

*Semantic Intention and Semantic Relation in Children with  
Intellectual Disability and Hearing Impairment*

**DISSERTATION**

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**CHAPTER 1**

**INTRODUCTION**

Communication is the focused activity of information exchange between two or more participants in order to convey or receive the planned meanings through a shared system of signs and semiotic rules. Communication is a synthesis of three components: message, information and understanding.

Language is the main vehicle for communication. Language is a set of arbitrary symbols used by a group of people for the purpose of communication, understanding of language requires the explanation of terms, symbol and arbitrary. (Owens, 2008)

Semantics, A component of language is a system of rules governing the meaning or content of words and word combination. (Crystal, 1995)

Semantic intention is defined as the present purposes being constituted by an independent attempt as renowned from simple spontaneous behaviour to represent through some cognitively detained material a different object than the material itself.

Semantic relations are meanings intended by the child's verbal expression during two word combination stage.

Researchers have noted that at the first word level, words are conceptualized as semantic intentions and when children combine these semantic intentions at phrase level, they are referred to as semantic relations.

Leonard, Bolder and Miller (1976) examined semantic relation reflected in language usage of normal and language disordered children and comparisons were made for both utterance length and age condition. They found out that the disordered language children used reflected semantic relation consistent with that earlier level of development.

Brackenbury (2005) studied semantic deficits in children with language impairments, issues for clinical assessment and results showed that the semantic deficits of these children may not receive the attention they need.

Bailoor and Rao (2013) studied semantic intention and relation in children with intellectual disabilities of 4 to 7 years of mental age and found no significant difference in performance with normal children and frequency of use.

Haritha and Kumaraswamy (2013) studied semantic relation in 4-5 years old Malayalam speaking children and found significantly in conversation, monologue and story narration in relatively decreasing order respectively. The study concludes that all the parameters of semantic relation are already acquired in 4-5 year old Malayalam speaking church.

Understanding speech intelligibility and relation development in children is important for screening, diagnosis and intervention of language. Description of semantic intention and relation has been attempted in Indian language such as Kannada (Rao, 1995), (Bailoor and Rao, 2013), (Pradyumn and Goswami, 2008), (Chitra and Prema, 2008) Tamil (Krupa and Perumaal, 2009) and Malayalam (Haritha and Kumaraswamy, 2013), (Mohan and Kumaraswamy, 2011) and Konkani (D'souza and Kumaraswamy, 2014). The scientific studies related to semantic intention and relation in children with intellectual disability and children with hearing impairment have not been carried out in Malayalam language. The present study will helps SLP's in identifying the semantic relation and intention in children with intellectual disability and hearing impairment and it can also be used for screening, diagnosis and further intervention.



## CHAPTER 2

### REVIEW OF LITERATURE

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 language evolves within specific historical, social and cultural context; language as a rule governed behaviour is described by at least 5 parameters: phonologic, morphologic, syntactic, semantic and pragmatic; language learning and use are determined by the interaction of biological, cognitive, psychological and environmental factors. Effective use of language for communication requires a broad understanding of human interaction including some associated factors as non-verbal cues, motivation and socio cultural role (American Speech and Hearing Association, 1982).

Semantics is the study of meaning. Within modern linguistics the most important area has been lexical (structural) semantics which has concerned itself with structural relationship in the vocabulary, for example, autonomy, hyponymy and truth conditional semantics. This is an approach to sentence meaning which hold that (at least part of) sentence meaning is characterized in terms of conditions (in the real or possible world) under which a sentence can be hold to express a statement that is true.

The development of semantic knowledge in children consists of building up the lexicons until their words match that of an adult. Children start using a word in a restricted setting, eventually use it in a larger semantic network and ultimately learn to detach it from the situation in which they gained the knowledge. Semantic development studies the relationship between language and individual's perception of the world, including the things and actions within it. (Robert, 2008)

American Association of Intellectual Developmental Disabilities (AAIDD) in 2013 defines Intellectual Disability (ID) as characterised by significant limitations in intellectual functioning and adaptive behaviour, which is expressed in conceptual, social and adaptive skills originated before the age of 18.

Diagnostic statistical manual (DSM-V) places less emphasis on the degree of impairment and more on the type of intervention needed. About 85 percent of people with ID fall into the

mild category and may even achieve academic success. People with moderate ID have fair communication skills but cannot typically communicate on complex levels. People with profound ID require round the clock support and care.

International classification of impairment disability and handicap (1980) defined hearing loss as a combination of hearing impairment (the dysfunction measured in laboratory or clinic), hearing disability (the everyday problems experienced by an individual like following a conversation or telling the location of events) and hearing handicap (the non- auditory consequences which flow from disabilities such as high stress level or restriction in social involvement).

