e/** (100%) (68%)
	S*X*V+ (84%)	**SAOV** (68%)	**SACV** (60%) **Coord 1** (36%)	***X*Neg** **2Aux** DNPP (92%) (84%) (88%)	**/-õ/** **/-jã/** (68%) (60%)
	SQV (83%)	**SO_dO_iV** (56%)	**SOCV** (76%) ***X*AA*Y*** (44%)	Aux^m **Postmod.phrase1** (100%) (96%) **Postmod.phrase1+** (80%)	**/ke lije/** **/bəhuṯ/** (100%) (68%)

Note: Clause, phrase and words represented in bold appeared for the first time in the given age group.

5.5. STAGE V (3;0-3;6 YEARS)

5.5.1. Clause

The clauses which appeared for the first time in fourth age group (2;6-3;0 years) including, + S, + *YX*V, SAOV, SACV, SO_dO_iV, SOCV, *X*AA*Y*, Coord 1, Coord 1+, S*X*V+, SQV, 'ɔr' and 'c' continued to be appearing in the present age group as well. Comparisons of the development of these clauses between fourth and fifth age groups are shown in Table 5.29.

Chi-square test revealed a significant association ($p < .05$) of age groups with all these clause structures. Further, two -sample tests for equality of proportion was performed between fourth (2;6-3;0 years) and fifth (3;0-3;6 years) age group only for SO_dO_iV, SOCV, *X*AA*Y*, Coord 1, Coord 1+, ɔr, c clauses. Remaining clauses were present in language samples of all children of fourth (2;6-3;0 years) age group, hence the tests for equality of proportion was not performed for those clauses.

The clauses that appeared for the first time in fifth age group (3;0-3;6 years) children are depicted in Table 5.30. All these clauses were found in more than 50% of the children within this age group.

In the statement type of utterances subord A 1 and subord A1+ were found in 80% and 72% of the children respectively. Whereas, subord S, subord O, and subord C were found in 92%, 64% and 84% of the language sample of the children respectively. At the same time , the comparatives were also observed to be developed in 65% of the samples of this age group. In addition, coordinator ɔr was found in 88% whereas /ke baḏ/ and /uske pahle/ were seen amongst 88% of the children in this age group.

Table 5.29

Comparison of development of + S, + YXV, SAOV, SACV, SO_dO_iV, SOCV, XAAY, Coord 1, Coord 1+, SXV+, SQV, ɔr, and c clauses between fourth (2;6-3;0 years) and fifth (3;0-3;6 years) age group

Utterances	Clauses	2;6-3;0 years	3;0-3;6 years	Test for equality of proportion	
				Z- value	*p*-value
Command	+ S	88 %	100 %	--	--
	+ *YX*V	72 %	100 %	--	--
Statement	SAOV	68 %	100 %	--	--
	SACV	60 %	100 %	--	--
	SO_dO_iV	56 %	80 %	3.39	< .001
	SOCV	76 %	88 %	4.52	.08
	*X*AA*Y*	44 %	72 %	2.41	< .001
	Coord 1	36 %	96 %	3.27	< .001
	Coord 1+	12 %	60 %	1.92	< .001
Question	S*X*V+	84 %	100 %	--	--
	SQV	83 %	100 %	--	--
	ɔr	22 %	78 %	3.39	.12
	C	21 %	84 %	3.42	< .001

Table 5.30

Clauses found for the first time by 3;0-3;6 years age groups children and their percentages (other than the clauses which have appeared in the earlier age group)

Utterances	Clauses	Males (n=11)	Females (n=14)	Overall percentage
Statement	Subord.A1	8	12	80 %
	Subord A1+	7	11	72 %
	Subord S	9	14	92 %
	Subord O	7	9	64 %
	Subord C	10	11	84 %
	Comprative1	9	8	68 %
	Comprative1+	7	9	64 %
Question	ɔr	11	11	88 %
Coord.	ke bad	8	13	84 %
	uske pahle	10	11	84 %

5.5.2. Phrase

The entire phrase structures that appeared for the first time in fourth (2;6-3;0 years) age group had been seen in all the children of the fifth (3;0-3;6 years) age group, hence two-sample tests for equality of proportion was not performed.

The two phrases postmodifying clause one (Postmod.clause 1) and postmodifying clause more than one (Postmod.clause1+) were developed for the first time in children of fifth (3;0-3;6 years) age group. The percentages of children producing these two phrases in

spontaneous language sample are depicted in Table 5.31. Both the phrases were frequently observed amongst female as compared to male children.

Table 5.31

Phrases found in children of fifth age group (3;0-3;6 years) and their percentages (Other than the clauses which have appeared in the earlier age group)

Clauses	Males (n=11)	Females (n=14)	Overall percentage
Postmod Clause 1	10	11	86 %
Postmod Clause 1+	8	10	72 %

5.5.3. Words

Some of the words that developed in fourth (2;6-3;0 years) age group including /-e/, /-o̰/, /-ja̰/, /bəhu̪t/ continued to be appearing in the fifth age group (3;0-3;6 years) as well. All these structures were seen in all the children of the fifth age group.

Other than /-e/, /-o̰/, /-ja̰/ and /bəhu̪t/ the other structures including /vəh he/, /-ega/, /-oge/, /səbse/ and /idʒie/ appeared for the first time in spontaneous language sample of the fifth age group (3;0-3;6 years). The percentages of children producing these words in spontaneous language sample are depicted in Table 5.32.

These four structures were found in more than 50% of the children of the fifth age group. The two structures /vəh hɛ/ and /-ega/, were found in all the children of this age group, whereas /səbse/ and /idʒie/ were seen in 76% and 88% of the children respectively. All these structures were frequently observed amongst male as compared to female children.

Table 5.32

Words found in children of fifth age group (3;0-3;6 years) and their percentages (Other than the clauses which have appeared in the earlier age group)

	Males (n=11)	Females (n=14)	Overall percentage
/vəh hɛ/	11	14	100%
/-ega/, /-oge/	11	14	100%
/səbsɛ/	9	10	76%
/idʒie/	12	10	88%

Summarizing the findings of clause, word and phrase structures that developed in the fifth age group (3;0-3;6 years) are depicted in Table 5.33.

Table 5.33

Clause, word and phrase structure developed in the fifth age group (3;0-3;6 years)

Clause						
Command	Question	Statement			Phrase	Word
	S*X*V+ (100%)	SACV (100%)	SO_dO_iV (80%)	SOCV (88%)	NPNPPP (100%) DAdjNPP (100%)	/-e/ /-õ̃/ /-jã̃/ --(100%)--
	SQV (100%)	*X*AA*Y* (72%)	Coord1 (96%)	Coord1+ (60%)	cX (100%) XcX (100%) VNeg (100%)	/bəhuʈ̪/ **/idʒie/** (100%) (88%)
		SAOV (100%)	**SubA1** (80%)	**SubA1+** (72%)	XNeg (100%) 2Aux (100%)	**/-ega/ /-oge/** **(**100%)
		Sub S (92%)	**Sub O** (64%)	**Sub C** (84%)	Postmod.phrase1/1+ ---(100%)---	**/vəh hɛ/ /səbsɛ/** (100%) (76%)
		Com 1 (68%)	**Com 1+** (64%)		**Postmod.clause1/1+** ---(100%)----	

Note: Clause, phrase and words represented in bold appeared for the first time in the given age group.

5.6. STAGE VI (3;6-4;6 YEARS)

The results of the present study showed that the initiator, coordination and complex verb phrase (VP) structures were frequently seen in the samples of the children in the age range of 3;6-4;6 years. The percentage of children in which these three clauses were present in their spontaneous language sample is depicted in Table 5.34.

Table 5.34

Initiator, coordination and complex verb phrase structure found in children of fifth age group (3;6-4;6 years) and their percentages

	Males (n=16)	Females (n= 9)	Overall percentage
Initiator: /sare/	8	5	52%
Initiator: /səb/	12	6	72%
Coordination	10	6	64%
Complex VP	13	8	84%

It was found that Initiator /sare/ and /səb/ were found in 52% and 72% of the children, whereas coordination of the utterances was found in 64% of the children. Complex verb phrase structure was also reported in 84% of the children of sixth age group.

In addition passive clausal structure, complements was not observed as frequent as the above structure. Passive structure was only found in 36% of the children whereas, complements was seen in 40% of the children as well. Similarly, /kɛse/ and /kja/ was seen in all the children (100%) of 3;6-4;6 years of age group.

5.7. STAGE VII (ABOVE 4;6 YEARS)

The results of the present study showed that at the discourse level the adverbial connectivity (AC), Comment clause (CC) emphatic order (EO), /vəh/, /vəhɑ̃/, /Usmɛ̃/, /Ismɛ/, /U$\underline{ɖ}^{h}$ ər/, /I$\underline{ɖ}^{h}$ ər/ were found in children above 4;6 years. The percentage of children in which these three clauses were present in their spontaneous language samples is depicted in Table 5.35.

Table 5.35

Discourse level structure found in children of seventh age group (above 4;6 years) and their percentages

	Males (n=16)	Females (n= 9)	Overall percentage
AC: /ər/	12	5	68%
AC:/pər/	13	7	84%
CC: /dʒɛsa ki $\underline{ʈ}$Um/	6	2	32%
CC:/apəko malUm /	4	3	28%
CC: /mUdʒ^{h}ɛ p$\underline{ə}\underline{ʈ}$a/	6	5	44%
EO: /ve/	9	6	56%
EO: /məj̃/	12	7	76%
EO:/$\underline{ʈ}$Um/	14	6	80%
/vəh/	13	8	84%
/vəhɑ̃/ /vəhĩ/	16	9	100%
/Usme/ /Isme/	16	9	100%
/U$\underline{ɖ}^{h}$ər/ /I$\underline{ɖ}^{h}$ər/	16	9	100%

The results showed that, out of two adverbial connectors, /pər/ was seen in 84% of the children, whereas /ɔr/ was found in only 68% of the children. On the other hand, all the comment clauses were found in less than 50% of the children. Comment clause /dʒɛsa ki ʈUm/, / apəko malUm / and /mUdʒʰe pəʈa/ were seen in 32%, 28% and 44% of the children respectively.

All the emphatic orders (EO) were found in more than 50% of the children . The EO /ʈUm/ was seen maximally in 80% of the children, whereas /məj̃/ and /ve/ were noticed in 76% and 56% of the children respectively. The other structures including /vəhaj̃, /Usmẽ/, /Isme/, /Uɖʰ ᵊr/, /Iɖʰ ᵊr/ were frequently found in all the children (100%) above the 4;5 years of age.

Finally, the overall development of clause, word and phrases are shown in Table 5.36, 5.37 and 5.38 respectively.

