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Validation of activity manual in Hindi for parents of children with hearing impairment

Rajeev Ranjan and Arun Banik

Abstract

The importance of the home-based training approach comes from the fact that most parents would react with worry when they realize that their child is having learning difficulties and is not progressing as expected. So, it was thought that a manual of activities should be created and made available to all parents in need. Additionally, it is believed that the goals and exercises in the activity manual will work in a variety of socio-cultural and linguistic contexts.

Aim of the study: The purpose of the study is to validate a developed language stimulation home training activity manual in Hindi for parents of children with hearing impairment who fall into the 2 to 6-year-old age range.

Methods: 21 children in the age range of 2 to 6 years with hearing impairment from Composite Regional center for PwDs, Lucknow, India were included. Each section (i.e. Attention, Auditory Training, Verbal Comprehension, Oral expression, and Articulation) underdeveloped manual by Ranjan, R., & Banik, A. 2013 was taken as a validation process and each section of the manual was administered pre and post-by using the available test/scales.

The responses of the participants were scored and compared based on the Pre and Post test results under each section to see the changes in all the section of the manual. Statistical Analysis was done to establish the validity of the developed manual.

Results: Statistical Analysis was done to establish the validity of the developed manual. Significant differences were observed in Attention, Auditory skill, Verbal comprehension, and Oral expression as the P value is <0.001. For articulation, it was not of much significance as the P value is .322, however it was observed that the post scores were good compared to pre scores.

Conclusion: The results indicate the current developed manual is helpful to develop their Pre-linguistic skills (Attention), Auditory Training (Auditory Skills), Verbal comprehension (Receptive Language), Oral expression (Expressive Language and Articulation) in their different day-to-day routine at home, and in schools. The developed manuals also will complement speech therapists, special educators, and parents to refer to the activities and plan their child's development of communication.

Keywords: Attention, auditory training, comprehension, expression, articulation, language, hearing impairment, manual

Introduction

Infantile deafness is a severe worry because it hinders the acquisition of language, which sets humans apart from other living creatures. The consequences are likely to be harsher the longer a child's deafness is left undiagnosed. Because language develops so quickly in the first few months of life, language remediation, as specialists refer to the process of teaching hearing-impaired youngsters to communicate, must start as soon as feasible.

The language-specific neural structures exist in the brain of the new born human with "pre-existent knowledge," ready to be activated by aural exposure to the language. Being a time-locked function associated with an infant's early development periods makes the auditory-linked acquisition of language even more specific to humans. The language facility will be less effective the longer auditory language activation is delayed. The explanation is that there are crucial times for the development of biological processes, and language is one of those processes in humans (Chomsky, 1966; Lenneberg, 1967) ^[11, 12].

Deafness and hearing loss are severe disabilities that can have a significant negative social and economic impact on a person, their family, their community, and their nation. Children who have hearing loss frequently endure delayed speech, language, and cognitive skill development. This can lead to slow learning and scholastic challenges. Deafness and hearing loss in adults can make it challenging to find, perform, and keep a job. Due to hearing loss, both kids and adults may experience social stigmas and isolation.

On the growth of the infant and the psychological health of their families, hearing impairment has a devastating, harmful, and invariably negative effect. Speech and language abilities in neonates who have a hearing loss of various kinds and degrees, whether monaural or binaural or auditory deprivation owing to recurrent otitis media, are significantly and permanently impacted. Reduced auditory input also has an impact on speech perception and the development of the central auditory nervous system, which in turn hinders the development of the social, emotional, behavioural, and cognitive spheres, academic success, career options, employment opportunities, and financial independence. If not addressed on time, these issues could haunt these people for the rest of their lives (cited in the work done by Shamim Ansari, 2004) ^[10].

Because they cannot afford the preventative and routine care required to prevent hearing loss, as well as the hearing aids to manage hearing loss, the burden of hearing impairment and deafness on the poor is more severe. Additionally, hearing loss can make it more difficult to escape poverty by hindering success in the classroom and workplace and isolating people from their peers (WHO, 1998) ^[9].

Breakdown of normal family communication: Parents have been deprived of the satisfaction of hearing their children talk regularly which is easily understood by them. The parents of a kid with significant hearing loss have challenges since their child does not respond when they call, does not comply with their spoken directions, cannot be encouraged or corrected verbally, and cannot play the same games as the rest of the family. Additionally, because the parents of the deaf child must devote a lot of time to meeting his or her requirements, the other children in the household are noticeably neglected (Cited in Northern & Downs, Hearing in children, 4th Ed, hearing and hearing loss in children, pp-30).