Gilbertson and Kamhi (1995) examined new word learning skills in children with mild to severe hearing loss and concluded that poor performance was noted in children with hearing loss. Stelma, Hoover and Lewis (2005) investigated rapid word learning skills in children with hearing impairment, resulting in children with normal hearing having better word learning and retaining the newly studied word learning.

### **SEMANTIC INTENTIONS:**

The meanings intended by children using words or gestures can be called as semantic intentions. The common intentions expressed by children are:

**EXISTENCE:** The child recognizes the existence of an object or event and expresses this through a look gesture or vocalization. For example: seeing the mother, the child says 'amma'.

**DISAPPEARANCE:** The child comments on the disappearance of a person or object by using a look, gesture or a word. For example: says all gone when water is over, or says poi when father goes out.

**RECURRENCE:** Child expresses that an object existed disappeared and reappeared. Child may also request repetition of an action. For example: when the child wants more juice, he says inim inim (more).

**NON EXISTENCE:** The child indicates that an object does not exist where he expects it to be either non- verbally by a look, gesture, vocalisation or by a sign or a word such as no, gone or the name of the object. For example: child opens a box and finds no chocolate, remarks mittayi illa (no chocolate).

**LOCATION:** The child comments on the position of an object a person or an event or requests that an object be placed in a certain location by look, gesture, vocalisation or a sign or word such as there, on etc. For example: when the child wants his father to take a toy and give him he says ‘athu’ (that) simultaneously pointing and looking at the adult.

**POSSESSION:** Child comments on relationship between an object or person and themselves. For example: When he and another child are playing he may suddenly pick up a toy car and may say ‘ente’ (mine). When another adult says adult says I will take away your daddy he may say mine.

**REJECTION:** The child communicates that he does not want an object, adult or event, or that he wants an activity to cease by look, gesture, vocalisation, sign or a word such as no, stop, bye-bye. Child pushes away adults hand with sticky dough.

**DENIAL:** The child denies a proposition by look, gesture, vocalisation or a word or sign such as no or didn’t, for example, child takes chocolate when adult is not watching. Later when the adult blames the child nods his head with full mouth in disagreement saying no.

**AGENT:** child tries to communicate about the person or object (agent) doing the action. This may be by look, gesture, a word or even by vocalisations. For example, when she wants to show her mother that brother spilled the milk, she will scream and when mother comes she will point at milk on floor and says brother.

**OBJECT:** That is the object or person that may be affected by an action. The child can convey this by a look, gesture, word etc. for example, child may touch a glass of hot coffee and may jerk his hand back and say ‘ha’ indicating it is very hot. When a child sees a dirty dog may say chi..chi to communicate that it is dirty and needs a wash.

## SEMANTIC RELATION

Meanings intended by the child's verbal expression during two word combination stage.

Semantic relation in two word level:

Agent + Action	Eg: Amma varu (Mummy come)
Action + Object	Eg: Paalu Kudikku (Drink milk)
Agent + Action	Eg: Amma chappathi (Mummy chapathi)
Agent + Location	Eg: Irikku kaserayil (Sit-chair)
Possessor + Possession	Eg: Ente paava (My teddy)
Entity + Attribute	Eg: Valiya maram (Big tree)
Demonstrative + Entity	Eg: Aa pusthakam (That book)

## WESTERN STUDIES

Leonard, Bolders and Miller (1976) examined the semantic relations reflected in the language usage of normal and language disordered children and the results are interpreted as supporting the notion that the disordered language usage reflected semantic relations consistent with an earlier level of development.

Duchan and Erickson (1976) examined the normal and retarded children's understanding of semantic relations in different verbal contexts and found no significant difference between the performance of mentally retarded language disordered and normal children on the verbal comprehension task. Both groups of children performed best on the possessive, next on the agent-object, then actor-action, and poorest on the locative relations. Finally, nonsense telegraphic and expanded contexts did make a difference in the children understandings with expanded being the best, telegraphic next, and nonsense contexts poorest. Theoretical and clinical implications are discussed.

Truman (1979) described relational meaning encoded in the two word utterances of stage 1 Down's syndrome children and suggested that Down's children demonstrate as much diversity in their use of relational meanings as normal at the same linguistic stage. These findings are discussed with respect to what Down's children know about the world as they begin to produce two word combinations.

Lyaton and Baker (1981) reported description of semantic- syntactic relations in an autistic child. This longitudinal study investigated the language acquisition strategies employed by an autistic child learning sign language. The child's core vocabulary and developing semantic syntactic relationships were compared with language acquisition in normal children. There were specific deviations in language development noted, in spite of providing the child with appropriate sign language training.

Fokes and Konefal (1981) indicated a developmental trend in the use of case relations and showed manipulation tasks enhanced the use of case relations by the language disordered group whereas the observations task was more effective for normal groups in a study done to the production of agent + action + object + locative relations by 3; 6 and 5; 6 year old normal children and language disordered children.