Table 5.36

Development of clause production

Age group	Command	Question	Statement
Stage I 0;9-1;6 years	**XV** (28%)		**SV** **SO** (24%) (12%)
Stage II 1;6-2;0 years	XV **VX** (100%) (28%)	**XQ** (44%)	SV SO **SC** **AX** **OV** (100%) (88%) (88%) (68%) (72%) **CV** **XNeg** **NegX** **SOV** (68%) (68%) (68%) (5%)

Stage III 2;0-2;6 years	VX (72%)	YXV (76%)	XQ (100%)	**S(X)V** (92%)	SO (100%)	SC (100%)	AX (100%)	OV (100%)	CV (100%)
	XY/do/ (64%)	**YX/do/** (76%)	**Tag** (36%)		XNeg (100%)	NegX (100%)	SOV (100%)	**SCV** (60%)	**SAV** (64%)
					YNegX (72%)	**ACV** (64%)	**OAV** (56%)	**O_iO_dV** (64%)	**$A_{dj}OV$** (52%)
					$SA_{dj}O$ (72%)				
Stage IV 2;6-3;0 years	YXV (76%)	XY/do/ (64%)	S(X)V (100%)	Tag (83%)	SAV (92%)	YNegX (88%)	ACV (100%)	OAV (98%)	O_iO_dV (100%)
	YX/do/ (76%)	**+S** (88%)	**X+QY** (100%)	**SXV+** (84%)	$A_{dj}OV$ (100%)	$SA_{dj}O$ (1000%)	SCV (95%)	**SAOV** (68%)	**SACV** (60%)
	+YXV (72%)		**SQV** (83%)		**SO_dO_iV** (56%)	**SOCV** (76%)	**XAAY** (44%)	**Coord1** (36%)	**Coord 1+** (12%)
Stage V 3;0-3;6 years			SXV+ (100%)	SQV (100%)	SACV (100%)	SO_dO_iV (80%)	SOCV (88%)	XAAY (72%)	Coord1 (96%)
					Coord1+ (60%)	SAOV (100%)	**SubA1** (80%)	**SubA1+** (72%)	**Sub S** (92%)
					Sub O (64%)	**Sub C** (84%)	**Com 1** (68%)	**Com 1+** (64%)	

Note: Clauses represented in bold appeared for the first time in the given age group.

Table 5.37

Development of phrase production

Age group	Phrase							
Stage I 0;9-1;6 years	**NN** (32%)							
Stage II 1;6-2;0 years	NN (100%)	**DN** (96%)	**AdjN** (48%)	**NPP** (32%)	**VV** (80%)	**Vpart** (92%)	**Int X** (56%)	**DAdjN** (24%)

Stage III 2;0-2;6 years	DN (100%)	AdjN (72%)	NPP (68%)	VV (96%)	Vpart (100%)	IntX (92%)	DAdjN (72%)
	AdjAdjN (64%)	**DNPP** (84%)	**Pron^{p}** (92%)	**Cop** (92%)	**Aux^{m}** (88%)		
Stage IV 2;6-3;0 years	AdjN (96%)	NPP (100%)	DAdjN (96%)	**NPNPPP** (96%)	**DAdjNPP** (92%)	**cX** (96%)	**XcX** (92%)
	VNeg (84%)	**XNeg** (92%)					
	DNPP (100%)	Aux^{m} (96%)	**Postmod.phrase 1** (80%)	**Postmod.phrase 1+** (88%)	**2Aux** (84%)		
Stage V 3;0-3;6 years	NPNPPP (100%)	DAdjNPP (100%)	cX (100%)	XcX (100%)	VNeg (100%)	XNeg (100%)	2Aux (100%)
	Postmod.phrase 1 (100%)	Postmod.phrase 1+ (100%)	**Postmod.clause 1** (100%)	**Postmod.clause 1+** (100%)			

Note: Phrases represented in bold appeared for the first time in the given age group.

Table 5.38

Development of word

Age group	Phrase						
Stage I 0;9-1;6 years	**/-o/** (84%)	**/-a/** (76%)					
Stage II 1;6-2;0 years	/-o/ (100%)	/-a/ (100%)	**Past /-i/** (100%)	**Past /-a/** (88%)	**Past /-e/** (88%)	**/ka/** (68%)	**/-rəha/, / -rəhi/** (44%)
Stage III 2;0-2;6 years	Past /-a/ (100%)	Past /-e/ (92%)	/ka/ (100%)	/-rəha// -rəhi/ (100%)	**/t̪^{h}a, t̪^{h}i/** (100%)	**/hɛ/** (80%)	**/mera/** (100%)
	/mɛ̃/ (100%)	**/hũ/** (100%)	**/ko/** (84%)	**/uska/ /uski/** (88%)	**/se/** (84%)	**/ne/** (80%)	**/ho/** (68%)	**/vəh/** (60%)

Stage IV 2;6-3;0 years	/ko/ (100%)	/uska/ (100%)	/uski/ (100%)	/se/ (100%)	/ne/ (100%)	/ho/ (96%)	/vəh/ (100%)	
	/ke/ (100%)	**/ki/** (100%)	**/pər/** (100%)	**/-e/** (68%)	**/-õ̃/** (60%)	**/-jã̃/** (60%)	**/ke lije/** (100%)	**/bəhuṯ/** (68%)
Stage V 3;0-3;6 years	/-e/ (100%)	/-õ̃/ (100%)	/-jã̃/ (100%)	/bəhuṯ/ (100%)				
	/vəh hɛ/ **(**100%)	**/-ega/** (100%)	**/-oge/** (76%)	**/səbse/** (88%)	**/idʒie/**			

Note: Words represented in bold appeared for the first time in the given age group.

Amongst the above described syntactic structures across the five age groups at clause, phrase and word levels, only those structures were included in the final list which appeared for the first time, at the earliest age that were used over at least 50% of the children of that age group. The similar criteria were followed by Bol and Kuiken's (1990) in the Dutch adaptation of LARSP. The Table 5.39 represents the final result of the project.

Table 5.39 LARSP profile chart in Hindi Language.

LARSP -HINDI

Name Age Sample date Type

A. Unanalysed 1 Unintelligible 2 Symbolic Noise 3 Deviant

Problematic 1 Incomplete 2 Ambiguous 3 Stereotypes

B. Responses Stimulus Type / Totals	Repet-itions	Normal Response: Major: Elliptical 1	Elliptical 2	Elliptical 3+	Reduced	Full	Minor	Abnormal: Structural	Ø	Problems
Questions										
Others										
C. Spontaneous										

D. Reactions		General	Structural	Ø	Others	Problems

Stage 1 (0;9-1;6)	**Minor** *Response*			*Vocative* *Other*	*Problems*			
	Major	*Comm*	*Question*	*Statement*				**Word**
		'V'	'Q"	'V'	'N'	Other	Problems	/-o/ /-a/
Stage II (1;6-2;0)	Conn.	**Clause**				**Phrase**		Past /-i/
		X V		SV SO SC *X* Neg Neg *X*	AX OV CV Other	DN V part NN	VV Other	Past /-a/ Past /-e/ /ka/
Stage III (2;0-2;6)		*X*+S: NP	*X*+V: VP	*X*+C: NP	*X*+O: NP	*X*+A: AP		/rəha/ /ʈʰa/
		V*X* *YX*V *XY* /ɖo/ *YX* /ɖo /	*X*Q S(*X*)V	SCV SOV SAV *Y* Neg *X* AdjOV	ACV OAV O_dO_iV SAdjO Other	Int X AdjN DAdjN AdjAdj N DNPP	Pron^P NPP Cop Aux$^M{}_o$ Other	/hɛ/ /hũ/ /mera/ /mɛ/ /ko/ /uska, uski/ /se/ /ne/ /ho/ /vəh/
Stage IV (2;6-3;0)		*XY*+S:NP	*XY*+V:VP	*XY*+C:NP	*XY*+O:NP	*XY*+A:AP	XY+Pp:PpP	
		+ S +*YX*V	SQV X+QY SXV+ Tag	SAOV SACV SO_dO_iV SOCV	XAAY Other	NP NP PP D Adj N PP c*X* *X*c*X* Postmod.phrase 1 1+	V Neg *X* Neg 2 Aux Other	/ke/ /ki/ /pər/ /-e/ /-õ/ /-jã/ /ke lije/ /bəhuʈ/
Stage V (3;0-3;6)	/ɔr/ c s other	Coord. Other	Coord. Other	Coord. 1 1+ Subord. A1 1+ Subord. S1 1+ Subord. C1 1+ Subord. O1 1+ Comp. 1 1+		Postmod. clause 1 1+		/vəh hɛ/ /-ega / /-oge/ /səbse/ /iɖʒiɛ/

Stage VI (3;6-4;6)	(+)				(-)			
	NP	VP	Clause	Conn.	Clause	Phrase		Word
	Initiator Coord.	Complex	Passive Complement kɛse kja	ɔr c s	Element Ø ⇆ Concord	NP D PP Pron^p DØ PPØ D⇆ PP⇆	VP Aux^m Aux$_o$ Cop Ø	N V *reg* *irreg*
	Other				Other			Ambiguous

Stage VII (4;6+)	**Discourse**	*Syntactic Comprehension*
	A Connectivity /vəh/ / vəha/ / vəhĩ/ Comment Clause /Usme/ /Isme/ /Uɖʰər/ /Iɖʰər/ Emphatic Order Other	*Style*
	Total no. sentences / Mean No. Sentences Per Turn / Mean Sentence Length	

5.8. Inter-judge reliability

The language samples of 20 children, which were randomly selected, were retested by another speech-language pathologist (SLP) to assess the internal consistency of the results. The Cronbach's alpha coefficients for each of the syntactic structures acquired at stage I (0;9-1;6 years), stage II (1;6-2;0 years), stage III (2;0-2;6 years), stage IV(2;6-3;0 years), stage V (3;0-3;6 years), stage VI, (3;6-4;6) and stage VII (above 4;6 years) are shown in Table 5.36, 5.37, 5.38, 5.39, 5.40 and 5.41 respectively. The α-coefficients for all the syntactic structures were greater than 0.7 suggesting higher internal reliability.

