

Participle Constructions Among Kannada Children with Intellectual Disability

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Introduction

Language development is a complex and important part of human cognition that substantially improves our ability to communicate and interact with our surroundings. While the majority of children learn to speak in their early years, some groups, such as children with intellectual disabilities (CWID) face delay or impairments in language development. Intellectual impairment is defined by significant limits in cognitive functioning and adaptive behaviour, which affects many elements of daily living, including language skills.

However, there is a scarcity of research in the Indian setting that focuses primarily on the language and communication elements of CWID. Despite the fact that the field of speech-language pathology in India is aware of changing theoretical perspectives and linguistic aspects in typically developing and language-disordered populations, there is still a need to understand the language skills of CWID in order to provide appropriate assessment and intervention.

Language is a complex and dynamic system of conventional symbols that is used in various modes for thought and communication.

Contemporary views of human language hold that

1. Language evolves within specific historical, social, and cultural contexts;
2. Language, as rule-governed behaviour, is described by at least five parameters
- phonologic, morphologic, syntactic, semantic, and pragmatic;
3. Language learning and use are determined by the interaction of biological, cognitive, psychological, and environmental factors;
4. Effective use of language for communication requires a broad understanding of human interaction including such associated factors as nonverbal cues, motivation, and socio-cultural roles.

Morpho-syntax is the study of the morphological and syntactic properties of linguistic or grammatical units and concerns itself with inflection and paradigms but not with word formation or compounding. Brown (1973) serves as a foundation for the work on English monolingual morpho-syntactic language development. He has done a longitudinal study of three children acquiring English as their native language and developed the sequence of 14 morphemes. According to Brown, there are five stages which depict the development in children's language. During the first stage of development, the child starts to combine words and semantic roles in linear simple.

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Participles are best classified as verbal adjectives, or words that behave like adverbs in terms of morphology and external syntax but are frequently derived from verbs. It is used to alter a noun or noun phrase in a sentence. Participles may relate to "passive voice" (passive participle), where the modified noun represents the 'patient' (undergoer) of the action, or to "active voice" (active participles), where the modified noun represents the "agent of action."

Jia and Fuse (2007) studied the acquisition of English grammatical morphology by native Mandarin-speaking children and adolescents and age-related differences. The results indicated that acquisition of some grammatical morphemes by school ages immigrants takes several years to complete. As second learners exhibit some error types and difficulties similar to monolingual children with specific language impairment, caution needs to be taken when interpreting and using morphological errors as indicators of speech language learning problems in this population.

Dabrowska and Street (2014) provided experimental evidence for the role of lexically specific representations in the processing of passive sentences and considerable education related differences in comprehension of the passive construction. They measured response time and decision accuracy of participants with high and low academic attainment. The results suggested that all participants have verb specific as well as verb general representations, but the latter are not as entrenched in the participants with low academic attainment, resulting in less reliable performance.

Lakshman (2000) investigated the acquisition of relative clause in 27 Tamil speaking children (2-Gyrs). The findings indicated that the younger children produced a significantly greater number of pragmatically inappropriate response than the older children. But the younger children are not inferior to the older children with respect to their grammatical competence.

This comparative study intends to bridge this knowledge gap by comparing the linguistic development of CWID in the Indian context to that of typically developing youngsters. This research will bring vital insights to the field of speech-language pathology in India by investigating the unique obstacles and specific impairments encountered by CWID. The findings will aid in the understanding of CWID's linguistic profiles, enable more tailored evaluation procedures, and aid in the creation of successful intervention options.

Understanding CWID's language abilities is critical since language deficiencies can have a substantial influence on their daily functioning and social interactions. This study will provide a complete knowledge of language development in CWID within the Indian cultural and linguistic setting by studying the linguistic characteristics of CWID and comparing them to typically developing youngsters. Finally, the findings will help to improve CWID assessment and intervention procedures in India, as well as their overall communication and engagement in society.

Review of Literature

Language is a living system of conventional symbols utilised in many types of thought and communication. It is a complex and specialised skill that develops spontaneously in the child, without conscious effort or formal instruction, without awareness of its underlying logic, is qualitatively the same in every individual, and is distinct from more general abilities to process information or behave intelligently.

