Special Educators' Knowledge, Attitude and Skill with regards to Early Intervention for Children with Hearing Impairment

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Abstract

Early intervention applies to children of school age or younger who are discovered to have or be at risk of developing a handicapping condition or other special need that may affect their development. Enhancing the child's development is one of the aims of early intervention. To enhance the child's development, special educators who are specialized in teaching children with hearing impairment play an important role. Karnes and Lee (1978) have noted that "only through early identification and appropriate programming can children develop their potential" (p. 1). Hence this study focuses upon special educators' knowledge, attitude and skill with regards to early intervention for children with hearing impairment. The methodology applied was cross-sectional exploratory and purposive survey with a component of tool development embedded in the research design. 29 special educators teaching children with hearing impairment in the age group of 3 – 6 years were selected from special schools in Bangalore and Mysore. Tools like knowledge test, attitude scale and skill observation schedule were developed to assess the knowledge, attitude and skills of the educators. For the purpose of analysis, the educators were grouped on the basis of experience and qualification. The findings of the present study support that, Professionally Qualified teachers performed well in skill, where as non-professionally qualified (with short term training) teachers performed well in the knowledge and attitude. Teachers having less than 10 years of teaching experiece performed well in Knowledge and skill, whereas teachers having more than 10 years of experiece performed well in the area of attitude.

INTRODUCTION

1.0 Impact of Hearing Impairment

Hearing loss is one of the most common congenital anomalies, occurring in approximately 2- 4 infants per 1000. Children with hearing loss typically experience significant delays in language development and academic achievement. Hart & Risley (1995) reports that children who are deprived of sufficient amounts and/or quality of language input in their earliest years are at risk for poor outcomes in both language and academic endeavors later in childhood. Although the impact of a severe or profound hearing loss is well recognized, children with mild or moderate hearing loss also experience deficits in speech and language development, which may hinder progress in school. The above statement could be supported by the study of Moeller, Osberger & Eccarius, Robbins & Johnson (1986) which states that, for children with moderate, sever and profound degrees of bilateral hearing loss, the impact of the hearing loss is always significant and likely affects all aspects of language including semantic content, syntactic form, pragmatic use and phonological development. The impact of hearing impairment is seen not only in children but also in adults. In adults, hearing impairment often makes it difficult to obtain, perform, and keep jobs. Children with hearing impairment and adults are often stigmatized and socially isolated.

Thus hearing impairment can impose a heavy social and economic burden on individuals, families, communities and countries. The impact of the impairment may be drastically reduced by focusing on prevention, early intervention, management and rehabilitation.

1.1 Early Intervention

Early intervention is the term used to describe services that reach a child early in his or her development, usually from birth to age three. Early skill development is crucial to laying the groundwork for lifelong education. Early intervention services will increase the child's developmental and educational gains, increasing his or her eligibility for future employment and self-sufficiency. Research carried out by Mayne, Yoshinaga-Itano, Sedey & Carey (2000) shows that children who are identified with hearing loss and start intervention by six months of age have expressive and receptive language within normal limits

Hart & Risley (1995) reports in one of their studies that the first three years in a child's life is critical for acquiring information about the world, communicating with family, and developing a cognitive and linguistic foundation from which all further development unfolds. If a child is able to develop age-appropriate spoken language skills, he or she will be more likely to be prepared to enter a preschool or kindergarten setting ready to participate fully in all activities and to engage in meaningful social interactions with teachers and peers. Berrueta-Clement, Schweinhart, Barnett, Epstein, Weikart (1984) in one of their intervention study indicated that disadvantaged and gifted preschoolers benefited from an early intervention program all the way through to age 19.These benefits included more dedication to school, more college attendees, higher reading/arithmetic/language test scores, fewer instances of delinquent behavior and a 50% reduction in the need for special education services in high school.

There is evidence that early intervention increases the developmental and educational gains for the child, improves the functioning of the family, and reaps long-term benefits for society. DesGeorges, Johnson & Stredler-Brown (2007) reports that early intervention has been shown to result in the child (a) needing fewer special education and other habilitative services later in life; (b) being retained in grade less often; and (c) in some cases being indistinguishable from non handicapped class mates' years after intervention. Early identification and intervention can prevent severe psychosocial, educational, and linguistic repercussions. Infants who are not identified before 6 months of age have delays in speech and language development. Intervention at or before 6 months of age in majority of cases allows a child with impaired hearing to develop normal speech and language, alongside his or her hearing peers. Yoshinaga-Itano et al. (1998) demonstrated that providing a diagnosis and appropriate intervention services within the first six months of life led to deaf children having significantly better language outcomes than those who were identified at a later age.