Table 5.40

Cronbach's α-coefficients for the syntactic structures acquired at stage I (0;9-1;6 years)

Syntactic structures	*α*	Syntactic structures	*α*
Command 'V	.89	**Words**	
Question 'Q'	.82	/-o/	.98
Statement 'V'	.83	/-a/	.91
Statement 'N'	.82		

Table 5.41

Cronbach's α-coefficients for the syntactic structures (clauses, words and phrases) acquired at stage II (1;6-2;0 years)

Clause	*α*	Phrase	*A*	Word	*α*
*X*V	.95	DN	.81	Past /-i/	.89
SV	.86	VV	.90	Past /-a/	.83
SO	.82	NN	.91	Past /-e/	.97
X Neg	.83	V Part	.84		
Neg *X*	.97	*X*+S: NP	.93		
A*X*	.90	*X*+V: VP	.81		
OV	.91	*X*+C: NP	.82		
CV	.84	*X*+O: NP	.91		
		X+A: AP	.79		

Table 5.42

Cronbach's α-coefficients for the syntactic structures acquired at stage III (2;0-2;6 years)

Syntactic structures	*α*	Syntactic structures	*α*	Syntactic structures	*α*
Clause		**Phrase**		**Word**	
V*X*	.85	Int *X*	.81	/rəha/, / rəhi/,	.89
*YX*V	.87	AdjN	.90	/t̪ʰa/, / t̪ʰi/	.83
XY/d̪o/	.84	DAdjN	.91	/-hɛ/	.97
YX /d̪o/	.83	AdjAdj N	.84	/-hũ/	.95
*X*Q	.97	DNPP	.93	/mera/	.86
S(*X)*V	.92	PronPO	.81	/mɛ/	.82
SCV	.91	NPP	.82	/ko/	.83
SOV	.85	Cop	.91	/uska/, /uski/	.81
SAV	.86	AuxMO	.79	/se/	.82
*Y*Neg *X*	.82	*XY*+S: NP	.97	/ne/	.91
Adj OV	.83	*XY*+V: VP	.92	/ho/	.89
ACV	.81	*XY*+C: NP	.91	/vəh/	.85
OAV	.82	*XY*+O: NP	.85		
O_dO_iV	.91	*XY*+A: AP	.96		
SAdjO	.89	*XY*+Pp: PpP	.93		

Table 5.43

Cronbach's α-coefficients for the syntactic structures acquired at stage IV (2;6-3;0 years)

Syntactic structures	*α*	Syntactic structures	*α*	Syntactic structures	*α*
Clause		**Phrase**		**Word**	
+S	.95	NP NP PP	.81	/ke/, / ki/	.89
+*YX*V	.86	D Adj N PP	.90	/pər/	.83
SQV	.82	c *X*	.91	/-e/	.97
X+Q*Y*	.93	*X* c *X*	.84	/-oj̃/	.95
S*X*V+	.84	DNPP	.93	/-jaj̃/	.86
Tag	.86	V Neg	.81	/ke lije/	.82
SAOV	.95	*X* Neg	.82	/bəhut̪/	.93
SACV	.85	2 Aux	.91		
S O_dO_iV	.86	Postmod. Phrase 1	.77		
SOCV	.82	Postmod. Phrase 1+	.93		
XAAY	.83				

Table 5.44

Cronbach's α-coefficients for the syntactic structures (clauses, words and phrases) acquired at stage V (3;0-3.6 years)

Syntactic structures	*α*	Syntactic structures	*α*
Clause		**Phrase**	
Command Coord.	.85	Postmod. clause1	.89
Question Coord.	.89	Postmod. clause1+	.87
Statement Coord.1	.87	**Connectors**	
Statement Coord.1 +	.83	/ɔr/	.83
Subord. A1	.87	c	.85
Subord. A1+	.86	s	.89
Subord. S1	.85	**Words**	
Subord. S1+	.89	/vəh hɛ/	.94
Subord. C1	.87	/-ẽge/	.87
Subord. C1+	.89	/-oge/	.93
Subord. O1	.83	/səbse/	.96
Subord. O1+	.85	/idʒiɛ/	.89
Comp. 1	.89		
Comp. 1+	.79		

Table 5.45

Cronbach's α-coefficients for the syntactic structures acquired at stage VI (3.6-4;6 years) and VII (above 4;6 years)

Syntactic structures	*α*	Syntactic structures	*α*
Initiator: /sare/	.89	CC: /dʒɛsa ki ʈUm/	.91
Initiator: /səb/	.87	CC:/apəko malUm /	.92
Coordination	.93	EO: /ve/	.78
Complex VP	.96	EO: /məj̃/	.91
AC: /ɔr/	.89	EO:/ʈUm/	.93
AC:/pər/	.95	/vəh/	.79
		/vəha/ /vəhi̋/	.92

Note: AC-a connectivity; CC- comment clause; EO-emphatic order.

5.9. Validity

The adapted Hindi version of LARSP was administered on 21 Hindi-acquiring children with language disorders (CLDs), and compared with 21 age-matched typically developing peers (TDPs). All the children belonged to 7 age-groups as described in LARSP. Each of the age group included 3-CLDs and 3-TDPs. The age and diagnosis of each participants of CLDs group are mentioned in Table 5.46.

Table 5.46

Age and diagnosis specific description of participants of CLDs group

Stages		Age	Diagnosis
Stage I	1	1;2 yrs	DSL HI
(0;9-1;6 years)	2	1;5 yrs	DSLD
	3	1;5 yrs	DSL HI
Stage II	4	1;8 yrs	DSLD
(1;6-2;0 years)	5	1;9 yrs	DSLD
	6	1;7 yrs	DSL HI
Stage III	7	2;2 yrs	DSLD
(2;0-2;6 years)	8	2;4 yrs	DSLD
	9	2;6 yrs	DSL HI
Stage IV	10	2;8 yrs	DSLD
(2;6-3;0 years)	11	2;9 yrs	DSL HI
	12	2;7 yrs	DSL HI
Stage V	13	3;2 yrs	DSLD
(3;0-3;6years)	14	3;5 yrs	DSLD
	15	3;5 yrs	DSL HI
Stage VI	16	3;8 yrs	DSLD
(3;6-4;6 years)	17	3;9 yrs	DSLD
	18	4;5 yrs	DSL HI
Stage VII	19	5.8 yrs	SLI
(above 4;6 years)	20	4;9 yrs	DSLD
	21	6.7 yrs	SLI

DSL HI: Delayed speech and language with hearing impairment.
DSLD: Delayed speech and language development.
SLI: Specific language impairment

The CLDs included children with delayed speech and language, hearing impairment and specific-language impairments; their native language was Hindi and belonged to middle socioeconomic class. CLDs were diagnosed at Department of Clinical Services (DCS), All India Institute of Speech and Hearing, Mysore. They were receiving speech–language intervention from last 3 months at DCS. The diagnosis of all the participants belonging to CLD gropus were confirmed using Communication DEALL Development checklist (CDDC) (Karanth, 2007). Similar experimental procedure was used for CLDs group as TDPs.

Comparisons of TDPs and CLD of stage I (0;9-1;6 years) are shown in Table 5.47. Amongst 3-TDPs and 3-CLDs, numbers of children who acquired the structures are represented as numerator and denominator respectively as shown in the tables.

Table 5.47.

Comparisons of TDPs and CLDs of stage I (0;9-1;6 years).

	Major	*Comm*	*Ques*	*Statement*				Word
Stage 1 (0;9-1;6)		'V' 3/0	'Q' 3/0	'V' 3/0	'N' 3/0			/-o/ 3/0 /-a/ 3/0
	Conn.	Clause				Phrase		
Stage II 1;6-2;0)		*X* V 1/0		SV 1/0	AX	DN	VV	Past /-i/
				SO	OV	V part	Other	Past /-a/
				SC	CV	NN		Past /-e/
				X Neg	Other			/ka/
				Neg *X*				

Note: response (e.g. 3/0) numerator-3 indicates the number of TDL and denominator-0 indicates the number of CLD.

It was observed that all the three Hindi-acquiring TDPs of the first age group (0;9-1;6 years) had acquired syntactic structures of stage one, as mentioned in LARSP- Hindi. None of the CLDs of first age group (0;9-1;6 years) had acquired these structures.

Comparisons of TDPS and CLD of the stage II (1;6-2;0 years) are shown in Table 5.48. All the three TDPs of the second age group (1;6-2;0 years) had acquired syntactic structures of stage I as well as stage II; on the other hand, only one CLD had acquired some of the syntactic structures of stage I (0;9-1;6 years) and stage II (1;6-2;0 years).

Table 5.48.

Comparisons of TDPs and CLDs of stage II (1;6-2;0 years).

	Major	*Comm*	*Ques*	*Statement*		Word
Stage 1 (0;9-1;6)		'V' 3/1	'Q' 3/0	'V' 3/1 'N' 3/1		/-o/ 3/1 /-a/ 3/0
	Conn.	Clause			Phrase	
Stage II 1;6-2;0)		*X* V 3/0		SV 3/1 AX 3/1 SO 3/0 OV 3/0 SC 3/1 CV 3/0 *X* Neg 3/1 Neg X 2/0	DN 3/0 VV 3/1 V part 3/0 NN 3/1	Past /-i/ 3/0 Past /-a/ 3/1 Past /-e/ 3/0 /ka/ 3/1

Note: response (e.g. 3/0), numerator-3 indicates the number of TDL and denominator-0 indicates the number of CLD.

Comparisons of TDP and CLD of the stage III (2;0-2;6 years) are shown in Table 5.49.

Table 5.49.

Comparisons of TDPs and CLDs of stage III (2;0-2;6 years).

Stage 1 (0;9-1;6)	Maj or	*Comm*	*Ques*	*Statement*		Word
		'V' 3/2	'Q' 3/2	'V' 3/3 'N' 3/3		/-o/ 3/3 /-a/ 3/3
Stage II (1;6-2;0)	Con n.	Clause			Phrase	Past /-i/ 3/2 Past /-a/ 3/1
		X V 3/1		SV 3/1 AX 3/1 SO 3/1 OV 3/1 SC 3/1 CV 3/1 *X* Neg 3/0 Neg *X* 3/0	DN 3/2 VV 3/2 V part 3/1 NN 3/0	Past /-e/ 3/2 /ka/ 3/2 /rəha/ 3/0 /t^{h}a/3/0
Stage III		*X*+S: NP 3/1	*X*+V: VP 3/1	*X*+C: NP 3/1	*X*+O: NP 3/1 *X*+A: AP 3/0	/hɛ/ 3/0 hũ/ 3/1

(2;0-2;6)		V*X* 3/0 *YX*V 3/0 *XY* /ɖɸ/ 3/1 *YX* /ɖɸ/ 3/1	*X*Q 3/1 S(*X*)V 3/0	SCV 3/1 SOV 3/0 SAV 3/0 *Y* Neg*X* 3/0 AdjOV 3/0	ACV 3/0 OAV 3/0 O_dO_iV 3/0 SAdjO 3/0	Int X 3/0 AdjN 3/0 DAdjN 3/0 AdjAdjN 3/0 DNPP 3/0	$Pron^P$ 3/0 NPP 3/0 Cop 3/0 $Aux^M{}_o$ 3/0	/mera/ 3/0 /ho/ 3/0 /mɛ/ 3/0 /ko/ 3/0 /uska/ 3/0 /se/ 3/0 /ne/ 3/0 /vəh/ 3/0

Note: response (e.g. 3/0), numerator-3 indicates the number of TDL and denominator-0 indicates the number of CLD.

All the three TDPs of the third age group (2;0-2;6 years) had acquired syntactic structures of stage I, II and III; on the other hand, only one CLD had acquired all the syntactic structures of stage I (0;9-1;6 years) and few syntactic structures of the stage II (1;6-2;0 years). However syntactic structures acquired by TDPs of 2;0-2;6 years were not found in all the three CLDs of 2;0-2;6 years.

Comparisons of TDPs and CLDs of the stage IV (2;6-3;0 years) are shown in Table 5.50. All the three TDPs of the fourth age group (2;6-3;0 years) had acquired syntactic structures up to stage IV; on the other hand, only one CLD had acquired all the syntactic structures of stage I (0;9-1;6 years) and few syntactic structures of the stage II (1;6-2;0 years) and stage III (2;0-2;6 years) as well . However syntactic structures acquired by TDPS of 2;6-3;0 years were not found in all the three CLDs.

Table 5.50.

Comparisons of TDPs and CLDs of stage IV (2;6-3;0 years).