Problems in School: In every situation involving the school system, the deaf child is excluded from classmates. In normal-hearing classes, he or she sits in the back and watches the other kids play games that require vocal commands. He or she needs extra care and assistance in the classroom, which makes them different from their peers. Studies have demonstrated that even if a deaf child may learn well in a mainstream setting, psychological emotions of inadequacy and a negative self-image leave a lasting mark on them (Davis *et al.*, 1986) ^[14]. He or she attends a special school for the deaf where there are other deaf students, but they can only properly communicate with one another if signing is used.

The development of language in deaf children is always compromised to some extent. The average language proficiency of young deaf adults has been shown to frequently be on par with that of the third or fourth grade. This truth explains why the deaf has low earning potential. However, it also robs them of one of life's greatest pleasures: the ability to appreciate humor that derives from verbal jousting or knowledge of some of our common expressions. For instance, without further clarification, a deaf child can only interpret phrases like "put your best foot forward" literally. The social interactions of the deaf with their peers who can hear normally are severely hampered by speech problems. "Funny speech" is the number one trait that makes a youngster an outcast, and kids are quite mean to kids who deviate from the norm in any way. Children with severe to profound hearing loss rarely have speech that

even comes close to being normal, so they must always be considered "different" (Hearing and hearing loss in children are discussed on page 30 of Northern & Downs' Hearing in Children, Fourth Edition).

Therefore, early intervention is required to prevent all of the issues that children with hearing impairment encounter. The range in the severity of social-communication impairment brought on by hearing loss necessitates the issue of language intervention for children with hearing loss to be broad. In addition, it stands to reason that interventions targeted at supporting the start of a communication system will be very different from those intended to improve a single component of language in children with hearing impairment. However, the overarching objective of language intervention for all hearing-impaired children is to raise their quality of life by enhancing their language and communication.

Language and communication Intervention has many issues which include

1. Early Intervention.
2. Influence of inter-actionist perspective.
3. Influence of clinician (speech-language therapist) perspective.
4. Influence of home training (parent-based) perspective.

The importance of the home-based training approach comes from the fact that most parents would react with worry when they realize that their child is having learning difficulties and is not progressing as expected. People frequently assume (What have I done wrong?) or feel guilty (What went wrong? Who is at fault?). These could be protection mechanisms in the way that mothers and fathers react, and they could lead to more conflict (Burgess, 1997) ^[5].

Parents are aware that this child will differ from other children in various respects, although. Therefore, parents won't always know what to do when language and speech are not developing as they are in children with hearing impairment. They are likely to be completely ignorant of how their speech and language habits may benefit or harm their child's development. They could feel incompetent and worthless.

The child's family is a crucial asset in the assessment and care of hearing-impaired kids. In the end, making an effort to comprehend and involve families in the decision-making process is satisfying and advantageous for everyone concerned. The likelihood of more effective home training will be increased by parental advice, written training manuals, instructional videos, and other support materials.

There isn't a home activity manual for parents of children with hearing impairment in India. However, numerous learning manuals for children with hearing impairment have been developed in a variety of languages, primarily Kannada, Malayalam, and English. These manuals mostly concentrate on listening and auditory-based activities.

The following are the learning manuals

1. Auditory learning manual for English-speaking children with hearing impairment (Anitha, 2001) ^[6].
2. Auditory learning manual for Kannada-speaking children with hearing impairment (Vijayalakshmi, 2004) ^[8].
3. Auditory learning manual for Malayalam speaking children with hearing impairment (Asha, M., 2008) ^[7].

4. Auditory learning manual for hearing-impaired infants and toddlers (Devi, N., 2005) [4].

So, it was thought that a manual of activities should be created and made available to all parents in need. Additionally, it is believed that the goals and exercises in the activity manual will work in a variety of sociocultural and linguistic contexts. The current manual will comprise a limited-area exercise with five sections, including

Section-I: Pre-linguistic skills (Attention),

Section-II: Auditory Training

Section-III: Verbal comprehension

Section IV: Oral expression.

Section-V: Articulation

The activities will be focusing on a general Indian cultural setup.

Aims and Objectives of the present study

Aim of the study

The purpose of the study is to validate a developed language stimulation home training activity manual in Hindi for parents of children with hearing impairment who fall into the 2 to 6-year-old age range.