Language follows rules and is described by five parameters: phonology, morphology, syntax, semantics, and pragmatics. Language development begins with the child's first cry and continues until late childhood. The interplay of biological, cognitive, psychological, and environmental elements determines language learning. Language semantics, syntax, phonology, and morphology are exceedingly complex. Syntax has drawn the most attention among all aspects of language development.

Syntax is a dominant component of language. It governs how morphemes and words are correctly combined. It refers to the branch of grammar dealing with the ways in which words, with or without appropriate inflections, are arranged to show connections of meaning within the sentence.

Words are assigned to syntactic categories, words head or project phrases, and these syntactic phrases organize the linear string of words that makes up a sentence into a hierarchical structure. After learning the rules governed for connecting words it is possible to create number of infinite meaningful sentences. Hence it is possible to construct many novel and different sentences. Traditionally, it refers to the branch of grammar dealing with the ways in which words, with or without appropriate inflections, are arranged to show connections of meaning within the sentence. By learning the finite number of rules for connecting words it possible to

create an infinite number of sentences, all of which are meaningful to a person who knows syntax. Thus, it is possible to construct many sentences that the speaker never heard before.

Participle clauses are dependent clauses that are abbreviated by using a present or past participle. Verbal adjectives are participants. They have some characteristics of verbs and others of adjectives. However, they are really a form of adjective. Participles can be used as adjectives to modify nouns or pronouns. We may put a lot of information in a statement this manner without making it excessively long or confusing. The present participial structure (ing-form) shows that both acts occur at the same time, and we can reduce a passive clause by using the passive participle and the past participle. The perfect participle indicates that the activity in the participle clause occurred prior to the action in the main sentence.

The perfect participle in English can represent acts in both the active and passive voice. Other English participles are constructed periphrastically in order to mimic the larger array of classical participles, although they frequently appear formal or even odd.

Western Studies

Redmond (2003) investigated Children's productions of the affix -ed in past tense and past participle contexts (e.g., the boy kicked the ball vs. the ball was kicked) were examined in spontaneous conversations and elicited productions. The performances of 7 children with specific language impairment (SLI) were compared with those of 2 control groups of typically developing children (age matches, MLU matches). Children with SLI produced fewer obligatory contexts for both past tense and past participle forms than did the control children and were more likely to omit past tense affixes. In contrast, few omissions of the past participle were observed across all 3 groups. Implications for theories regarding the morphological deficits associated with SLI are discussed.

Savage, Lievan, Theakston and Tomasello (2003) investigated on abstractness of early syntactic constructions in children of ages 3, 4, and 6 years and the results reveals that 6-year-old children showed both lexical and structural priming for both active transitive and passive constructions whereas 3- and 4-year-old children showed lexical priming only. These results revealed that children develop abstract linguistic representations in their pre-school years.

Heather and Lely (2013) compared the acquisition and underlying syntactic representation of passive sentences in specifically language impaired (SLI) children and

normally developing children, concluded that SLI children were significantly worse at interpreting transitive verbal passive sentences than the normal children they also concluded that both groups may have problem deriving the syntactic representation underlying a verbal passive sentence but not the less complex adjectival –stative passive.

Indian Studies

Rao (1995) investigated on development of syntax in children with intellectual developmental disorder and found that there was delay in the development of syntax when compared to normals.

Ranjan (2006) did a study on syntactic skills in children with intellectual developmental disorder with the mental age of 3-7 years and the results revealed that children with 5-7 years mental age shown an increase in percentage of use in all plurals forms mainly regular plurals.

Nitha (2010) investigated on development of tense markers in typically developing Malayalam speaking children and children with intellectual developmental disorder and the results revealed that the present tense markers is poor in children with intellectual developmental disorder when compared to normals.

Methodology

Aim and Objective

The study aims at profiling language in children with intellectual disability speaking Kannada (mental age 4 to 6 years). Analyzing the data at levels of language functioning – Predicates as compared to mental age matched typical children.