Stan and Mosley (1988) examined semantic encoding by mildly retarded and non-retarded persons and concluded that mildly retarded person had poor performance which attributed to the lack of semantic organization in permanent memory and also inefficiency in the use of episodic memory.

Stockman (1992) concluded in his study that differences in the semantic properties of language impaired and normal children utterances may go undetected unless a fine grained analysis is performed on the types of expressions used within a global relational category.

Cardoso- Martins, Mervis and Betrand (1997) did a study and concluded that children with Down syndrome and willies syndrome extend the meaning of words in the similar way like normal children.

Kittler, Sharon, Krinsky- McHale, Darlyme and Devenny (2004) studied on Semantic and phonological loop effects on Verbal Working Memory in middle age adults with Mental retardation and Down syndrome and reported that recall was poorer for physiologically similar, semantically similar and long words compared to recall of dissimilar short words. Compared to their peers, participants with Down syndrome had poorer recall in all categories except phonologically similar words. Most interestingly, semantic similarity lowered recall scores only in participants with Down syndrome. This selective effect of semantics reflects an influence of long term memory on working memory and points to the need for additional explanations outside phonological loop processes to completely account for the relative impairment of verbal working memory among individuals with Down syndrome.

Brackenbury (2005) studied on Semantic deficits in children with language impairments: issues for clinical assessment and results showed that the semantic deficits of these children may not receive the attention they need. This article explores the word-learning, lexical storage and lexical access skills of children with language impairments and the theories that account for their performance.

Goodrich and Lonigan (2018) examined automatic language processing among Spanish-speaking language minority children and the results indicated that these minority children rely on translation from their less proficient language to their more proficient language to access meaning.

Canizo, Coalla and Cuetos (2019) investigated the role of previous semantic and phonological knowledge on the formation of orthographic representations and the results showed that the formation of orthographic representations, as the length effect was significantly lower than in the other conditions which also improved the children's reading performance.

## **INDIAN STUDIES**

Subba Rao (1995) opined that mentally retarded subjects do not differ significantly from their normal counterparts at semantic intentions at word level and semantic relation at 2 word level constructions. Higher Mental age group performed better than lower Mental age group.



Pradyumn and Goswami (2008) analysed semantic and phonologic priming in children with learning disability and the result obtained for children with learning disability showed no significant difference between semantic and phonological priming tasks provided.

Chitra and Prema (2008) did a study on lexical semantic organization in bilingual children. This study aimed at investigating the lexical semantic organization in Kannada- English bilingual children using a repeated word association paradigm task. The study maintains the theory that in young children as young as 6 years associated words syntagmatically and children of 8 years associated words paradigmatically. The spurt in growth of the organization occurs maximally at the age of 7 years, where the children are transiting from the pre operation stage to concrete stage in Piagets cognitive theory.

Mahesh, Merlin and Subba Rao (2008) evaluated the semantic intentions of severely mentally retarded children in play context and the results support the view that along with the overall delay in language development there are differences among the chronological age matched normal and MR children. In the older group, the semantic intentions were significantly better when compared to younger mentally retarded children.

Mohan and Kumaraswamy (2011) did a study on semantic in 8-13 year old Malayalam speaking children and concluded that 8-13 year old typically developing children displayed a variety of semantic intentions. Children may seek to direct another's intention for different reasons to express interest in an object or simply to provide information. Frequency of usage found more on conversation, may be attributed to the environmental stimulation given. On elicited speech, the intentions were noted to be less.

Bailoor and Rao (2010) studied semantic intentions and relations in children with intellectual disability in the mental age range of 4-7 years and reported that children with intellectual disability show a wide range of speech and language problems.

Krupa and Perumaal (2009) compared the semantic intentions across the age group in normally developing children, chronological age(CA) matched and mental age (MA) matched children with mental retardation and reports the semantic intentions up to 2years of age ; children with mental retardation (MA and CA matched) continued to have similar performance by 3-4 years of age, MA matched children showed the performance than CA matched children due to the super cognitive skills, by 4 years of age MA matched children

with ID showed similar response normally developing children, which was in contrast to the CA matched children with ID. Thus the cognitive development influences language development to the greater extent. However cognitive development and language development do not have linear relationship.

Haritha and Kumaraswamy (2013) studied semantic relation in 4-5 years old Malayalam speaking children and found significantly in conversation, monologue and story narration in relatively decreasing order respectively. The study concludes that all the parameters of semantic relation are already acquired in 4-5 year old Malayalam speaking church.