1.1.1. Early Intervention of Hearing Impairment

White and White (1987) reported that, in severely and profoundly deaf children, language scores were significantly better in those whose hearing loss was identified at an average age of 11.9 months, compared with scores in those whose loss was identified at an average age of 19.5 months. This reveals that early intervention places a vital role in facilitating speech and language acquisition, academic achievement, social and emotional development for the child with hearing impairment also. Infants identified with a hearing impairment

after having received a diagnostic audiological evaluation should be enrolled (as with their family) in an EARLY INTERVENTION program prior to six months of age. There is a great need for early intervention of hearing impairment. Similarly, In 1995, Apuzzo and Yoshinaga-Itano found that infants identified when they were younger than 2 months had significantly higher language scores than those identified when they were older than 2 months, despite similar interventions in both groups. Also, Robinshaw (1995) reported that children who were identified and who wore hearing aids by the age of 6 months acquired age-appropriate vocal communicative and linguistic skills well before children who were identified at a later age.

1.1.2. Status of Hearing Impairment in India

In a survey, 4 out of every 1000 children born in India were found to have severe to profound hearing loss. It is indeed a big challenge to provide early intervention and special school. (Status of Disability in India, 2000).

The table below shows that the population status of hearing impairment.

Table 1 ***Population status of Hearing Impairment***

Age Group	Persons	Males	Females
0-14	210804	118632	92172
15-59	573781	320236	253545
60+	473942	232897	241045
Age not stated	3195	2032	1163
Total	1261722	673797	587925

Source:

www.punarbhava.in

The table shows that there is approximately 2,10,804 children in the age group of 0-14 years. This number could be reduced drastically if the children are provided with early intervention services. As also mentioned above four out of every 1000 children are born with sever to profound hearing loss. Hence, it is indeed a big challenge to provide early intervention and educational services for successful integration into regular schooling. However for successful early intervention programme, a dedicated team of special educators is required to make the early intervention program a realistic and achievable goal in India.

1.1.3. Special Educators knowledge, attitude and skill in handling children with special needs

In India, various educational programs such as Early Intervention programs, Special school program, integrated education program, inclusive education and National Open school education are available for children with hearing impairment. It focuses the change from segregation to inclusive and late intervention to early intervention. Presently, Special educators are working as early interventionists, resource persons and itinerant teachers in regular schools, (Status of Disability in India, 2007). So it is essential for the teachers teaching children with special needs to have good knowledge, the right attitude and essential skills to handle children with special needs. Special educators with their knowledge, attitude and skill provide a continuum of services in which students with special needs receive services in varying degrees based on their individual needs. McKay,S (2002) stated that special teachers need to have more than just knowledge about practices; they need to be able to raise questions and discuss their concerns.

An attitude can be defined as a settled way of thinking or feeling, typically reflected in a person's behavior. A teacher's attitude towards the students can motivate the students to study well in school. On the same lines, Special teacher's attitudes are extremely complex and vary from teacher to teacher and school to school. Eileen (1980) emphasize that special teacher's attitude in their class needs to be flexible and be able to improvise. They also need to be able to accept and be pleased with much smaller steps in the learning patterns. The one special attitude is the willingness to work with other professionals and to incorporate their suggestions in classroom practices.

Pedagogy or teaching skill is at the heart of special education. Special educators have always recognized that the individualized learning needs of children are at the center of instruction. This includes making use of incidental teaching opportunities that allows for effective teaching in the preschool. Another skill that a successful preschool teacher needs is the ability to plan and arrange the environment and the daily schedule appropriately. This allows the child, regardless of skill level, to have satisfying learning experience. (Eileen,1980).

According to the Secretary's Commission on Achieving Necessary Skills (SCANS), a study commissioned by the Secretary of the U. S. Department of Labor, several core skills are essential for Special education teachers. These skills are divided into a Three-Part Foundation and Five Competencies. The Three-Part Foundation includes Basic skills of reading, writing, mathematics, listening and speaking. For special education teachers Basic skills are extremely important. Another Foundational attribute is Personal qualities. This includes self-management, integrity, self-esteem, sociability and responsibility. This is similar to two variables – Social skills and interaction with others. The third foundation skill is thinking skills. This includes creative thinking, decision making, problem solving, knowing how to learn and reasoning. (www.edu.prinews.net).

As Plumley Karen (2010) puts it that teachers should be encouraged to get the facts about their individual students with hearing loss, in order to work more effectively with them and support them in the classroom. Teachers know the severity and type of hearing loss that a student has will allow the teacher to make the right adjustments and accommodations in the classroom so that she can achieve academic and social success. Hence it could be concluded that to make the right adjustments and accommodations in the classroom, a special educator should have the right amount of knowledge, attitude and skill for training children with hearing impairment.

1.2 Context, Need, Importance of the Study and Operational Definition

Studies conducted by various investigators suggest that special education teachers who receive a high quality pre-service preparation program feel better prepared to handle their job requirements and the diverse student learning needs than those with less preparation on the early intervention of hearing impairment. During interaction with the teachers, it has been observed that those teachers who were trained in handling early intervened children were confident in teaching these children, however those teachers who got trained through distance mode had good amount of knowledge, but lacked the confidences in handling early intervened children. Since early intervention is the recent trend in helping children with hearing impairment to get rehabilitated into the mainstream society, it is essential that teachers dealing with these children have the right knowledge, the correct attitude and essential skills to help children with hearing impairment. But very few studies have been conducted on the

knowledge, attitude and skill of pre-school-special educators for children with hearing impairment.