Participants with Inclusive and Exclusive Criteria

Participants included 30 typical children (TD) in the age range of 4 to 6 years and 30 Children with Intellectual disability (CWID) (Mental age 4 to 6 years)

Typical children establishing profiles of TD was found necessary because of the need for comparison with CWID. Currently extensive developmental data in typical children speaking Kannada is not available. Moreover, establishment of norms based on free conversational samples is rare. Hence, a preliminary performance description of normal children in the age range of 4 to 6 years was considered essential.

All the children were suggested by teachers who identified the best suited for the study. Children with history of any speech and /or language deficits, any reading and /or writing problems, any history /complaint of acquired hearing loss, complaints of cognitive deficits such as poor memory, attention deficits, organizational and /or sequencing issues, any transfer from more than one school, any shift in the medium of instruction and any academic failures were excluded from the study. No formal language testing was administered due to lack of such tests in kannada language. Consent was obtained from the parents of children before data collection

Materials Used

Following the guidelines of LARSP (Crystal et.al., 1976 and 1989) and in subsequent Kannada language adaptation (Subbarao, 1995) on sample collection, a set of toys and pictures were selected. Toys and pictures used for sample collection are as shown below. All the subjects were selected from the same socio-economic background.

Toys and play materials– House building set, Toy, jeep, Ball, Toy Utensils, Coins, Travel bag set, Paper-Pencil

List of Pictures – City Road, traffic, Village, life-1 City life, Village Life

Topics for elicited work at school, teachers, response from subjects, Games played with friends, Cinema, Television program, Favourite music, Favourite clothes, Family member.

Procedure

Adjectives may be derived from verbs, generally, by adding /-o:/ or /-a/ to the verb stem. This scan includes five types of constructions, verbal, negative verbal, noun relative and negative relative participle constructions. The scan again is made for the presence or absence of the structure.

Examples

Affirmative/Verbal participle: /a/o:/

/baro:va:ra/ next week (the coming week)

comeweek

/nod:o ja:ga/ the place (one is)

seeing seeplace

/bandahudga/ the boy who came

Came boy

/ho:da va:ra/ last week gone week

Negative participle: /-ade/

/na:n tinde ho:de/ I went without eating

/ra:ju a: sinma no:dde bidlilla/ Raju didn't leave without seeing that movie

Raju that movie without-seeing did-not-leave

Relative Participle: /-ta: iro: / or /-iro/

/albandirohudga/ the boy who has come there

/al barta:iro: hudga/ the boy who is coming there

Negative relative: /ada/ /a: gda/

/ivattu kelsa: ma:dad hudga ya:ru? / Who is the boy who is not working today?

today work is-not boy who

/fe:la:gda hudga/ the boy who did not fail

Participle Noun

/ogeyuvaaagasa/ The one who washes is a washer man

/doddavanu/ /doddo: nu/ a big man

Analysis

Samples were a combination of conversations with the children and interactive sessions using toys and pictures. Free conversation was encouraged throughout the 30 minutes sessions with each child. The setting was within the familiar environment of the school. The researcher interacted with children before and to become familiar with each other. The first half of the session recording focused on free conversation, while the latter half involved discussions regarding the toys and pictures. The session was recorded using Sony video recorder (Model DCR-3R21E). The Recorder was placed at a distance of three feet from the setting. A quiet room of the special school /school was used for recording. An additional note was taken to

indicate accuracy of children's response to stimuli for later use in transcription. Thus, the obtained sample was transcribed, analysed.

The overall guideline provided by LARSP (Crystal et.al., 1976 and 1989) was used for the transcription of the sample and analysis of response patterns. Suggestions and guidelines provided by an earlier study of language analysis in children with Intellectual disability speaking Kannada using LARSP (Subbarao, 1995) were adapted.

Statistical Analysis

T' test was used to compare the means of two groups. Z test was used to determine whether two population means are different when the variances are known and the sample size is large, Man Whitney test was used to compare the differences. ANOVA followed by post hoc analysis was done using Bonferroni test. The results are expected to strengthen linguistic profiling of Kannada speaking children with the intellectual disability. Such profiling is expected to increase our understanding of disordered language in this group and also help in planning age-appropriate remediation.