Shetty, Hariharan and Rao (2014) reported performance of verbal autistic children relating to semantic intentions and relations. This study supports the view that meaning intentions both at word and phrase level are present in the conversational samples of 4-5 year mental aged verbal autistic children. The challenge for SLP's is to provide aspects of morphology and syntax to use the semantic aspects and also to expand the nature of social communication of pragmatics skills.

D'Souza and Kumaraswamy (2014) studied semantic relations in 3.1 – 5 years old typically developing Konkani speaking children and the results showed that children until age 5 continues to use semantic relations, although the syntactic knowledge has emerged and is inadequately used in different situations.

## **NEED OF THE STUDY**

Understanding speech intelligibility and relation development in children is important for screening, diagnosis and intervention of language. Description of semantic intention and relation has been attempted in Indian language such as Kannada (Rao, 1995), (Bailoor and Rao, 2013), (Pradyumn and Goswami, 2008), (Chitra and Prema, 2008) Tamil (Krupa and Perumaal, 2009) and Malayalam (Haritha and Kumaraswamy, 2013), (Mohan and Kumaraswamy, 2011) and Konkani (D'souza and Kumaraswamy, 2014). The scientific studies related to semantic intention and relation in children with intellectual disability and children with hearing impairment have not been carried out in Malayalam language. The present study will helps SLP's in identifying the semantic relation and intention in children

with intellectual disability and hearing impairment and it can also be used for screening, diagnosis and further intervention.

## **AIM**

The present study aimed to understand the usage of semantic intention and relation in Malayalam speaking children with intellectual disability and hearing impaired children with matched mental age of 4-8 years.

## CHAPTER 3

### METHODOLOGY

#### AIM:

The study aimed to understand the usage of semantic intention and semantic relation in Malayalam speaking children with intellectual disability with mental age of 4-8 years and mental age matched children with hearing impairment.

#### SUBJECTS:

The study group consisted of 20 Malayalam speaking children; 10 children with intellectual disability with mental age of 4-8 years and mental age matched 10 children with hearing impairment. All the children who participated in the study were attending special schools.

#### PROCEDURE:

Conversation sample of each subject was recorded in a well illuminated sound proof room with a microphone placed at a distance of 1 feet which was in turn connected to an HP laptop. Before the recording, rapport building was established in-order to make the child comfortable.

#### ANALYSIS:

The recorded sample were transcribed and checked for semantic intention and semantic relation, each correct intentions and relations were scored '1' and meaningless intentions and relations were scored '0'. Further statistical analysis was carried to compare and find statistical significance and the obtained results are discussed in the next chapter.

## CHAPTER 4

### RESULTS AND DISCUSSIONS

The present study aimed to understand the usage of semantic intention and semantic relation in Malayalam speaking children with intellectual disability and hearing impairment to find the usage of the semantic intention and semantic relation.

The obtained data was statistically analysed and results are discussed below:

#### SEMANTIC INTENTION:

<b>INTELLECTUAL DISABILITY</b>		
	<b>No: of subjects</b>	<b>%</b>
Existence	10	100.0%
Disappearance	3	30.0%
Recurrence	0	.0%
Non-existence	6	60.0%
Location	6	60.0%
Possession	3	30.0%
Rejection	0	.0%
Denial	2	20.0%
Agent	9	90.0%
Object	8	80.0%
Action	7	70.0%
Attribution	2	20.0%

**Table 4.1: Showing the percentage scores for semantic intention in general conversation among children with intellectual disability.**

From table 4.1, it can be seen that the semantic intention in general conversation, Existence and Agent yielded high score with more than 90% whereas Non -existence, Location, Object and Action yielded more than 50% scores and Disappearance, Recurrence, Possession,

Rejection, Denial, and Attribution yielded less than 50% scores for semantic intention in children with intellectual disability.