In the present study, an attempt is made to assess the knowledge and attitude of special educators about the early intervention strategies for children with hearing impairment and also to assess the skills possessed by the special educators in handling young children with hearing impairment. This includes, the teaching methods employed by the special educators, including strategies in problem solving, team work, as well as specifically designed assignments ideal for the capability and requirements of the student.

According to a report by Status of Disability in India (2007), there is a shortage of human resources to man the trainings program. It is a major challenge and fresh graduates with little or no experience are received to provide training to the new entrants. The present study emphasized to know whether the lack of experience among the special educators was really affecting the knowledge, attitude and skill of the special educators. The study was conducted to find out whether there is any difference between the training of teachers through professional qualification and non professional qualification with short term training programme and the special educators' response towards early intervention of hearing impairment. Hence the present study was undertaken with the following objectives:

1.3 Objectives of the Study

- To assess the knowledge of special educators about the early intervention strategies for children with hearing impairment.

- To assess the attitude of special educators towards early intervention programmes for children with hearing impairment.
- To assess the skills possessed by the special educators in handling young children with hearing impairment.
- To compare the knowledge, attitude and skill of the special educators with experience
- To compare the knowledge, attitude and skill of the special educators with educational qualification

1.4 Operational definition

Special Educator: Special Educators are professionals who have specialized training to teach children with special needs. However, for the present study, special educators are teachers who are specially trained to teach children with hearing impairment who are early identified and intervened between the age group of 0-5 years of age.

Early Intervention: Early intervention is the term used to describe services that reach a child early in his or her development, usually from birth to age three. For the present study Early Intervention means the intervention given to those children in the age group of 0-5 years. These children have been identified and intervened early, fitted with suitable hearing aid and are availing special education services.

Children with Hearing Impairment: Children with hearing impairment will include children in the category of minimal(16-25dB HL, mild (26-40 dB HL),Moderate (41-55dB HL), Moderate to severe (56-70 dB HL), Severe (71-90 dB HL) and profound (91 dB HL or more).However, for the present study, who were identified early, and studying in special schools and early intervention centers with moderate-severe, severe and profound hearing loss as per the audiological records will be selected. A heterogeneous group of early intervened children with hearing impairment who requires special aural/oral program with emphasis on all language skills and academic areas. Program needs specialized supervision and comprehensive support services. For the present study, students without any additional disabilities will be included.

Knowledge: Knowledge means familiarity with someone or something which can include information, facts, and description through experience or education. For the present study, knowledge means information possessed by the special educators about causes, classification, characteristics, identification, legal aspects, genetics and medical procedures, etc.

Attitude: An attitude can be defined as a positive or negative evaluation of people, objects, event, activities, ideas, or just about anything in your environment. For the present study, attitude refers to the outlook of special educators (positive and negative) towards the education of children with hearing impairment.

Skills: Skills means an ability and capacity of a person acquired through deliberate, systematic and sustained effort to smoothly and adaptively carry out complex activities. For the present study, skill refers to the ability of special educators in teaching early intervened children with hearing impairment. The teacher should also possess the skill of developing the child's early stages of life.

METHODOLOGY

2. Introduction

The methodology adopted to achieve the objectives is discussed in this chapter. This chapter includes details about sample, description of the tools, procedure for collection of data and procedure for scoring.

2.1. Design of the Study

The present investigation uses a cross-sectional exploratory and purposive survey with a component of tool development embedded in the research design.

2.2. Sample

For the present study, the sample was drawn from special schools distributed in Mysore and Bangalore. Five schools from Mysore and two schools from Bangalore were selected depending on the feasibility of collecting data within the time limit. The study was restricted to the Special Educators handling children below 5 years of age i.e., teachers teaching in pre-school were selected as sample.

2.2.1. **Sampling technique**:

Both Consecutive sampling and Convenience sampling techniques were adopted in the study. Consecutive sampling is very similar to Convenience sampling except that it seeks to include all accessible subjects as part of the sample. Since in the present study, all samples from Mysore (special educators teaching in special schools in Mysore) were considered, consecutive sampling was adopted. However convenience sampling was also adopted in Bangalore, because of the easy accessibility of the samples selected (special educators teaching in special schools in Bangalore), and it was cheapest and less time consuming,

Table 2 ***Details of the samples (special educators) selected for the study***

Sl No	Name of the Special schools	No. of Special Educators	Teaching Experience	Qualification	
				Professionally Qualified	Non-Professionally Qualified (with short term training programme)
1.	S1	14	>10	Master Degree	
2.	S2	3	>10	Diploma	
3.	S3	2	<10	Diploma	
4.	S4	1	<10	Diploma	
5.	S5	1	<10	Diploma	
6.	S6	3	>10	Diploma	
7.	S7	5	>10	Diploma & Bridge course	
	Total	**29**			

The above table shows the special schools selected for the study from Mysore and Bangalore (schools from S1 to S5 were located in Mysore and S6 and S7 were located in Bangalore).The total number of special educators selected for the project was 29. The teachers were selected on the basis of their experience In teaching children with hearing impairment and professional qualification.