Stage 1	Major	*Comm*	*Ques*	*Statement*				Word
(0;9-1;6)		'V' 3/2	'Q' 3/2	'V' 3/3	'N' 3/3			/-o/ 3/3 /-a/ 3/3
Stage II	Conn.	Clause				Phrase		Past /-i/ 3/2
(1;6-2;0)		*X* V 3/1		SV 3/1 SO 3/1 SC 3/1 *X* Neg 3/0	AX 3/1 OV 3/1 CV 3/1 Neg *X* 3/0	DN 3/2 VV 3/2 V part 3/1 NN 3/0		Past /-a/ 3/1 Past /-o/ 3/2 /ka/ 3/2
Stage III		*X*+S: NP 3/1	*X*+V: VP 3/1	*X*+C: NP 3/1	*X*+O: NP 3/1	*X*+A: AP 3/0		

(2;0-2;6)		V*X* 3/1 *YX*V 3/1 *XY* /ɖo/ 3/0 *YX* /ɖo/ 3/0	*X*Q 3/1 S(*X*)V 3/0	SCV 3/1 ACV 3/0 SOV 3/2 OAV 3/1 SAV 3/0 O_dO_iV 3/1 *Y* Neg*X* 3/0 SAdjO 3/0 AdjOV 3/0		Int X 3/0 $Pron^P$ 3/0 AdjN 3/0 NPP 3/0 DAdjN 3/0 Cop 3/0 AdjAdjN 3/0 $Aux^M{}_o$ 3/0 DNPP 3/0	/rəha/ 3/0 /ʈʰa/3/0 /hɛ/ 3/2 hũ/ 3/1 /mera/ 3/0 /ho/ 3/0 /mɛ/ 3/0 /ko/ 3/0 /uska/ 3/2 /se/ 3/0 /ne/ 3/1 /vəh/ 3/1
Stage IV (2;6-3;0)		*XY*+S:NP 3/1 *XY*+V:VP 3/1 *XY*+C:NP 3/1 *XY*+O:NP 3/1 *XY*+A:AP 2/1 XY+Pp:PpP 2/0					
		+ S 3/0 +*YX*V 3/0	SQV 3/0 X+QY 3/0 SXV+ 3/0 Tag 2/0	SAOV 3/0 XAAY 3/0 SACV 3/0 SO_dO_iV 3/0 SOCV 3/0		NP NP PP 3/0 VNeg 3/0 D Adj N PP 3/0 *X* Neg 3/0 c*X* 3/0 2 Aux 3/0 *X*c*X* 3/0 Postmod.phrase 1 3/0 Postmod.phrase 1+ 3/0	/ke/ 3/0 /ki/ 3/0 /pər/ 3/0 /-e/ 3/0 /-õ/ 3/0 /-jã/ 3/0 /ke lije/ 3/0 /bəhuʈ/ 3/0

Comparisons of TDPs and CLDs of the stage V (3;0-3;6 years) are shown in Table 5.51. All the three TDPs of the fifth age group (3;0-3;6 years) had acquired syntactic structures up to stage V; on the other hand, only one CLD had acquired all the syntactic structures up to stage II (1;6-2;0 years) and most of the syntactic structures of the stage III (2;0-2;6 years). However syntactic structures acquired by TDPs of 3;0-3;6 years were not found in all the three CLDs.

Table 5.51.

Comparisons of TDPs and CLD of stage V (3;0-3;6 years).

Stage 1	Major	*Comm*	*Ques*	*Statement*			Word
(0;9-1;6)		'V' 3/2	'Q' 3/2	'V' 3/3	'N' 3/3		/-o/ 3/3 /-a/ 3/3
Stage II	Conn.	Clause				Phrase	Past /-i/ 3/2
(1;6-2;0)		*X* V 3/3		SV 3/3 AX 3/3 SO 3/3 OV 3/3 SC 3/3 CV 3/3 *X* Neg 3/0 Neg *X* 3/2		DN 3/3 VV 3/3 V part 3/3 NN 3/2	Past /-a/ 3/3 Past /-e/ 3/3 /ka/ 3/3
Stage III		*X*+S: NP 3/1 *X*+V: VP 3/1 *X*+C: NP 3/1 *X*+O: NP 3/1 *X*+A: AP 3/0					
(2;0-2;6)		V*X* 3/3 *YX*V 3/3 *XY* /ɖo/ 3/1 *YX* /ɖo/ 3/2	*X*Q 3/1 S(*X*)V 3/0	SCV 3/1 ACV 3/2 SOV 3/2 OAV 3/1 SAV 3/2 O_dO_iV 3/2 *Y* Neg*X* 3/3 SAdjO 3/2 AdjOV 3/1		Int X 3/2 $Pron^P$ 3/1 AdjN 3/1 NPP 3/2 DAdjN 3/1 Cop 3/2 AdjAdjN 3/1 $Aux^M{}_o$ 3/2 DNPP 3/2	/rəha/ 3/3 /ʈʰa/3/3 /hɛ/ 3/3 hũ/ 3/1 /mera/ 3/3 /ho/ 3/3 /mɛ/ 3/1 /ko/ 3/2 /uska/ 3/2 /se/ 3/2 /ne/ 3/1 /vəh/ 3/0
Stage IV (2;6-3;0)		*XY*+S:NP 3/3 *XY*+V:VP 3/2 *XY*+C:NP 3/2 *XY*+O:NP 3/3 *XY*+A:AP 3/0 XY+Pp:PpP 3/2					

		+ S 3/0 +*YX*V 3/0	SQV 3/0 X+QY 3/0 SXV+ 3/0 Tag 2/0	SAOV 3/0 XAAY 3/0 SACV 3/0 SO_dO_iV 3/0 SOCV 3/0	NP NP PP 3/0 VNeg 3/0 D Adj N PP 3/0 *X* Neg 3/0 c*X* 3/0 2 Aux 3/0 *X*c*X* 3/0 Postmod.phrase 1 3/0 Postmod.phrase 1+ 3/0	/ke/ 3/1 /ki/ 3/2 /pər/ 3/0 /-e/ 3/0 /-õ/ 3/0 /-jã/ 3/0 /ke lije/ 3/0 /bəhuɻ/ 3/0
Stage V (3;0-3;6)	/ɔr/ 3/0 c 3/0 s 3/0	Coord. 3/0	Coord. 3/0	Coord. 1 3/0 1+ 3/0 Subord. A1 3/0 1+ 3/0 Subord. S1 3/0 1+ 3/0 Subord. C1 3/0 1+ 3/0 Subord. O1 3/0 1+ 3/0 Comp. 1 3/0 1+ 3/0	Postmod. clause 1 3/0 Postmod. clause 1+ 3/0	/vəh hɛ/ 3/0 /-ẽge / 3/0 /-ogɐ/ 3/0 /səbse/ 3/0 /idʒiɛ/ 3/0

Note: response (e.g. 3/0), numerator-3 indicates the number of TDL and denominator-0 indicates the number of CLD.

On comparing the syntactic structures of sixth stage, it was observed that all the three TDPs had acquired most of the syntactic structures of stage VI (3;6-4;6 years); however, these syntactic structures were not found in any of the CLDs. Syntactic acquisition of CLDs of 3;6-4;6 years age group were limited up to stage III (2;0-2;6 years) only.

At the seventh stage (above 4;6 years) level it was observed that all the three TDPs had acquired most of the syntactic structures of stage VII (above 4;6 years); however, these syntactic structures were not found in any of the CLDs of this stage. Syntactic acquisition of CLDs of above 4;6 years age group were limited up to stage III (2;0-2;6 years) only.

CHAPTER VI

DISCUSSION

The present study intended to the adaptation and standardisation of "Language Assessment Remediation and Screening Procedure" (LARSP) (Crystal, Fletcher & Garman, 1976, 1981) into Hindi language. The study utilized cross-sectional research design to appreciate the sequential acquisition of syntactic skills of native Hindi speaking, typically developing children in the age range of 0.9 -to- above 4.6 years. The results were analyzed using appropriate statistical tools in order to obtain –

iii. The hierarchy of morphosyntactic skills organized in Hindi-acquiring children in the age range of 0;9 to 4;6+ years.

iv. Knowledge about the morphosyntactic structures of Hindi-acquiring children in the age range of 0;9 to 4;6+ years.

6.1. General discussion

This chapter organizes the discussion starting from the criteria chosen to incorporate the morphosyntactic structures into Hindi version of LARSP; which was the most important aspect for preparing the profile chart of LARSP-Hindi. All syntactic structures incorporated in the chart were based on the chosen criteria. Later, the major portions are being discussed regarding morphosyntactic developments in Hindi- acquiring children. i.e., which structures are acquired at what stage?

All the stages are discussed in terms of the clause, phrase and word developments. The gradual developments of these structures are broadly discussed across stage I upto

Stage V. However stage VI and VII focusses on the syntactic elements involved in discourse and complex utterances.

The results evidently exhibited that, at what age particular morphsyntactic structures begin to appear, and when it becomes regular in the child's language. Overall, the results show a general trend where in, it is evident that there is a gradual progression in the complexity of morphosyntactic development at phrase as well as clausal level as age progresses.

In general, infants begin to produce their first word about one year of age (Turnbull & Justice, 2012). Therefore, at this stage morphosyntactic achievements are considered as minimal or nonexistent. Around 18 months of age, toddlers begin to produce syntactic forms. But on an average around 6 years of age, their utterance lengths are comparable to those of adults. In ordrer to estimate the syntactic developments, childrens' spontaneous utterances were analyzes in the present study. It was observed that grammatical morphemes begin to appear in toddlerhood, but was not mastery until preschool age. During early phase of syntactic development it was observed that children were gradually able to produce different types of sentences of varying syntactic complexities. The syntactic complexities depended upon the organization of grammatical constituents of the sentence modalities.

Earlier research, done on syntax acquisition of English-acquiring children, reported similarities in the process of syntax acquisition among children (Brown, 1973). Syntax development in toddlers and preschoolers follow a uniform pattern with respect to type and timing of development (Shonkoff & Philips, 2000). In the present study done on Hindi-acquiring-children, similar pattern was observed in terms of timing and development. All

the Hindi acquiring children followed the similar increase in syntactic elements as the age progressed.

6.2. Fixing 50% criteria for selection of morphosyntactic structures

During the study it was found that selection of the morpho-syntactic structures to the age- related stage in Hindi was relatively simple. However, the brain storming phase of the study was to decide that how many morphosyntactic structures should be incorporated in the particular age-related stage, which would be valuable for evaluating the morphosyntactic skills of the child. Concerning the number of morphosyntactic structures to be included in the particular age-related group, the analysis of the current study revealed that many of the morphosyntactic structures did not attain the level of 50% in a particular age group, because of their limited frequency, of use of syntactic elements. Therefore, it was a puzzling issue, whether these structures would be useful enough to be incorporated on the LARSP –Hindi profile chart or not.

Based on the frequency of use of syntactic elements the data was categorized into two types, such as rare and pertinent categories. Pertinent category is frequent enough to be included for the normative values. However rare category is less frequent. Therefore rare category is less valuable to normative purpose because of their lower frequency in the utterances of a typically developing children and children with language disorders as well. Hence the rare category is not useful in identifying the children with language difficulties. But the prime question of concern is that whether typically developing children use these rarer targets by chance or because they have mastered them. On the other hand, pertinent category is quite useful for diagnostic and remediation purposes. If this frequent category is common and appears in the production of at least 50% of children, they are likely to be

found even in children with language disorders. Keeping the above argument in mind, morphosyntactic structures which never attained a criteria level of 50 % were not incorporated in the LARSP-Hindi profile chart. Previously, a similar criterion was used during adaptation of the Dutch version of LARSP (Bol & Kuiken, 1990). The Dutch version of LARSP included only those morphosyntactic structures which were produced by at least 50% of the children of a particular age-related group. A question frequently comes into view with respect to the exclusion of those morphosyntactic items which does not attain the criteria of 50%, that LARSP-Hindi leads to a loss of valuable data that might help in formulating the language therapeutic plan and examining the progress of the language development.