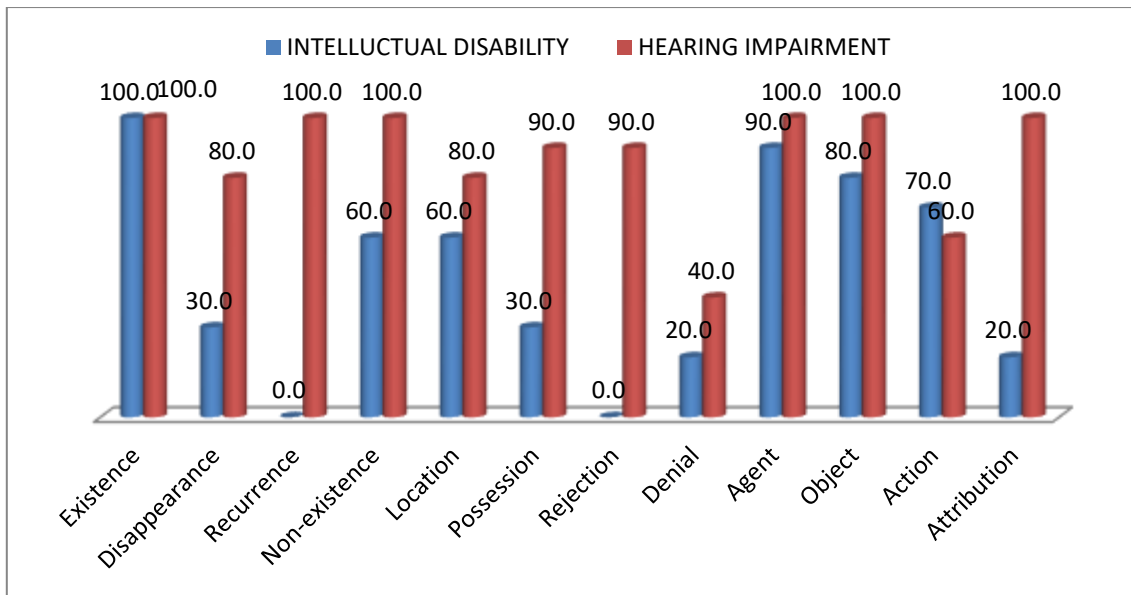
<b>HEARING IMPAIRMENT</b>		
	<b>No: of subjects</b>	<b>%</b>
Existence	10	100.0%
Disappearance	8	80.0%
Recurrence	10	100.0%
Non-existence	10	100.0%
Location	8	80.0%
Possession	9	90.0%
Rejection	9	90.0%
Denial	4	40.0%
Agent	10	100.0%
Object	10	100.0%
Action	6	60.0%
Attribution	10	100.0%

**Table 4.2: Showing the percentage scores for semantic intention in general conversation among children with hearing impairment.**

From table 4.2, it can be seen that Existence, Disappearance, Recurrence, Non- existence, Location, Possession, Rejection, Agent, Object, Attribution yielded high scores of more than 80% whereas Denial and Action yielded less than 50% scores for children with hearing impairment.

	INTELLUCTUAL DISABILITY		HEARING IMPAIRMENT		testing proportions: Z test	
	Count	%	Count	%	p value	%
SEMANTIC INTENTION						
Existence	10	100.0%	10	100.0%	-	NS
Disappearance	3	30.0%	8	80.0%	.037	sig
Recurrence	0	.0%	10	100.0%	.000	HS
Non-existence	6	60.0%	10	100.0%	.038	sig
Location	6	60.0%	8	80.0%	.342	NS
Possession	3	30.0%	9	90.0%	.013	sig
Rejection	0	.0%	9	90.0%	.001	HS
Denial	2	20.0%	4	40.0%	.342	NS
Agent	9	90.0%	10	100.0%	.318	NS
Object	8	80.0%	10	100.0%	.153	NS
Action	7	70.0%	6	60.0%	.645	NS
Attribution	2	20.0%	10	100.0%	.002	HS

**Table 4.3: Showing the percentage and significant scores for semantic intention in general conversation among children with intellectually disability and hearing impairment.**



**Figure 4.1: Showing the percentage rating for semantic intention in general conversation among children with intellectually disability and hearing impairment.**

From the above figure 4.1 and table 4.3, the semantic intention of intellectually disabled children and hearing impaired children were compared and it can be seen that most of the semantic intention was absent for children with intellectual disability and present for children with hearing impairment.

**SEMANTIC RELATION:**

INTELLUCTUAL DISABILITY		
	No: of students	%
Agent+ action	6	60.0%
Action+ object	10	100.0%
Agent+ object	7	70.0%
Action+ location	4	40.0%
Possessor+ possession	6	60.0%
Entity+ attribute	4	40.0%

**Table 4.4: Showing the percentage scores for semantic relation in general**



### conversation among children with intellectual disability.

From table 4.4, it can be seen that Action+ Object yielded 100% score whereas Agent+ Action, Agent+ Object, Possessor+ Possession, Demonstrative+ Entity yielded less than 50% scores and action+ location, entity+ attribute yielded 40% scores for semantic intention in children with intellectual disability.