2.3. Construction of the Tools

Three tools were developed for the present study based on the objectives of the study. The tools developed were as follows:

- **Knowledge Test** was developed to assess the knowledge of special educators about the early intervention strategies for children with hearing impairment.
- **Attitude Scale** was developed to assess the attitude of special educators towards early intervention programmes for children with hearing impairment.
- **Skill Observation Schedule** was developed to assess the skills possessed by the special educators in handling young children with hearing impairment.

These tools were developed in 3 stages:

- Compilation of the items
- Validation of the items
- Finalization of the items

2.4. Development of the Knowledge test

Includes Compilation of the of the Knowledge test, Validation of the Knowledge test and Finalization of the Knowledge test.

2.4.1. Compilation of the Knowledge test

Knowledge test was developed to assess the knowledge of the special educators on the mechanisms of hearing, hearing loss and management of hearing loss with 30 items. The test to assess knowledge was developed based on 5 criteria namely

- Structure and function of ear
- Impact of hearing loss
- Importance of early intervention
- Hearing aid
- Causes of hearing loss

An objective type assessment was developed. The teachers were expected to read the statement and answer either true or false.

2.4.2. Validation of the Knowledge test

For the purpose of validation of the Knowledge Test, 12 experts having expertise in the field of speech and hearing, special education and psychology were approached. The details of experts selected for validation is given below. The experts were provided with topic of the project, objectives of the project and copies of the three tools (The same experts were selected for validating all the three tools).

Table 3 ***Details of the Experts selected for validating the tools***

Sl No.	Department	No. of experts
1	Special Education	2
2	Clinical Psychology	2
3	Speech Science	2
4	Clinical Services	1
5	Audiology	3
6	Speech Pathology	2

2.4.3. Finalization of the Knowledge test

Based on the suggestions of the experts, their suggestions were incorporated and the final Knowledge test made, mainly focusing on the parameters such as:

- Early intervention
- Impact of hearing loss
- Assessment of hearing loss
- Hearing aid

The initial test had 30 items and after revalidation by experts, the final tool had 15 items on Knowledge in the form of TRUE or FALSE. (Appendix-I)

2.5. Development of the Attitude Scale

Development of the attitude scale includes:

- Compilation of the Attitude Scale
- Validation of the Attitude Scale
- Finalization of the Attitude Scale

2.5.1. Compilation of the Attitude Scale: The attitude scale was developed to assess the attitude of special educators teaching children with hearing impairment in the age group of 0-5 years.The criteria selected were as follows:

- Handling children with hearing impairment
- Class room management
- Method of teaching
- Teaching learning process

2.5.2. Validation of the Attitude Scale

For the purpose of validation, the same experts who validated the knowledge test were approached. (Details of the experts is given in table 3)

2.5.3. Finalization of the Attitude Scale

Based on the suggestions of the experts, slight changes were made. Their opinion was incorporated after which few items were retained and few questions focusing mainly on early intervention was included. It was revalidated and finalized with 10 items. The attitude scale was developed into a five point rating scale The criteria selected for the five point rating scale were as follows: Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree were considered. (Appendix-II)

2.6. Development of the Skill Observation Schedule

A teacher should possess excellent teaching and classroom skill while teaching children and especially while handling children with hearing impairment. Keeping this in view, a skill observation schedule was developed to assess the skills possessed by special educators in handling early intervened children with hearing impairment.

The development of the skill observation schedule included:

- Compilation of the Skill Observation Schedule
- Validation of the Skill Observation Schedule
- Finalization of the Skill Observation Schedule

2.6.1. Compilation of the Skill Observation Schedule

To assess the Skill of special educator in handling children with hearing impairment, 26 items with multiple choices were developed. However, since it was the skill which had to be assessed, it was decided to observe the class based on certain parameters, so 11 parameters and 36 sub-parameters were collected for Skill Observation. Details of the parameters selected for developing the skill observation is given below:

- Teacher Preparation
- Use of general knowledge
- Use of TLMs/maps/chats
- Level of activity and creativity
- Utility of black board
- Honoring the learner's diversity
- Local relevance
- Notes correction
- Participation in Q-A series
- Attitude of mentoring and

- General.

2.6.2. Validation of the Skill Observation Schedule

The developed skill observation schedule was validated by the same experts, who validated the knowledge test and the attitude scale. Details of the experts is given in table 3

2.6.3. Finalization of the Skill Observation Schedule

The opinion and the suggestions given by the experts were taken into consideration and the final skill observation schedule was developed which consisted of 11 parameters and 36 sub-parameters. The same is appended at the end of the report (Appendix-III).

2.7. Procedure for Collection of data

For the purpose of collecting data, prior permission was taken from the principal or head of the school, by highlighting the objectives and purpose of the project. Later special educators were approached individually and the developed Knowledge test and Attitude scale were administered on them. For the Skill Observation Schedule, the selected special educators were informed earlier of the schedule for observation. And it was done with prior information to the respective teachers.