6.3. Morphosyntactic development of Hindi-acquiring children based on LARSP- Hindi

The primary concern of the present study was to understand the morphosyntactic development of Hindi-acquiring children using the LARSP-Hindi in comparison with the original LARSP which was based on morphosyntactic development of English-acquiring children. Each of the stages is being discussed in following paragraphs:

Stage I (0.9;-1;6 years)

It was found that stage I (0;9-1;6 years) has an elegant foundation for the language development that corresponds to the word level. The early vocabulary of this age group child ranged from 1-15 words. Among the one-word utterances command 'V', question 'Q' and statement 'N' were found in all the childrens' utterances. However statement 'V' was seen in only 84% of the children. Moreover the difference between statement 'N' and 'V' was not significant. In addition, two morphemic structures including /-o/ and /-a/ were also incorporated in the word level category in this stage. On

the other hand, noun-noun (NN) phrasal structure, and three clausal structures including element-verb (*X*V), subject-verb (SV), and subject-object (SO) were observed to be appearing in this stage only. However these clausal and phrasal structures could not attain the 50% criteria level, therefore were not included in this stage.

Studies on English –acquiring children reported that the first 50- word vocabulary stage is an important milestone for children's earliest morphological development (Zapf & Smith, 2007; Turnbull & Justice, 2012) which appears at around 2 years of age. However, in the present study, it was observed that, some of the syntactic structures are acquired in the first stage (0;9-1;6 years) itself, which are not included in the chart as discussed earlier.

Brown (1973) found that the earliest grammatical morpheme acquired in English children was '*–ing'* at the age of 19-28 months. However since that time, it was broadly generalized across other languages that '*–ing'* would be the firstly acquired grammatical morpheme. However, it could not hold true for different languages having different morpho syntactic structures. In Hindi language, the native speaker rarely uses the verb as in their root word form (e.g., /k^{h}eləna/, /sona/, /həsna/) in functional communication . Most often they use the inflected form by adding the suffixes /-o/ and /-a/. For example, / ʈum k ^{h}elo/ or / ʈum ne k ^{h}ela/ /so ʤao/. This might be a reason why /-o/ and /-a/ morphemes were acquired earliest in the Hindi language. However in English the verbs are used in their root forms. For example *'you play', 'go sleep'.*

Another important finding in the first stage was that there was no significant difference in quantity of statement verb and noun form. Similar findings were also reported in English language (Hatzivassiloglou & McKeown, 1993; Blackwell, 2005). In

summary, both the Hindi and English acquiring children begin to acquire the different modalities of expression including question, command, and statement at the similar time but their morphosyntactic structures depend on their language used.

Stage II (1;6-2;0 years)

a) Clause

It was found that most of the clausal and phrasal structures begin to appear in the stage II (1;6-2;0 years). The clausal structure which appeared in this age group including, element-question (*X*Q), subject-complement (SC), object-verb (OV), complement-verb (CV), element-negative (*X*Neg), adverb-element (A*X*), subject-object-verb (SOV) and verb-element (V*X*), element-question (*X*Q), verb-element (V*X*) and subject-object-verb (SOV). Among these only SC, AX, OV, CV and *X*Neg attained the level of 50% criteria used. In addition, the other three clausal structure which began to appear in the first stage (0;9-1;6 years) such as XV, SV and SO also attained the 50 % criteria in this stage.

After comparing the above acquired structures with their English counterparts, it was found that, Q*X* clause for interrogative utterance began to appear in English children at this stage. However, no interrogative clause was seen for Hindi-acquiring children in this stage. Other than the interrogative modality, the command and statement associated clauses of LARSP-Hindi were equivalent to English at this stage level.

Comparing the negative utterances, in Hindi acquiring children the clause for negation were seen in two forms including, *X* Neg and Neg *X*. Both these clauses attained the 50% criteria. However, in English only Neg *X* clause was reported. This

finding suggests that in early acquisition of negative utterances in Hindi acquiring children, the negative words can be appearing in two states. It can appear that position before or after any elements. This dual positioning of negatives word in the early clause is a valuable finding which can contribute in any study related to the development of negation in Hindi-acquiring children.

Bellugi (1967) found that syntactic structure of negative sentences follows a developmental pattern. Children first use the negative sentence modality in which the word *no* appears in the beginning of the sentences (e.g. *no eat*). Afterwards negative word sifts inside the sentences next to the main verb (e.g. *I no eat that*). By the age of four years, negation is used in auxiliary form (e.g. *I can't eat*) which approximates adult syntactic form. A similar kind of, developmental pattern were documented by Brown (1973); Hulit and Howard (2005).

b) Phrase

The phrasal structure which appeared in the second age group (1;6-2;0 years) included determiner-noun (DN), adjective-noun (AdjN), noun-postposition (N PP), verb-verb (VV), verb-part(V part), intensifier- word (Int X), determiner-adjective-noun (DAdjN) phrases. Among these only DV, V part, VV, CV and Int *X* attained the level of 50% criteria. In addition the phrasal structure NN which began to appear in the first stage (0;9-1;6 years) also attained the 50 % criteria.

On comparison it was found that, all the above phrasal structures were present in English-acquiring children as mentioned in LARSP. Only two phrasal structures including adjective-noun (Adj N) and intensifier- element (Int *X*) were not found to

be appeared in Hindi-acquiring children of 1;6-2;0 years age group, which were appeared only in the next age group (2;6-3;0 years).

The late in development of Adj N and Int *X* phrase in Hindi-acquiring children as compared to English might be due to the linguistic variation amongst the languages. Similar finding were reported by Basavaraj, Goswami and Priyadarshi (2009). They found that adjective began to appear in the expression by the age of 2;1 -2;6 years. Although the nature of task they had used were not as similar as the current study. The present study examined the natural spontaneous speech sample. Whereas Basavaraj et al (2009) utilized the structured set of stimulus to quantify the development of adjective. As the method of both the studies were different therefore variation in documentation would be quite inevitable. Waxman (1998) cross linguistically studied the acquisition of adjective in English and Spanish children. English children acquired adjective around 21 months whereas Spanish children acquired by 29 months. In another study, Waxman and Booth (2001) found that English children recognized the meaning of adjectival properties of a novel word by 14 months, however some studies reported the recognition of meaning of adjectives even after 3 years of age (Smith, Jones & Landau, 1992; Imai & Gentner, 1997). Mintz and Gleitman (2002) found that children as young as 2 years old extended the adjective properties to other objects of same category.

c) Words

The word structures which appeared in the second age group (1;6-2;0 years) included past/-i/, past/-a/, past /-e/, /ka/ and /-rəha/ forms. All these structures attained the level of 50% criteria. Comparing these findings with English–acquiring children,

it was found that *'-ing'* form was the grammatical morpheme to be acquired at this age level (Brown, 1973). However the regular past tense form '*-ed'* was acquired by 43-46 months of age.

Stage III (2;0-2;6 years)

a) Clause

The clausal structures which appeared in this age group attaining the 50% of the criteria level included indirect object-direct object-verb (O_iO_dV), adverb-complement-verb (ACV), subject-adverb-verb (SAV), element-negative-element (*Y*Neg*X*), subject-adjective-object ($SA_{dj}O$), adjective-object-verb ($A_{dj}OV$), subject-object-verb (SOV) object-adverb-verb (OAV), subject-complement-verb (SCV), subject-element-verb (S*X*V), another element- one element-verb (*YX*V), another element- one element - d̪o (*YX* /d̪o/), one element -another element - d̪o (*XY* /d̪o/), verb-element (V*X*), element-question (*X*Q) and subject-element-verb [S(X)V].

These above acquired structures when compared with their English counterparts, it was found that *X*Q clause for interrogative utterance had begun to appear in Hindi-acquiring children. However the Q*X* clause for the interrogative utterance in the English-acquiring children were had began at previous stage (1;6-2;0 years) only. According to Jacob (1995) the earliest interrogative syntax form to develop in children includes *wh- words (what, why, where*). Later on the question words expand during preschool years that include *who, whose, when, which* and *how*. What', 'where', and 'who' questions are mastered before 'why', 'how', and 'when' questions (Bloom, 1991). Similarly in Hindi 'wh'- is replaced by /kɔn/, /kja/, /kɛse/, /kəb/ and

/kəhɑ̃/. The developmental pattern of these interrogative words in Hindi-acquiring children was noted to be the same as in English- acquiring children.

Among the command type utterances, the V*X* clause was observed frequently, where verb appeared prior to an element. However in the earlier stage this form was reversed as *X*V where verb appeared after the elements. This type of developmental clausal progression is not observed in the LARSP for English acquiring children. In addition, gradual progression of *X*V clausal structure can be observed by addition of another element to form the *YX*V clause in the third age group (2;0-2;6 years). In addition the /d̪o/ words were frequently observed in the clause of third age group children. The /d̪o/ words were used along with two elements. These findings suggest the gradual progression in syntactic structures as the age progresses (Brown, 1973; Bloom, 1991, Smith, Jones & Landau, 1992).

Among the statement type clausal structures, two important findings were observed in particular to the Hindi language while comparing to English syntactic structures. Firstly, if verb is present in the structure, then it always appears in the last of the structure. This pattern of syntactic form can be observed in SCV, SOV, SAV, ACV, OAV, AdjOV and O_dO_iV clauses. However, in English the verb never appeared in the last of the structures. This pattern syntactic form can be observed in SVC, SVO, SVA, VCA, VOA and VO_dO_i. Secondly, if SOV and SVO is the basic clausal form of Hindi and English language respectively, with subject and verb forming the backbone then object is the supplement which can be replaced by other elements including adverb and complements to form various syntactic structures.

In the negative utterances, it was found that the negative word was positioned in between the two syntactic elements as in *X*Neg*Y* which was not seen in any of the previous stages. This suggests a gradual progression in the complexity of negative clauses as syntactic complexity increases.

b) Phrase

The phrasal structures which appeared in this age group attaining the 50% of the criteria level including intensifier-element (Int*X*), adjective-noun (AdjN), determiner-adjective-noun (DAdjN), adjective-adjective-noun (AdjAdjN), determiner-noun-postposition (DNPP), pronoun-other ($Pron^{p}_{o}$), Copula (Cop), auxiliary-modal (Aux^{m}) clause.

On comparison with English LARSP it was found that, only adjective-noun (Adj N) and intensifier- element (Int *X*) were the new phrase structures for the Hindi-acquiring children of the third age group (2;0-2;6 years). These two phrasal structures had appeared in the previous stage II (1;6-2;0 years) of English children. Another important difference observed between English and Hindi syntactic structure was the postposition in Hindi language. The postposition in Hindi language always appeared in the last of the phrasal structure (e.g. DNPP). However in English language, preposition was observed which appeared prior to other syntactic element in phrase structure (e.g. PrDN).