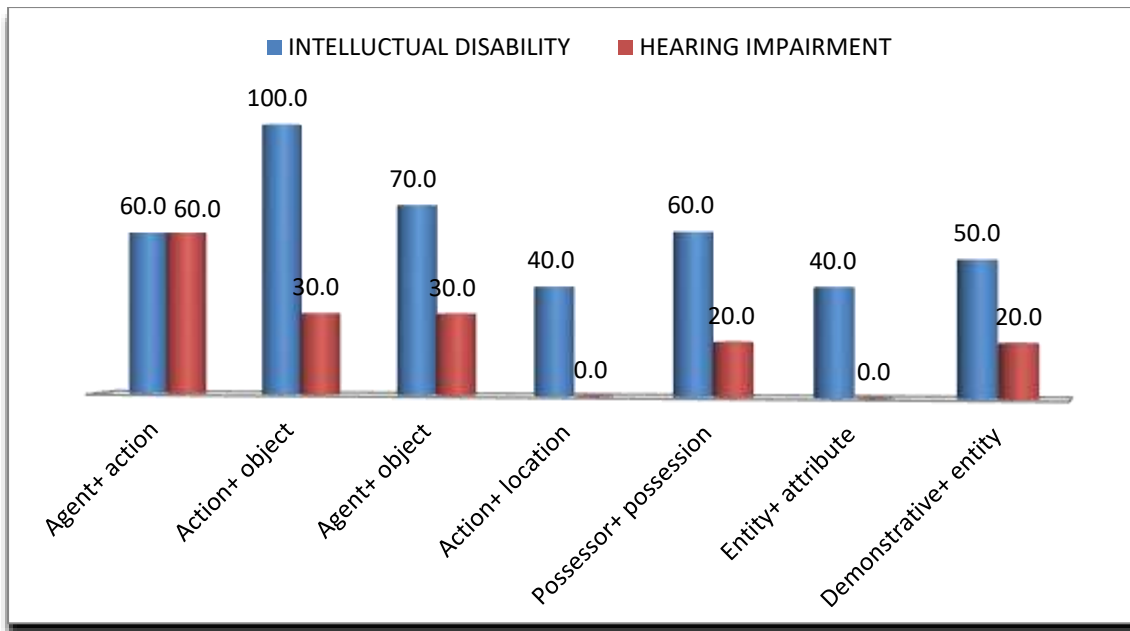
<b>HEARING IMPAIRMENT</b>		
	<b>No: of students</b>	<b>%</b>
Agent+ action	6	60.0%
Action+ object	3	30.0%
Agent+ object	3	30.0%
Action+ location	0	.0%
Possessor+ possession	2	20.0%
Entity+ attribute	0	.0%
Demonstrative+ entity	2	20.0%

**Table 4.5: Showing the percentage scores for semantic relation in general conversation among children with hearing impairment.**

From table 4. 5, it can be seen that, Agent+ Action yielded 60% score, whereas Action+ Object, Agent+ Object yielded 30% scores. Possessor+ Possession, Demonstrative+ Entity yielded 20% scores and Action+ Location, Entity+ Attribute yielded 0% score for semantic relation in children with hearing impairment.

	INTELLUCTUAL DISABILITY		HEARING IMPAIRMENT		testing proportions: Z test	
	Count	%	Count	%	p value	%
SEMANTIC RELATION						
Agent+ action	6	60.0%	6	60.0%	1.000	NS
Action+ object	10	100.0%	3	30.0%	.004	HS
Agent+ object	7	70.0%	3	30.0%	.090	NS
Action+ location	4	40.0%	0	.0%	.038	Sig
Possessor+ possession	6	60.0%	2	20.0%	.085	NS
Entity+ attribute	4	40.0%	0	.0%	.038	Sig
Demonstrative+ entity	5	50.0%	2	20.0%	.177	NS

**Table 4.6: Showing the percentage and significant scores for semantic relation in general conversation among children with intellectually disability and hearing impairment.**



**Figure 4. 2: Showing the percentage rating for semantic relation in general conversation among children with intellectually disability and hearing impairment.**

From the above figure 4.2 and table 4.6, it can be seen that the semantic intention of intellectually disabled children and hearing impaired children were compared and most of the semantic intention was absent for children with hearing impairment and present for children with intellectual disability.

## DISCUSSION

Semantic Intention and Relation is a crucial phenomenon of communicative behaviour. The absence of semantic intention and relation control distinguishes reflexive behaviour from true communication. In the present study, children with intellectual disability and hearing impairment displayed a variety of semantic intention and relation. The results of the present study reveals that, Existence and Agent yielded high score with more than 90% whereas Non-existence, Location, Object and Action yielded more than 50% scores and Disappearance, Recurrence, Possession, Rejection, Denial, and Attribution yielded less than 50% scores for children with intellectual disability in semantic intention and Existence, Disappearance, Recurrence, Non-existence, Location, Possession, Rejection, Agent, Object, Attribution yielded high scores of more than 80% whereas Denial and Action yielded less than 50%

scores for children with hearing impairment for semantic intention. In semantic relation, Action+ Object yielded 100% score whereas Agent+ Action, Agent+ Object, Possessor+ Possession, Demonstrative+ Entity yielded less than 50% scores and action+ location, entity+ attribute yielded 40% scores for semantic relation in children with intellectual disability and Agent+ Action yielded 60% score, whereas Action+ Object, Agent+ Object yielded 30% scores. Possessor+ Possession, Demonstrative+ Entity yielded 20% scores and Action+ Location, Entity+ Attribute yielded 0% score for semantic relation in children with hearing impaired.