For assessing the knowledge, each item in the developed Knowledge test and Attitude scale were explained to the special educator and instructed to tick TRUE or FALSE in the Knowledge test and tick any one from the developed Attitude five point rating scale i.e. Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree.

For Skill Observation Schedule, a 50 minutes observation session was allotted each special educator This was done to check whether the presence or absence of the 11 parameters and 36 sub-parameters were noted by the researcher.

2.7.1. Procedure for scoring

The Knowledge test was a TRUE or FALSE type of test; consisted of both positive and negative question. '1' mark was given for each correct choice and '0' mark was given for each wrong choice. Scoring for Positive and negative questions is given below.

Table 4 ***Scoring for Positive Knowledge Question***

Sl No.	Objective choice	Scoring
1	True	1
2	False	0

Table 5 ***Scoring for Negative Knowledge Question***

Sl No.	Objective choice	Scoring
1	True	0
2	False	1

Totally there are 15 items and it carries 1 mark for each item. So the Knowledge Test is for is 15 marks.

Attitude scale is a five point rating scale which consists of both positive and negative questions.

Table 6 ***Scoring for Positive Attitude Question***

Sl No.	Rating Scale	Scoring
1	Strongly Agree	4
2	Agree	3
3	Undecided	2
4	Disagree	1
5	Strongly Disagree	0

Table 7 ***Scoring for Negative Attitude Question***

Sl No.	Rating Scale	Scoring
1	Strongly Agree	0
2	Agree	1
3	Undecided	2
4	Disagree	3
5	Strongly Disagree	4

There were 10 items in the Attitude scale, and the total score for the attitude scale was 40.

Skill Observation Schedule: It consisted of 11 parameters and 36 sub-parameters, wherein each carries '1' mark. If the selected teacher possessed and showed the skill while teaching (which the researcher observed), 1 mark was given to the presence of the skill and 0 was given to the absence of the skill. A total score of 36 was allotted for the skill observation schedule.

2.8. Analysis of the data

Quantitative analysis was done which aimed at assessing the knowledge, attitude and skill of special educators with regards to early intervention of children with hearing impairment. For this purpose, the teachers were grouped on the basis of their qualification (teachers with professional qualification and experience. It was also intended to compare the performance of teachers on the basis of qualification and experience. Data was also further analyzed to compare the knowledge, attitude and skill among each other using SPSS 18

Result and Discussion

3.0. Introduction

The results and discussions are interpreted in this chapter. This chapter includes details about analysis of the data in the study. The main purpose of the study was to asses the knowledge, attitude and skill of special educators in teaching children with special needs. For the purpose of analysis the teachers have been grouped on the basis of their qualification and experience.

3.1. Result based on the Qualification of teachers

Based on the Qualification of teachers- Knowledge, Attitude and Skill tasks were compared between Professionally Qualified and Non-professionally qualified (with short term training programme) special educators. The results are as follows.

3.1.1. Results based on qualification of teachers

Descriptive Statistics

The following tables and figure gives the Mean (percentage) and standard deviation for knowledge, attitude and skill with respect to Qualification.

Table 8 ***Mean (percentage) and standard deviation for Knowledge, attitude and skill with respect to Qualification***

8 A. Knowledge

Qualification	N	Mean	Std. Deviation
Professionally qualified	25	79.99	8.81
Short term training Non-qualified	4	84.99	3.33

8 B. Attitude

Qualification	N	Mean	Std. Deviation
Professionally qualified	25	68.10	8.63
Short term training Non-qualified	4	71.87	2.39

8 C. Skill

Qualification	N	Mean	Std. Deviation
Professionally qualified	25	83.99	6.42
Short term training Non-qualified	4	75.69	3.49

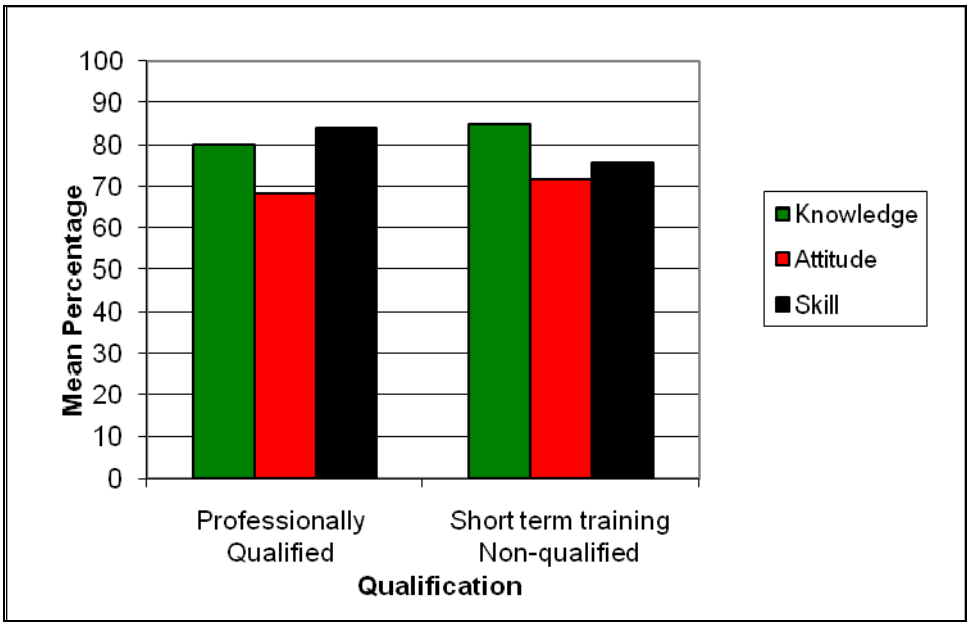
Mann-Whitney U test is used to compare professionally qualified and non-professionally qualified (with short term training) teachers. Accordingly, the results show that there is no significant difference in knowledge ($|Z|=1.001, p>0.05$) and attitude ($|Z|=0.639, p>0.05$). Whereas significant difference could be seen in the skill task ($|Z|=2.361, p<0.05$).