Other than this, the phrase structure of third age group comprised of three syntactic elements indicating the gradual progression of the phrasal development.

c) Words

The word structures which appeared in the third age group (2;0-2;6 years) attaining the 50% of the criteria level included /-rəha/ /ko/, /se/, /nɛ̃/, /t̪ʰa/, /tʰi/, /hɛ/, /ho/, /vəh/, /uska/, /uski/, /mera/, /mɛ̃/, /hũ/. Comparing these findings with English–acquiring children, it was found that *'-ing'* form which is equivalent to/-rəha/ was acquired by the 19-28 months in English-acquiring children (Brown, 1973). In Hindi acquiring children the contractile copula 'be' that corresponds to /hũ/ was appeared by 43-46 months in English acquiring children. The pronoun word structures /uska/, /uski/, /mera/, vəh/ began to be appearing in the syntactic structures of 2;0-2;6 years age group children. A similar finding was reported by Brown (1973) in English-acquiring children. It was found that pronouns start appearing in stage II (24 months). The earliest pronouns to emerge usually involved the child as subject (I, mine, my, me) followed by subjective pronouns (he, she, they), objective pronouns (him, her, them), possessive pronouns (his, her, theirs) and reflexive pronouns (himself, herself, themselves) in the order.

Stage IV (2;6-3;0 years)

a) Clause

The clausal structures which appeared in this age group attaining the 50% of the criteria level included more than one subjects (+S), another element-one element-verb (+*YX*V), subject–question-verb (SQV), element-question-element (X+QY), subject-element-verb (SXV+), tag, subject-adverb-object-verb (SAOV), subject-adverb-complement-verb (SACV), subject- direct object-indirect object- verb (SO_dO_iV), subject-object-complement-verb (SOCV), element-adverb-adverb-element (XAAY).

After comparing these above acquired structures with the syntactic structures of stage IV as mentioned in LARSP-English, it was found that, the interrogative words began to appear into the syntactic structures as in the form of SQV, X+QY clausal structures, indicating the increasing complexity of the syntactic form as the age progresses. In addition the tag form which appeared for the first time in fourth age group suggestive of gradual maturation of interrogative utterances towards adult like utterances.

Among the command type utterances, the +S and +*YX*V clause was observed frequently. The + symbol in the syntactic structures is indicating more than one in number of that syntactic element. Both these forms were reported in the original English LARSP. The clausal structures of command type utterances in the previous stage were limited upto three syntactic elements. These finding suggests the gradual progression in syntactic structures as the age progresses (Brown, 1973; Bloom, 1991, Smith, Jones & Landau, 1992).

Among the statement type clausal structures in Hindi, similar findings were observed as in previous stage III (2;0-2;6 years). The only difference found as compared to the previous stage was the number of syntactic elements. The syntactic element in the third stage was limited only up to three. In the fourth stage it increases upto four.

c) Phrase

The phrasal structures which appeared in this age group attaining the 50% of the criteria level included noun phrase-noun phrase- postposition (NP NP PP), determiner- adjective-noun-postposition (DAdjNPP), coordination-element (c*X)*,

element-coordination-element (*X*c*X)*, verb-negative (V Neg), element –negative (*X* Neg), auxiliary-auxiliary (2Aux), postmodifying phrase one (Postmod. Phrase 1), and postmodifying phrase more than one (Postmod.Phrase 1+).

On comparison with English LARSP it was found that, negation in Hindi language phrase appeared after the verb or an element. On the other hand an opposite whereas the opposite pattern was found in English. In English, negation was appeared prior to the verb or an element. Another important difference which was observed was the appearance of postmod. phrase in Hindi language at the fourth stage. The post mod phrase appeared in stage V (3;0-3;6 years) of English-acquiring children.

The 2Aux is an important syntactic structure indicating the emergence of complex utterances. In both Hindi and English language 2Aux appeared at the same stage IV. The similarities in appearance of phrasal structures of both the languages revealed that syntactic maturation in the children of both the languages occurs at the similar stage.

d) Words

The word structures which appeared in the third age group (2;0-2;6 years) attaining the 50% of the criteria level included /ke/, /ki/, /pər/, /-e/, /-o̰/, /-jã̰/, /ke lije/, and /bəhut̪/. Comparing these findings with English–acquiring children, it was found that plural forms were acquired by the 27-30 months in English-acquiring children (Brown, 1973). The late development of the plural form might be due the person-number-and gender variation associated with the plural markers. In addition, the presence of case markers (/ke/, /ki/, /pər/) in the children utterance indicated the increasing complexity of the child utterances in Hindi acquiring children.

Stage V (3;0-3;6 years)

This stage focuses on the development of coordination and subordination in the syntactic structures. The coordination combines two or more similar units into a larger unit without altering the semantic relations with adjoining constituent (Haspelmath, 2000). The coordinating conjunction *'and '*in English language is comparable to /ɔr/ of Hindi language. However the coordinating conjunction other than *'and'* are represented as 'c' ctegory. *'But'* 'and *'so'* conjunction belonged to 'c' category. Which are comparable to /lekIn/, /IslIje/ respectively in Hindi language. Similarly the 's' category includes '*because,'* and *' while'* coordinating conjunctions. Both are comparable to /kjõki/, /ʤəbkI/ respectively in Hindi language. In addition, *'then'* conjunction is similar to /Uske baḍ/ conjunction in Hindi language. The coordinating conjunctions are used at both the clausal as well as phrasal level.

The subordination is the dependent clause that usually plays a role such as an object or modifier to the main clause. The subordination of adverb, object, and complements were found in both the languages at the clausal level. Both these coordination and subordination appear to join or embed two utterances. The presence of these forms shows the complexity of the utterances.

Stage VI (3;6-4;6 years)

The noun phrase (NP) with initiator and coordinators; verb phrase (VP) with complex verb; and clausal structures including passive utterances, complements, and question makers are valuable sources to judge the presence or absence of syntactic complexity of the children's utterances. The findings of the present study were similar to

the previous studies on English-acquiring children (Brown, 1973; Turnbull & Justice, 2012). In these studies it was reported that, sentence embedding capability begins to emerge in the children at the age of three years. Children begin to entrench dependent clauses which inturn construct complex sentence structure. At this point of time children's syntactic construction shifts from simple to complex syntax.

Stage VII (above 4;6 years)

Adverbial connectivity (AC), comment clause (CC) and emphatic order (EO) are the major syntactic structures to quantify the discourse associated syntactic complexity of the child's utterances. Vasilyeva, Waterfall, and Huttenlocher (2008) studied the syntactic aspects of school age children. It was noticed that 'complex syntax' was one of the major achievements of school aged children. The 'complex syntax' is grammatically advanced syntactic framework that mark a 'literate' or decontextualized, language style form (Paul, 1995).

Overall, the LARSP Hindi profile chart (appendix II) has been changed significantly from the original English.

6.4 Performance of disordered population over LARSP-Hindi

The LARSP-Hindi was administered on 21 children with language disorders (CLDs), which included children with delayed speech and language, hearing impairment and specific-language impairment. The overall morphosyntactic skill performances of the children with language disorders were below the performance of age-matched typically developing children (TDC). The morphosyntactic performance of children with language disorders belonged to age related stage VI (3;6-4;6 years) and stage VII (above 4;6 years), was only

upto stage III (2;0-2;6 years). However this large gap in the performance between CLDs and TDC was not found in the earlier age groups. The differences in the performances of CLDs and TDC over LARSP were reported in previous studies (Bench & Bamford, 1979; Kearns & Simmons, 1983; Crystal, Fletcher & Garman, 1989). Bench and Bamford (1979) reported that children with hearing impairment performed lower than the typically developing age matched peers. As this task was taken only for the validity purpose, therefore separate charts for each of the disordered groups were not prepared.

CHAPTER VII

SUMMARY & CONCLUSION

7.1. Summary

Grammatical development is one of the major aspects of language development (Dixon & Marchman, 2007). The linguistic structures are used to measure the grammatical level of child's language acquisition (Clark, 2009). More complex or compound grammatical structure the child uses, more complex the language of that child. During the past five decades, more has probably been written about morpho-syntax than about any other area within linguistics (Parker & Riely, 2010).

The tool to measure the morpho-syntax development commonly utilizes the language sample analysis method. The different assessment tools based on sample analysis to quantify morpho-syntax include, Assessing Children's Language in Naturalistic Contexts (Lund & Duchan, 1988); Developmental Sentence Scoring (Lee, 1974); Indiana Scale of Clausal Development (Denever & Bauman, 1974); Language Assessment, Remediation and Screening Procedure (LARSP) (Crystal, Fletcher & Garman, 1976); Language Sampling, Analysis and Training (Tyack & Gottsleben, 1974); Length Complexity Index (Miner, 1969); Length of communication units (C units) or terminable units (T units) (Loban 1976); Linguistic analysis of Language Sample (Engler, Hannah & Longhurst, 1973); Mean length of utterance (MLU) in morphemes (Brown, 1973); Structural Stage (Miller, 1981)

Amongst the above mentioned measure, LARSP is argued as one of the best assessment tools for grammatical analysis of a child (Ball, 2010; Kim, 2012). It is commonly used to obtain a wide-ranging syntactic structure and inflectional morphology of child's language (Ball, 1999). LARSP measures the morphosyntactic development across the word, phrase and clause. Therefore, it provides developmental hierarchies of syntax development which in turn formulate goals for remediation.

In Indian context, very few tools have been developed to document the development of morpho-syntactic structure in children acquiring different Indian languages. The earliest attempt in direction of developing language tools to quantify the language acquisition of Indian children was 'Linguistic Profile Test' (LPT) by Karanth (1980) in Kannada language. Further it was developed in Bengali, Gujarati, Hindi, Kannada, Marathi, Oriya, and Tamil language. LPT quantifies semantic and syntactic abilities of children within 6-15+ years of age range. The KLT is a screening tool developed by Shyamala, Vijayashree and Jayaram (2003) to assess syntactic ability of children within the age range of 3-7 years. In the same line 'Screening Test for the Acquisition of Syntax in Kannada' (STAS-K) was formulated by Basavaraj (1981) and further adapted into Hindi as STAS-H by Basavaraj, Goswami & Priyadarshi (2009). STAS-H assesses various grammatical categories and sentence structure of 2-5 years old children on comprehension and expression domains. This tool is also available in Malayalam (STAS-M) and Telugu (STAS-T) as well. Similarly, Murthy (1981) devised 'A Syntax Screening Test' in Tamil language to screen the morphosyntactic deficits in children within 2-5 years. Therefore, it can be concluded that limited number of indigenous

tests available to measure syntactic growth in various Indian languages. However these tools could not profile the phrase and clause level development as profiled into the LARSP.

Keeping into consideration, the importance of LARSP in detailed assessment of syntax development; it should be adapted and standardized in many more languages as possible. Till date parallel version of LARSP is available only in one of the Indian language i.e., Sylheti. As Hindi is the predominant language spoken by 41% of the total population of country (Census of India, 2011), therefore, present study intends at developing LARSP in Hindi.