A highly significant difference was seen for semantic intentions such as recurrence (0.00), rejection (p=0.001) and attribution (p=0.002) and significant difference was seen in disappearance (p=0.37), non-existence (p=0.38) and possession (p=0.13) whereas in semantic relations a highly significant difference was seen in action + object (p=0.004) and significant difference was seen in action = location (p=0.38) and entity and attribute (p=0.38).

It was seen in spite of delayed syntactic acquisition, usage of acquired language was effective. Semantic aspects both intentions and relations also point out varied performance in children with intellectual disability; similar trend was seen in children with hearing impairment also.

This study is in correlation with the study done by Subba Rao (1995) which reported that most of the semantic intentions and relations were reduced in intellectual disability children when compared with normal.

## CHAPTER 5

### SUMMARY AND CONCLUSION

Understanding semantic intention and relation development in children is important for screening, diagnosis and intervention of language disordered children and there are no published studies done previously on semantic intention and relation in children with intellectual disability and hearing impairment in Malayalam language. Hence the present study was undertaken with the aim of to understand the usage of semantic intention and relation in Malayalam speaking children with intellectual disability and hearing impairment in the context of general conversation.

Twenty Malayalam speaking children were further divided into 10 children with intellectual disability with mental age of 4-8 years as per the school records and 10 mental age matched children with hearing impairment attending special schools in Kerala.

Conversation sample of each child was recorded in a well illuminated sound proof room with a microphone placed at a distance of 1 foot which was connected to an HP laptop. Before the recording rapport building was established in-order to make the child comfortable.

The recorded sample was transcribed and checked for semantic intention and semantic relation, each correct intentions and relations were scored 1 and meaningless intentions and relations were scored 0.

The results of the present study reveals that in semantic intention, Existence and Agent yielded high score with more than 90% whereas Non -existence, Location, Object and Action yielded more than 50% scores and Disappearance, Recurrence, Possession, Rejection, Denial, and Attribution yielded less than 50% scores for children with intellectual disability and Existence, Disappearance, Recurrence, Non- existence, Location, Possession, Rejection, Agent, Object, Attribution yielded high scores of more than 80% whereas Denial and Action yielded less than 50% scores for children with hearing impairment.

Action+ Object yielded 100% score whereas Agent+ Action, Agent+ Object, Possessor+ Possession, Demonstrative+ Entity yielded less than 50% scores and action+ location, entity+ attribute yielded 40% scores for semantic intention in children with intellectual disability and

Agent+ Action yielded 60% score, whereas Action+ Object, Agent+ Object yielded 30% scores. Possessor+ Possession, Demonstrative+ Entity yielded 20% scores and Action+ Location, Entity+ Attribute yielded 0% score for semantic relation in children with hearing impaired.

A highly significant difference was seen in semantic intentions such as recurrence (0.00), rejection (p=0.001) and attribution (p=0.002) and significant difference was seen in disappearance (p=0.37), non-existence (p=0.38) and possession (p=0.13) whereas in semantic relations a highly significant difference was seen in action + object (p=0.004) and significant difference was seen in action = location (p=0.38) and entity and attribute (p=0.38).

It was seen in spite of delayed syntactic acquisition, usage of acquired language was effective. Semantic aspects both intentions and relations also point out varied performance in children with intellectual disability; similar trend was seen in children with hearing impairment also.

This study is in correlation with the study done by Subba Rao (1995) which reported that most of the semantic intentions and relations were reduced in intellectual disability children when compared with normal.

#### **LIMITATION OF THE STUDY:**

- Sample size was inadequate
- Mental age range was restricted
- Task was limited

#### **FUTURE SUGGESTION:**

- To include more number of subjects
- Can compare with chronological age
- Studies can be conducted in other Indian language
- Can be done with respect to picture description or monologue at different word levels.