Discussion: Even though at 0.05 level of significance, there is no significant difference in knowledge and attitude, Table 8 A and 8 B shows that Non-professionally qualified teachers have better performance in knowledge and attitude. Non-professionally qualified teachers (with short term training programme) are highly experienced as compared to Professionally Qualified teachers, who have performed well in the parameter of knowledge and attitude.

As it can be seen in table 8 C, Professionally Qualified teachers performed well in skill which may be due to their qualification and they are fresher with updated recent knowledge in the field. Whereas the non- professionally qualified teachers (with short term training programmes), may not be aware of the new instructional strategies used to

teach the children with hearing impairment in the class. As Madeline Hunter (1982), rightly states that there is very definite skills required for educators serving students with special needs, and it is a grave mistake to ignore this. From the teacher's point of view, these definite skills might not have been covered in the past and hence no difference in the result. It could also be discussed here that, more practical exposure is given to teachers who join for professional teaching course, which in turn enhances their practical knowledge (skills) in handling children with special needs.

Figure 1 ***Mean percentage based on Qualification***



Discussion: The above diagram indicate the mean percentage of scores of Professionally Qualified and Non-professionally qualified (with short term training) teachers. Professionally Qualified teachers performed well in skill, where as non-professionally qualified teachers performed well in the knowledge and attitude.

3.2. Result based on Experience of teachers

Descriptive Statistics

Based on the teaching experience of the teachers; Knowledge, Attitude and Skill tasks were compared between teachers having less than 10 years of teaching experience and more than 10 years of experience. The results are as follows.

The following table gives the Mean (percentage) and standard deviation percentage based on Experience.

Table 9. ***Mean (percentage) and standard deviation for Knowledge, attitude and skill with respect to Experience in teaching children with hearing impairment***

9 A. Knowledge

Experience	N	Mean	Std. Deviation
Less than 10 years of experience	20	82.32	7.88
More than 10 years of experience	9	77.03	8.88

9 B. Attitude

Experience	N	Mean	Std. Deviation
Less than 10 years of experience	20	68.37	9.18
More than 10 years of experience	9	69.16	5.59

9 C.Skill

Experience	N	Mean	Std. Deviation
Less than 10 years of experience	20	83.32	5.90
More than 10 years of experience	9	81.78	8.57

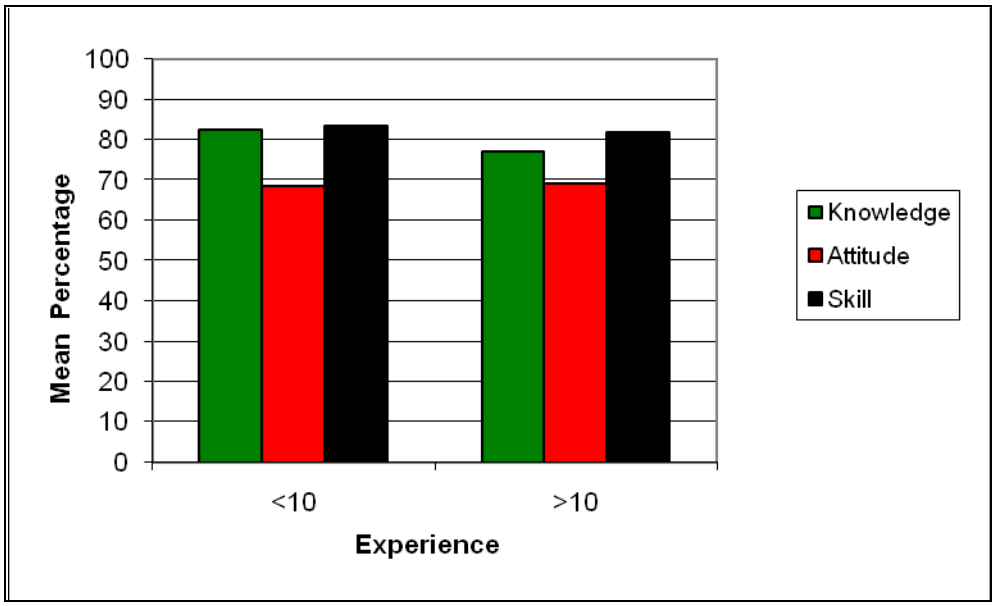
Discussion:

Mann-Whitney U Test is used to compare experience of teachers having less than 10 years of teaching experience and more than 10 years of teaching experience. According to this test, there is no significant difference between teacher having less than 10 years of experience and more than 10 years of experience in Knowledge (IZI=1.567,p>0.05), Attitude (IZI=0.286,p>0.05), and Skill (IZI=0.809,p>0.05).This shows that there is no significant difference with respect to experience in these three task at 0.05 level of significance.