Results and Discussion

Language delays and disorders amongst children have increasingly attracted attention of practicing Speech Language Pathologists in India. One group has consistently demanded attention is Children with Intellectual Disability (CWID). Language behavior of these children has become an important area of research particularly in the Indian context. There are reports of differences between mental age (MA) matched typical children (TD) and children with Intellectual disability (CWID). In fact, it is recognized that the extent of deviance is underestimated (Kiernan, 1985; Subbarao, 1995). The results of the present study also support these views. Although, there is an overall delay in acquiring language, there are differences among the MA matched TD and CWID children. These differences are most noticeable in syntactic aspects as compared to semantic aspects. This assertion further strengthens similar conclusions of Subbarao (1995).

As described in methodology section, all TD and CWID interacted during play to obtain a natural conversational language sample. The transcription of the language samples was subjected to detailed analysis. Initially quantitative analysis was done, followed by analysis of qualitative aspects.

Quantitative Analysis

The transcription of language sample was analysed for the stimulus type and response categories. All the sentences were counted for Therapist (T) and Participants (P). The total numbers of the sentences were counted which yielded three quantitative measures like Total number of sentences, mean number of sentences per time and Mean sentence length; the present measures were compared for both groups of TD and CWID groups. The group mean, standard deviation was calculated and significance between the means were calculated using t' test for the unmatched pairs.

Table 1.1 Shows the presence of Participle constructions in typical children and children with intellectual disability with statistical evidence.

	N	Typical Children	%	Children with intellectual disability	%	Testing proportions-z value	P value	Significance (at 0.005 level)
		No. present		No. present				
Affirmative	30	24	80	17	56	1.94	.026	Sig
Negative participle	30	0	0	0	0	0	0	NS
Relative participle	30	3	10	0	0	1.78	.038	Sig
Negative relative	30	0	0	1	3	0	0	NS
Participle noun	30	0	0	5	16	0	0	NS

NS-No Significance, Sig-Significant

In Kannada adjectives may be derived from verbs, generally, by adding /-o:/ or /-a:/ to the verb form. 80 % of the children show the presence of affirmative verbal participle. For example: /bar o va:ra/ (coming week); /bareyo: pennu/ (pen that writes); /ho: da va:ra/ (last week). Relative participle was seen in 10% children indicating that these syntactic forms are

acquired later than 6 years. Eg: /al barta iro: ga: di/ (the vehicle that is coming there). Other aspects were not seen in the samples.

It is clear from table 1.1 that 56% of the CWID group used affirmative participle construction consistently. Other types were not used by children in either group. Comparing both the groups the TD group performed better than the CWID group. Significant differences were seen for affirmative and relative participle constructions in which children had responded. Subbarao (1995) had also reported that none of the CWID exhibited participle constructions. (Karanth and Suchitra 1993, cited in Subbarao, 1995) have indicated that acquisition of such syntactic types may start by 6 years onwards.

Discussion

Studies from many diverse disciplines show that as language is a complex structure its use involves many diverse interacting psychological operations (Caplan, 1992). Most children acquire this complex system (Language) during their early years. It is generally accepted that interactionist approaches propagated in the late 70's (Bloom and Lahey, 1978; Carrow-Woolfolk and Lynch, 1982) explain language development better than any single theory. This integrated viewpoint suggests that both maturation and behaviour of society simultaneously influence and determine linguistics and communicative behaviour.

Considering this approach, studying children for describing their linguistic communication in naturally occurring day to day interactions becomes important. It is well accepted that understanding of language and communicative development is an underlying force to enable effective language intervention in children with disability. One of the largest groups in India that require attention is children with Intellectual disability (CWID). The present study is focused on oral expression of the children and analyzing the resulting language output. Studies of language development have made some headway particularly in Kannada (Karanth, 1990; Subbarao, 1995, and Rohila, 2015).

Summary and Conclusion

The present study is an extension of previous studies in language profiling of Kannada speaking children with intellectual disabilities (CWID). Most notably, Subbarao (1995) had obtained natural conversational samples of 4 to 6 years mental aged (MA) children with intellectual disability (CWID) and 4 to 6 years matched typical children (TD). The audio

sample obtained thus was transcribed and subjected to analysis based on the overall general guidelines provided by LARSP (Crystal et. al, 1976 and 1989).

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