## REFERENCES

- Alvarez - Canizo, M., Suarez - Coalla, P., & Cuetos, F. (2019). Orthographic learning in Spanish children: influence of previous semantic & knowledge. *Journal of research in reading*, 42(1), 137- 149.
- ASHA. (1982) *Committee on language definition of language American Speech and Hearing Association*, 25(6),44.
- Bailoor, P., Mathew, K., & Subba Rao, T, A. (2013). Semantic intention and relation in children with intellectual disability in the mental age of 4-7years, *Advances in life sciences & technology*, 13.
- Bailoor, P., Mathew, K., & Subba Rao, T, A. (2010). Semantic intention and relation in children with intellectual disability in the mental age of 4-7years, *A research paper presented at ISHA conference*, Mangalore.
- Brackenbury. (2005). Semantic deficit in children with language impairments: issues for clinical assessment. *Lang Speech Hear Serv Sch*. 36(1): 5-16.
- Chitra. & Prema. (2008). Lexical semantic organisation in Kannada - English bilingual children using a repeated word association program task. *Unpublished Master dissertation submitted at university of Mysore*. Mysore.
- Cardoso, Martins, Mervis & Bertrand(1997). Language disorders in children with mental retardation of genetic origin, Downs syndrome & Williams syndrome. *Handbook of child language disorders*, 44.
- Crystal, D. (1995). *The Cambridge Encyclopaedia of the English language*, U.K. Cambridge University Press.
- D'Souza. D., & Kumaraswamy, S. (2014). Semantic relations in 3.1-5 years old typically developing Konkani speaking children, *Language in India*. 14, 69-81.
- Duchan, J., & Erickson (1976). Normal and retarded children's understanding of semantic relations in different verbal contexts. *Journal of speech & hearing*, 19(40), 67-76.
- Fokes, j., Konefal, J. (1981). Children's use of four semantic cases in two conditions, *Journal of communication disorders*.14(6),497-506.
- Gilberson. H., & Kamhi (1995). Novel word learning in children with hearing

impairment. *Journal of speech and hearing research*, 38 (3), 630- 42.

Goodrich, J. M & Lonigan, C. J. (2018). Development of first and second language vocabulary knowledge among language minority children: evidence from single language and conceptual scores. *Journal of child language*, 45 (4), 1006- 1017.

Haritha, C. H & Kumaraswamy (2011). semantic relation in 4-5 year-old Malayalam speaking children. *Unpublished Masters dissertation Submitted to Mangalore University, Mangalore.*

Krinsky- Mc Hale, S. J., & Silverman, W. (2013). Dementia and mild cognitive impairment in adults with intellectual disability: issues & diagnosis. *Developmental disabilities research reviews*, 18 (1), 31- 42.

Krupa, M. & Perumaal (2009). Semantic Intensions in normally developing children and children with mental retardation: A comparative study, *an Unpublished Master Dissertation Submitted at Sri Ramachandhra University, Chennai.*

Kittler, P., Sharon, J., McHale, K., Darlyme, A., & Devenny (2004). Semantic and Phonological Loop Effects on Verbal Working Memory in Middle-Age Adults With Mental Retardation. *American Journal of Mental Retardation*, Vol. 109, No. 6. 467-480.

Leonard, B. L., Bolders, G.J. (1976). An examination of the semantic relations reflected in the language usage of normal and language disordered children. *Journal of speech and hearing research*.19,371-392.

Lyaton, L. T., Baker S. P. (1982). Description of semantic-syntactic relation in an autistic child. *Journal of autism & Development*. 11(4),385-399.

Mahesh, P., Merlin, E, C., & Subba Rao, T, A. (2008). Evaluating semantic intention in mentally retarded children in play context. *A research paper presented at ISHA conference, Mangalore.*

Mohan. (2011). Semantic intention in 8-13-year-old Malayalam speaking children. *Unpublished master dissertation university of Mangalore. Mangalore.*

Owens, R. E. (2008). *Language development: An Introduction*, 7<sup>th</sup> Edition, Pearson Publications, Allyn & Bacon Communication sciences & disorders.



- Pradyumn. (2006). Semantic and phonologic priming in children with learning disability. *Unpublished master dissertation, university of Mysore. Mysore.*
- Robert. D., (2008) Investigations of Syntax Semantics Interface. (Vol.105). *John Benjamins Publishing.*
- Stan, E, A., and Mosley, J, L. (1988). Semantic encoding by mildly retarded and non retarded individuals. *Journal of mental deficiency research*, 32(5), 371-82.
- Stelma, G.P., Hoover, M.B., Lewis, E.D. (2005). Rapid Word-Learning in Normal-Hearing and Hearing-Impaired Children: Effects of Age, Receptive Vocabulary, and High-Frequency Amplification. *Journal of Ear and Hearing*, 26; 619- 629.
- Stockman, J, I. (1992). Another look at semantic relational categories and language impairment, *Journal of Communication Disorders*. 25(2-3): 175-99.
- Subba Rao, T, A. (1995). A comprehensive language analysis of Kannada speaking MR children: *An Unpublished Doctoral thesis submitted to university of Mysore, Mysore.*
- Tasse, M.J., Luckasson, R & Nygren. M. (2013) American Association of Intellectual developmental disorder proposed recommendations for ICD-11 & the condition previously known as Mental Retardation. *Intellectual & developmental disabilities*, 51(2), 127- 131.
- Truman E (1979). Relational Meaning Encoded in the Two- Word Utterances of Stage 1 Down's syndrome children, *Journal of Speech, language and hearing research*, Vol.22, 166-178.
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