Teachers having less than 10 years of teaching experiece performed well in Knowledge and skill, where as teachers having more than 10 years of experiece performed well in the attitude. With the experience in the area of hearing impairment, they might have developed right attitudes towards the children with hearing impairment. Kim.K.R, & Dymond K.S (2010), opines that years of teaching experience, types of students with disabilities served, size of school, affect the teachers' performance. Hunter (1982), quotes that teachers are utilizing a combination of new and old techniques to implement new teaching strategies and hence the difference.

The following figure gives the Mean percentage based on Experience

Figure 2. ***Mean percentage based on Experience***



Discussion: The above diagram indicates the mean percentage of teachers having less than 10 years of teaching experience and teachers having more than 10 years of teaching experiece.this figure shows that teachers having less than 10 years of teaching experiece performed well in knowledge and skill, where as teachers having more than10 years of experiece performed well in the attitude.

3.3. Comparison of Knowledge, attitude and skill for the combined group

3.3.1. For the combined group Friedman test was administered to compare knowledge, attitude and skill. According to this, there is a significant difference between the three tasks (Knowledge, attitude and skill) [χ^2 (2)=30.386,p<0.001].Pair-wise comparison of these three tasks are done with the help of Wilcoxon Signed Rank Test. According to this test, there is no significant difference between skill and knowledge where as a significant difference lies between attitude and knowledge and also skill and attitude at 0.05 level of significant difference.

3.3.2. Comparison of Knowledge, Attitude and Skill for qualified group

For qualified group Friedman Test is used to compare 3 different tasks (knowledge, attitude and skill). [$\chi 2$ (2) = 25.879, $p<0.001$]. Hence there is significant difference between 3 tasks. To test the pair-vice difference Wilcoxon Signed Ranks Test was done, according to this test there is a significant difference between Attitude and Knowledge and also Skill and Attitude at 0.05 level of significance, again there is no significant difference between skill & knowledge at 0.05 level of significance.

3.3.3. Comparison of Knowledge, Attitude and Skill for non-qualified group

For non-qualified group Friedman Test is used to compare knowledge, attitude and skill. [$\chi 2$ (2) =5.733, $P>0.05$. This results of the test shows that there is no significant difference between the 3 tasks.

Major findings and their implications:

After analyzing the results of the test, the major findings are as follows:

1. Professionally Qualified teachers performed well in skill, where as Non-professionally qualified (with short term training) teachers performed well in the knowledge and attitude.
2. There is no significant difference in Knowledge and also Attitude at 0.05 level of significance and there is significant difference in Skill at 0.05 level of significance.
3. Comparison of teachers having less than 10 years of teaching experience and more than ten years of teaching experience shows that:
    a. Teachers having less than 10 years of teaching experiece performed well in Knowledge and skill,
    b. Teachers having more than 10 years of experiece performed well in the attitude

4. Comparison of knowledge, attitude and skill shows that there is no significant difference between skill and knowledge where as a significant difference lies between attitude and knowledge and also skill and attitude at 0.05level of significant difference.
5. For qualified group there is a significance difference between Attitude and Knowledge and also Skill and Attitude at 0.05 level of significance, again there is no significant difference between skill & knowledge at 0.05 level of significance.
6. For the non-qualified group, there is no significant difference between

The above study brings into light the need for a good training programme for teachers who are interested in working with children with hearing impairment in the age group of 0-5 years, Emphasis should not only be laid in imparting knowledge or skill, but the right kind of attitude should also be developed among those professionals who wish to continue working in this field. Experience does shows an impact on the attitude of the teachers, however, the right kind of attitude among the professionals will help them go a long way in helping children with special needs get integrated into the mainstream society. Hence, if training programmes (full time and short term training programmes) are planned keeping in mind the requirement of the present day and also children with special needs, success could easily be achieved in the field of special education. The syllabus for the course should be planned in such a way that equal importance is laid in developing knowledge and skill and also right kind of attitude could be developed among the trainees, if they are given exposure to children with hearing impairment and allowed to mingle with them. Good training institutes with quality output is the need of the hour, and national institutes and rehabilitation centers should work in collaboration to set up good institutes to impart training to personnel interested in working with children with hearing impairment.