The adaptation of the LARSP into Hindi language involved the translation of English version into Hindi language at the first instance. After equivalent translation, a comparison of LARSP profile in Hindi and English were made to bring out the similarities and differences in syntactic structures of both the languages. Further, suitable modifications in translated version were done. The modified version was rated by language experts for the appropriateness of each syntactic structure. After appropriateness rating, modifications were again made if needed and Hindi version of LARSP was finalized. The finalized version was administered on a total of 21 children (3 in each age group) as a pilot study. After incorporating the modifications suggested during the pilot phase, finally the test was administered on 175 (97 boys and 78 girls) typically developing children in the age range of 0.9 -to- above 4.6 years. Based on age, they were classified into seven age groups (stage I- 0; 9 years to 1; 6 years, stage II- 1; 6 years to 2; 0 years, stage III- 2; 0 years to 2; 6 years, stage IV- 2; 6 years to 3; 0 years, stage V- 3; 0 years to 3; 6 years, stage VI- 3; 6 years to 4; 0 years, and stage VII- 4; 6 years onwards). Each group had 25 participants. Two types of speech sample were collected and recorded from each of the

participant including dyadic interaction and dialogue. Obtained speech samples were transcribed and were analyzed at four levels of structural organization such as, sentence, clause, phrase, and word types.

Lastly, analyzed sample was profiled on the LARSP chart for Hindi language. In addition 10% of the data were retested by another SLP to assess inter-judge reliability. All data were recorded into Statistical Program for Social Sciences (SPSS) 16.0 for statistical analysis. Chi-square test and test for equality of proportions were utilized to evaluate statistical differences between the categorical data.

7.2. Conclusion

The results evidently exhibited that at what age-related stage particular morphosyntactic structures begin to appear, and when it becomes regular in the child's language. Overall, the results show a general trend where in, it is evident that there is a gradual progression in the complexity of morphosyntactic development at phrase as well as clausal levels as age progresses.

Only those structures were included in the final list which appeared for the first time in at least 50% of the children of that age group. The similar criteria were followed by Bol and Kuiken's (1990) in the Dutch adaptation of LARSP. The syntactic structures which appeared across seven age groups with the 50% criteria are as follows.

1) **Stage I (0.9;-1;6 years):** The early vocabulary of this age group children ranged from 1-15 words. Among the one-word utterances command 'V', question 'Q' and statement 'N' were found in all the children's utterances. However statement 'V' was seen in only 84% of the children. Moreover the difference between statement 'N' and 'V' was not significant. In addition, two morphemic structures including /-o/ and /-a/ were also

incorporated in the word level category in this stage. On the other hand, noun-noun (NN) phrasal structure, and three clausal structures including element-verb (*X*V), subject-verb (SV), and subject-object (SO) also began to appear in this stage only.

2) **Stage II (1;6-2;0 years):** It was found that most of the clausal and phrasal structures began to appear in the stage II (1;6-2;0 years). The clausal structure which appeared in this age group included, element-question (*X*Q), subject-complement (SC), object-verb (OV), complement-verb (CV), element-negative (*X*Neg), adverb-element (A*X*), subject-object-verb (SOV) and verb-element (V*X*), element-question (*X*Q), verb-element (V*X*) and subject-object-verb (SOV). Among these, only SC, AX, OV, CV and *X*Neg attain the level of 50% criteria used.

   The phrasal structures which appeared in the second age group (1;6-2;0 years) included determiner-noun (DN), adjective-noun (AdjN), noun-postposition (N PP), verb-verb (VV), verb-part(V part), intensifier- word (Int *X*), determiner-adjective-noun (DAdjN) phrases. Among these only DV, V part, VV, CV and Int *X* attained the level of 50% criteria used. In addition the phrasal structure NN which began to appear in the first stage (0;9-1;6 years) also attained the 50 % criteria in this stage.

   The structures which appeared in the second age group (1;6-2;0 years) included past/-i/, past/-a/, past /-e/, /ka/ and /-rəha/. All these structures attained the level of 50% criteria in this stage.

3) **Stage III (2;0-2;6 years):** The clausal structures which appeared in this age group attaining the 50% of the criteria level included indirect object-direct object-verb (O_iO_dV), adverb-complement-verb (ACV), subject-adverb-verb (SAV), element-negative-element (*Y*Neg*X*), subject-adjective-object ($SA_{dj}O$), adjective-object-verb

(A_{dj}OV), subject-object-verb (SOV) object-adverb-verb (OAV), subject-complement-verb (SCV), subject-element-verb (S*X*V), another element- one element-verb (*YX*V), another element - one element - ḏo (*YX* /ḏo/), one element -another element - ḏo (*XY* /ḏo/), verb-element (V*X*), element-question (*X*Q) and subject-element-verb [S(X)V].

The phrasal structures which appeared in this age group attaining the 50% of the criteria level included intensifier-element (Int*X*), adjective-noun (AdjN), determiner-adjective-noun (DAdjN), adjective-adjective-noun (AdjAdjN), determiner-noun-postposition (DNPP), pronoun-other ($Pron^{p}{}_{o}$), Copula (Cop), auxiliary-modal (Aux^{m}) clause.

The word structures which appeared in the third age group (2;0-2;6 years) attaining the 50% of the criteria level included /-rəha/ /ko/, /se/, /nɛ̃/, /ʈ̪ʰa/, /tʰ̪i/, /hɛ/, /ho/, /vəh/, /uska/, /uski/, /mera/, /mɛ̃/ and /hʊ̃/.

4) **Stage IV (2;6-3;0 years):** The clausal structures which appeared in this age group attaining the 50% of the criteria level included more than one subjects (+S), another element-one element-verb (+*YX*V), subject–question-verb (SQV), element-question-element (X+QY), subject-element-verb (SXV+), tag, subject-adverb-object-verb (SAOV), subject-adverb-complement-verb (SACV), subject- direct object-indirect object- verb (SO_dO_iV), subject-object-complement-verb (SOCV), element-adverb-adverb-element (XAAY).

The phrasal structures which appeared in this age group attaining the 50% of the criteria level included noun phrase-noun phrase- postposition (NP NP PP), determiner-adjective-noun-postposition (DAdjNPP), coordination-element (c*X)*, element-coordination-element (*X*c*X)*, verb-negative (V Neg), element –negative (*X* Neg),

auxiliary-auxiliary (2Aux), postmodifying phrase one (Postmod. Phrase 1), and postmodifying phrase more than one (Postmod.Phrase 1+).

The word structures which appeared in the third age group (2;0-2;6 years) attaining the 50% of the criteria level included /ke/, /ki/, /pər/, /-e/, /-o̰/, /-jã̰/, /ke lije/, and /bəhut̪/.

5) **Stage V (3;0-3;6 years):** This stage focuses on the development of coordination and subordination in the syntactic structures. The coordinating conjunction *'and '*in English language is comparable to /ɔr/ of Hindi language. However the coordinating conjunction other than *'and'* are represented as 'c' category. *'But'* 'and *'so'* conjunction belonged to 'c'category. Which are comparable to /lekIn/, /IslIje/ respectively in Hindi-language. Similarly the's' category includes '*because,'* and *'while'* coordinating conjunctions. Both are comparable to /kjõki/, /ʤəbkI/ respectively in Hindi language. In addition, *'then'* conjunction is similar to /Uske bad̪/ conjunction in Hindi language. The subordination of adverb, object, and complements were found in both the languages at the clausal level.
6) **Stage VI (3;6-4;6 years):** The noun phrase (NP) with initiator and coordinators; verb phrase (VP) with complex verb; and clausal structures including passive utterances, complements, and question makers are valuable sources to judge the presence or absence of syntactic complexity in the children's utterances.

7) **Stage VII (above 4;6 years):**Adverbial connectivity (AC), comment clause (CC) and emphatic order (EO) are the major syntactic structures to quantify the discourse associated syntactic complexities of the child's utterances.

7.3. Implication of the study

The LARSP-Hindi will help the professionals to profile the morphosyntactic performance of Hindi-acquiring children population across 0;9 to above 4;6 years of age, which in turn are helpful in planning therapeutic interventions.

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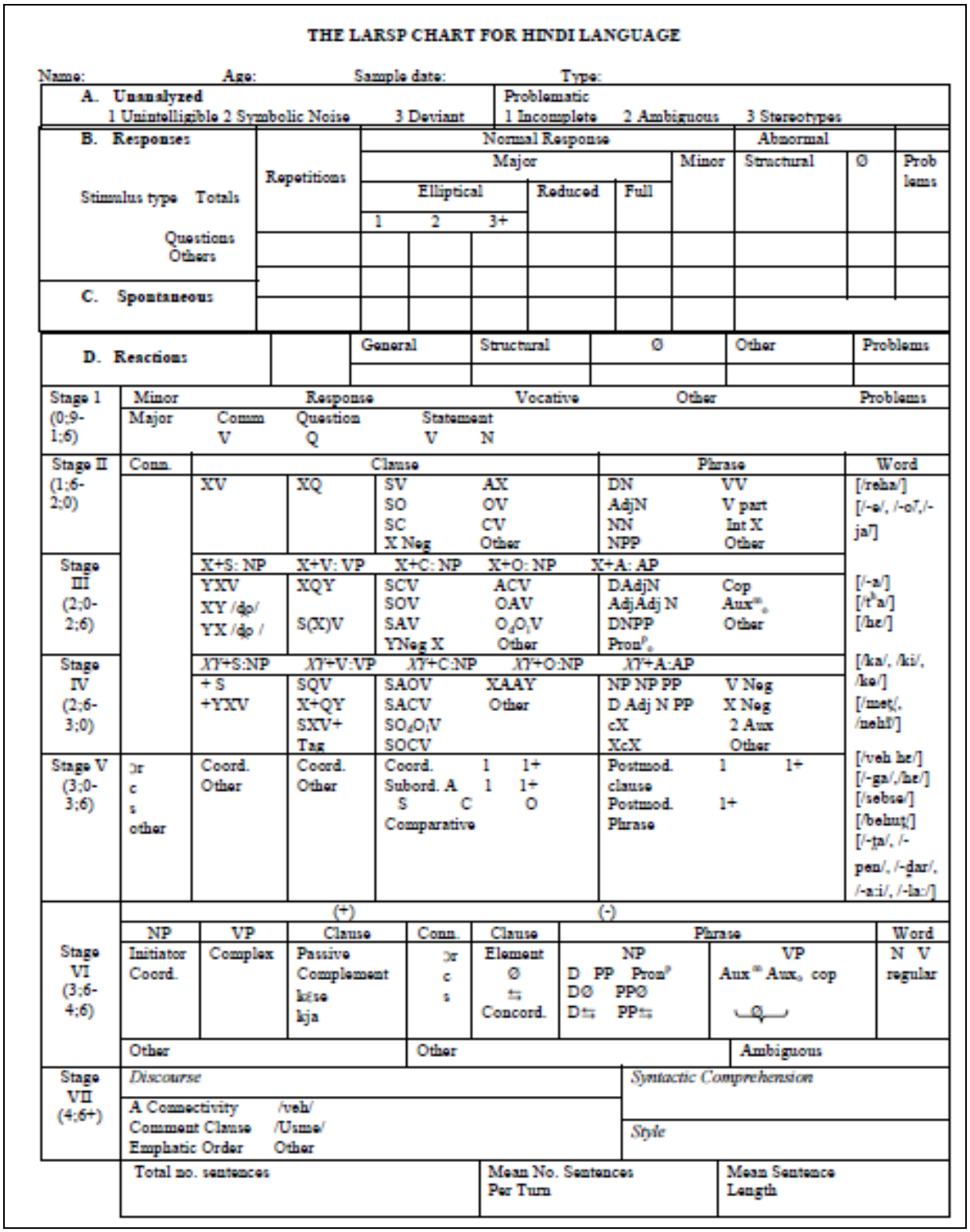
APPENDIX I