Conclusion

Special educators play an important role in educating children with hearing impairment. Many children with special needs have been included into mainstream school, because of the r hard work of the special educators who have invested their time, energy and resources in teaching these children with hearing impairment. However, we need to go a long way as far as early intervention is concerned. With 0.3 million population children being identified as having hearing impairment every year, the requirement of early intervention centre and also trained professionals is increasing say by day. Approximately seven centers in India provides teacher training courses in early intervention for children with hearing impairment. As mentioned above, the number of children in the age group of 0-4 years is about 0.3 million and the available training institute is very inappropriate.

From the above study it could be concluded that, there is a need for good and more training centers and also courses to help create better professionals with the right kind of knowledge, attitude and skill. It could also be seen from the above study that training programmes, both full time and short term training programmes should be planned in such a way that the trainees get good knowledge, develop essential skills and also the right attitude towards these kinds of children is developed.

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(Appendix-I)

Knowledge Test

(Based on Parameters- Assessment, Early Intervention, Impact and Hearing Aid)

Read the statement and tick (√) true or false

Sl No.	Statement	True	False
1.	Early intervention of hearing loss is providing and fitting of hearing aids only.		
2.	Age of identification and intervention are important factors in language development.		
3.	Children who have participated in early education/intervention programs are likely to do better academically.		
4.	Even with appropriate early intervention, children with hearing loss can not be mainstreamed in regular education classroom.		
5.	Early Intervention services from qualified, experienced professionals can direct parents' to help their children learn scientifically.		
6.	Children born with a hearing loss who are identified and started appropriate intervention before 6 months of age demonstrated significantly better speech and reading comprehension than those who were identified and intervened later.		

7.	Early intervention produces immediate and short run positive effects on cognitive and motor development.		
8.	The most common cause of Sensorineural hearing loss in infants and toddlers is Otitismedia (middle ear infection) only.		
9.	Early Intervention strategies require pre-planned activities only.		
10.	The main component of early intervention is to provide the child's brain, auditory information through proper selection and maintenance of technology for the child.		
11.	The rejection of a hearing aid by a hearing impaired child may be the result of an adverse reaction to amplified sound, but not the result from a poorly fitted earmold.		
12.	Genetic testing helps in knowing the cause of a baby's hearing loss which can lead to better treatment and management decisions.		
13.	Even temporary hearing loss during the first year of life has associated attention and language learning problems.		
14.	To test younger children (often five years or younger) may require using certain kinds of play, such as stacking blocks or dropping a ball in a can each time they hear a pure tone.		
15.	For Early Intervention to be successful, primary consideration must		

	be give to the hearing aid and parent involvement and not to the onset, type and extent of the hearing loss in young children.		

(Appendix-II)

ATTITUDE SCALE

Read the statement and tick (√) on the five point rating scale which best suits your opinion.

Sl No	Statement	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1.	The main aim of early intervention is to prevent secondary conditions growing out of the disability					
2.	FM technology in the class helps children with hearing impairment. With this it is convenient for the child to keep the conversation going while the class is in progress.					
3.	Hearing aid can be fitted to children only after they cross 6 months as they do not learn much through listening till then.					
4.	Vasuda, a child with hearing impairment prefers to sit close to me in the classroom while I teach. So I have given her a place close to me. This environmental modification benefits the child.					
5.	Mothers should be kept away during listening training as children do not cooperate in their presence					
6.	Early intervention programme should focus on vocational skills also.					
7.	Geetha a child with hearing impairment uses incorrect language structure during the session. It is better to correct her at the end of the session.					
8.	In the session, there are students with hearing impairment with different abilities and interests, so I prefer those activities that are interesting to me.					

9.	A child's hearing aid is making squealing sound. The teacher has to switch off the hearing aid and continue teaching and attend to it at the end of the class.					
10.	Radha, a special educator provides guidance to the mother of a child with hearing impairment. Then she instructs the mother to start with the session.					

(Appendix-III)

SKILL OBSERVATION SCHEDULE

Sl No.	Parameters	Sub - Parameters	Observation
1.	Teacher Preparation	• Lesson plan • Selection of Material • Example	
2.	Use of general knowledge	• Out of prescribed book • Relevant use of concepts	
3.	Use of TLMs/Maps/Charts	• Clarity • Relevance • Used appropriately • Reachable	
4.	Level of activity and creativity	• Involvement of children • Innovative	
5.	Utility of Black board	• Without mistakes • Clear writing • Colour combination • Relevance	
6.	Honoring the learner's Diversity	• Did the teacher attend to all children who had difficulty? • Method used to help them learn easily / comfortable	
7.	Local Relevance	• Surrounding examples, taking out for activity. • Relating the concept to the utility around the locality.	
8.	Taking interest in Notes correction	See notes of the students- • Corrected • Suggestion/direction • Reward	
9.	Participation in Q-A series	• Does the question reach all the children • All got opportunity to	

		answer • How the questions were distributed?	
10.	Attitude of Mentoring	• Encouragement Teacher as roe model- • Organization • Neatness • Behavior • Speech • Body language	
11.	General	Over all impression 1- Poor 2- Fair 3- Good 4- Very Good 5- Excellent	