LARSP-Hindi Preliminary chart



THE LARSP CHART FOR HINDI LANGUAGE

Name: Age: Sample date: Type:

A. Unanalyzed 1 Unintelligible 2 Symbolic Noise 3 Deviant | Problematic 1 Incomplete 2 Ambiguous 3 Stereotypes

B. Responses

Stimulus type Totals	Repetitions	Normal Response: Major: Elliptical 1	Elliptical 2	Elliptical 3+	Reduced	Full	Minor	Abnormal: Structural	Ø	Problems
Questions										
Others										

C. Spontaneous

D. Reactions

	General	Structural	Ø	Other	Problems

Stage I (0;9-1;6)	Minor: Major	Comm: V	Response: Question: Q	Statement: V	N	Vocative	Other / Problems
Stage II (1;6-2;0)	Conn.	Clause: XV	XQ	SV, SO, SC, X Neg	AX, OV, CV, Other	Phrase: DN, AdjN, NN, NPP	VV, V part, Int X, Other
Stage III (2;0-2;6)		X+S: NP; YXV, XY /ʤɒ/, YX /ʤɒ /	X+V: VP; XQY, S(X)V	X+C: NP; SCV, SOV, SAV, YNeg X	X+O: NP; ACV, OAV, O_dO_iV, Other	X+A: AP; DAdjN, AdjAdj N, DNPP, $Pron^{p}$	Cop, Aux^{m}, Other
Stage IV (2;6-3;0)		*XY*+S:NP; + S, +YXV	*XY*+V:VP; SQV, X+QY, SXV+, Tag	*XY*+C:NP; SAOV, SACV, SO_dO_iV, SOCV	*XY*+O:NP; XAAY, Other	*XY*+A:AP; NP NP PP, D Adj N PP, cX, XcX	V Neg, X Neg, 2 Aux, Other
Stage V (3;0-3;6)	ɔr, c, s, other	Coord.; Coord. Other	Coord.; Coord. Other	Coord. 1 1+; Subord. A 1 1+; S C O; Comparative		Postmod. clause 1 1+; Postmod. Phrase 1+	

	(+)				(-)			
	NP	VP	Clause	Conn.	Clause	Phrase		Word
Stage VI (3;6-4;6)	Initiator, Coord.	Complex	Passive, Complement, kɛ̃se, kja	ɔr, c, s	Element: Ø, ⇆, Concord.	NP: D PP $Pron^{p}$, DØ PPØ, D⇆ PP⇆	VP: Aux^{m} Aux_{s} cop, ⟲	N V regular
	Other				Other			Ambiguous
Stage VII (4;6+)	*Discourse*: A Connectivity /veh/, Comment Clause /Usme/, Emphatic Order Other					*Syntactic Comprehension*; *Style*		
	Total no. sentences				Mean No. Sentences Per Turn		Mean Sentence Length	

APPENDIX II LARSP-HINDI Profile Chart

Name Age Sample date Type

A. Unanalysed 1 Unintelligible 2 Symbolic Noise 3 Deviant

Problematic 1 Incomplete 2 Ambiguous 3 Stereotypes

B. Responses

Stimulus Type	Totals	Repetitions	Normal Response: Major: Elliptical 1	Elliptical 2	Elliptical 3+	Reduced	Full	Minor	Abnormal: Structural	Ø	Problems
Questions											
Others											

C. Spontaneous

D. Reactions

	General	Structural	Ø	Others	Problems

	Minor / **Major**	*Response*		*Vocative* *Other* *Problems*		**Word**
		Comm	*Question*	*Statement*		
		'V'	'Q'	'V' 'N' Other	Problems	/-o/ /-a/
Stage 1 (0;9-1;6)	Conn.	**Clause**			**Phrase**	
Stage II (1;6-2;0)		*X* V		SV AX SO OV SC CV *X* Neg Other Neg *X*	DN VV V part Other NN	Past /-i/ Past /-a/ Past /-e/ /ka/
Stage III (2;0-2;6)		*X*+S: NP *X*+V: VP *X*+C: NP *X*+O: NP *X*+A: AP				/rəha/ /ʈʰa/ /hɛ/ /hũ/ /mera/ /mɛ/ /ko/ /uska, uski/ /se/ /ne/ /ho/ /vəh/
		V*X* *YX*V *XY* /ɖo/ *YX* /ɖo /	*X*Q S(*X*)V	SCV ACV SOV OAV SAV O_dO_iV *Y* Neg *X* SAdjO AdjOV Other	Int X Pron^P AdjN NPP DAdjN Cop AdjAdj N Aux$^M{}_o$ DNPP Other	
Stage IV (2;6-3;0)		*XY*+S:NP *XY*+V:VP *XY*+C:NP *XY*+O:NP *XY*+A:AP XY+Pp:PpP				/ke/ /ki/ /pər/ /-e/ /-õ/ /-jã/ /ke lije/ /bəhuʈ/
		+ S +*YX*V	SQV X+QY SXV+ Tag	SAOV XAAY SACV Other SO_dO_iV SOCV	NP NP PP V Neg D Adj N PP *X* Neg c*X* 2 Aux *X*c*X* Other Postmod.phrase 1 1+	
Stage V (3;0-3;6)	/ɔr/ c s other	Coord. Other	Coord. Other	Coord. 1 1+ Subord. A1 1+ Subord. S1 1+ Subord. C1 1+ Subord. O1 1+ Comp. 1 1+	Postmod. clause 1 1+	/vəh hɛ/ /-ẽge / /-oge/ /səbse/ /idʒie/

	(+)				(-)			
	NP	VP	Clause	Conn.	Clause	Phrase: NP	Phrase: VP	Word
Stage VI (3;6-4;6)	Initiator Coord.	Complex	Passive Complement kɛse kja	ɔr c s	Element Ø ⇆ Concord	D PP Pron^p DØ PPØ D⇆ PP⇆	Aux^m Aux$_o$ Cop Ø	N V *reg* *irreg*
	Other				Other			Ambiguous
Stage VII (4;6+)	**Discourse**						*Syntactic Comprehension*	
	A Connectivity /vəh/ / vəhã/ / vəhĩ/ Comment Clause /Usme/ /Isme/ /Uɖʰər/ /Iɖʰər/ Emphatic Order Other						*Style*	
	Total no. sentences		Mean No. Sentences Per Turn				Mean Sentence Length	

APPENDIX III

Abbreviations used in LARSP-Hindi

Symbol	Meaning
CLAUSE LEVEL	
A	Adverbial
C	Complement
Coord	Coordination
O	Object
Q	Question
S	Subject
Subord	Subordination
V	Verb
X	Element
Y	Element
PP	Postposition
PHRASE LEVEL	
Adj Adj N	Adjective Adjective Noun
Adj N	Adjective Noun
AuxM	Auxiliary – modal
AuxO	Auxiliary – other
Cop	Copula
c*X*	Coord Word
D Adj N	Determiner Adjective Noun

DN	Determiner Noun
Int X	Intensifier + Word
Neg V	Negation Verb
Neg X	Negation Word
NN	Noun Noun
NP Pr NP	Noun Phrase Preposition Noun Phrase
NPNP PP	Noun Phrase Noun Phrase Postposition
Postmod clause	Postmodifying Clause
Postmod phrase	Postmodifying Phrase
D Adj N PP	Determiner Adjective Noun Postposition
DN PP	Determiner Noun Postposition
N PP	Noun Postposition
PronP	Pronoun (or pronominal) - personal
PronO	Pronoun (or pronominal) - other
V part	Verb part
VV	Verb Verb
XcX	Word Coordinator Word
2 Aux	Two auxiliaries

WORD LEVEL

Past /-i/, /-a/, /-e/	Regular past tense
/-o/ /-a/	Command form
/rəha/	Progressive form
/ʈ^{h}a/	Past tense used with progressive form
/hɛ/	Copula

/hũ/	Auxiliary verb
/mɛ/	Personal pronoun
/ko/	Objective case marker
/uska, uski/	Pronoun
/se/	Instrumental case marker
/ne/	Nominative case marker
/ho/	Auxiliary verb
/vəh/	Third person singular number
/ke/, /ki/	Possessive case marker
/-e/ /-õ/ /-jã/	Plural form
/pər/	Locative case marker
/ke lije/	Dative case maeker
/bəhuṯ/	Comparative form
/vəh hɛ/	Uncontracted copula
/-ẽgɐ / /-ogɐ/	Portmanteau form
səbse/	Superlative form
/iʤie/	Auxiliary verb

APPENDIX IV

Summary of morphosyntactic differences between English and Hindi languages

	English	Hindi
Noun	Noun typology is similar to both language	
Pronoun	Four classes of pronoun including: Personal, Reciprocal, Interrogative and Relative	Six classes of pronoun including: Personal, Demonstrative, Reflexive, Relative, Indefinite and Interrogative
Adjective • Comparative • Superlative • Adjective to adverb	Adjective typology is similar to both language -er form -est form -ly form	 /bəhU̪t̪/ /səbse/ -/t̪a/, /pən/, - /d̪ar/, /a:i/, /la:/
Case markers	Five case markers in English: Genitive, Dative, Ablative, Locative Comitative	Eight case markers in Hindi: Nominative, Objective, Instrumental, Dative, Ablative, Possessive, Locative and Vocative
Verb	Inflected with respect to tense only.	Inflected with respect to gender, number of subjects and tense
3) Copula verb	• Contracted into words that precede it. • Clause element following the copula verb must be a complement	• Not contracted into words that precede it. • Clause element following the copula verb may be a complement
4) Auxiliary verb	contracted into words that precedes it	Not contracted into words that precedes it
Present continuous	-ing	-/rəha/
Simple past tense	-ed; and irregular pattern	/a/, /i/; no irregular pattern
Past perfect tense	-en; and irregular pattern	/t̪a/, /t̪i/; no irregular pattern

3rd person singular	3s and also irregular pattern.	/vəh/ and also irregular pattern
Determiner	A, an the	Locative represents determiner
Plural	-es, -e	-/e/, -/jã/, -/õ/
Coordination	In English, coordinators acts as conjunctions only.	In Hindi, coordinators are used as conjunction, disjunction, adversative and negative coordination.
Noun phrase	Head can be noun/ pronoun/ modifiers/ determiner/ complements.	Head can be nominal or modifiers
Adjectival phrase	An adjective is head, and accompanied by modifiers and/ or quantifiers.	Adjective phrase are simple as well complex
Post/ prepositional phrase	Prepositional phrase	Postpositional phrase
Adverbial phrase	An adverb is head, and accompanied by modifiers and/ or quantifiers	Combination of simple or compound postposition to a noun.
Canonical syntax		
• Declarative	subject- verb-object	subject-object-verb
• Interrogative	Question- verb- subject	Subject-question-verb
• Negation	Neg-XY	X- Neg-Y