Methods

21 children in the age range of 2 to 6 years with hearing impairment from Composite Regional center for PwDs, Lucknow, India were included. The participants satisfied the following criteria; 1. Children should have severe to profound hearing loss, 2. Should use appropriate amplification devices, 3. Should use the Hindi language at home.

Each section (i.e. Attention, Auditory Training, Verbal Comprehension, Oral expression, and Articulation) under developed manual (Ranjan, R., & Banik, A. 2013) [1] was taken as a validation process and each section of the manual was administered pre and post-by using the following test/scales:

- Reynell Attention scale for attention for Attention
- Functional Auditory Performance Indicators (FAPI) for Auditory Training,
- Receptive-Expressive Emergent Language Scale (REELS) for Verbal Comprehension & Oral Expression, and
- Photo Articulation Test (PAT) in Hindi for Articulation.

After pre-assessment, a copy of the developed manual was given to all the parents to work on and implication for the written activities under each section at home for 30 days. And the same activity exercises were followed during the therapy session of the child at their therapy session by the ASLP.

After 30 days of training by the ASLP and Parents, a post-test was done for all the sections of the developed manual as mentioned above.

The responses of the participants were scored and compared based on the Pre and Post test results under each section to see the changes in all the areas, such as Attention, Auditory Training, Verbal Comprehension, Oral expression, and Articulation. Statistical Analysis was done to establish the validity of the developed manual.

Results and Discussion

Table 1: Shows the comparison scores of pre and post-test Attention and Auditory Skills

S. No	C N	Age/Sex	Attention*		Auditory Skills#									
					Pre score					Post score				
			Pre score	Post score	SA	SM	AF	LSC	AD	SA	SM	AF	LSC	AD
1.	SP	3.6Yrs/F	2	4	0.05	0	0.04	0	0	0.29	0.11	0.25	0.06	0.03
2.	AK	6Yrs/M	3	4	0.09	0.01	0.04	0	0	0.45	0.07	0.25	0.06	0.03
3.	AA	5Yrs/M	3	5	0.34	0.27	0.33	0.12	0.02	0.66	0.50	0.54	0.22	0.14
4.	GP	5Yrs/M	3	4	0.09	0.01	0.04	0	0	0.45	0.07	0.25	0.05	0.03
5.	DS	5Yrs/M	2	4	0.79	0.91	0.75	0.83	0.64	1	1.2	0.95	0.95	0.85
6.	OJ	4 Yrs/M	2	3	0.34	0.27	0.33	0.12	0.02	0.66	0.56	0.54	0.22	0.14
7.	VD	4Yrs/M	2	4	0.09	0.01	0.75	0.83	0.64	0.45	0.07	0.95	0.95	0.83
8.	SJ	4 Yrs/ F	2	5	0.05	0	0.04	0	0	0.29	0.11	0.25	0.06	0.03
9.	KR	3.6 Yrs/F	1	3	0.79	0.91	0.75	0.83	0.64	1.01	1.12	0.95	0.93	0.86
10.	Kh	5 Yrs/F	1	2	0.05	0	0.05	0	0.01	0.29	0.12	0.26	0.06	0.05
11.	An	4Yrs/M	2	4	0.80	0.90	0.75	0.81	0.64	1	0.98	0.95	0.94	0.85
12.	De	3 Yrs/M	2	4	0.05	0	0.05	0	0	0.30	0.11	0.26	0.07	0.04
13.	RS	6Yrs/M	1	3	0.34	0.27	0.37	0.11	0.02	0.65	0.55	0.54	0.21	0.14
14.	AM	4 Yrs/M	2	4	0.34	0.27	0.33	0.12	0.02	0.66	0.56	0.54	0.22	0.15
15.	Hi	2.6Yrs/M	2	5	0.05	0	0.05	0	0	0.29	0.11	0.25	0.05	0.04
16.	AT	4 Yrs/M	2	3	0.78	0.9	0.75	0.84	0.65	0.98	1.2	0.96	0.96	0.86
17.	Ka	4 Yrs/M	1	3	0.05	0.01	0.03	0	0	0.29	0.11	0.25	0.06	0.03
18.	AP	6Yrs/M	2	3	0.79	0.91	0.75	0.83	0.64	1	1.1	0.95	0.95	0.85
19.	Ha	3 Yrs/M	1	3	0.34	0.27	0.33	0.12	0.02	0.66	0.56	0.54	0.22	0.14
20.	Va	4Yrs/M	2	4	0.34	0.27	0.33	0.12	0.02	0.66	0.56	0.54	0.22	0.14
21.	Bh	2 Yrs/M	1	3	0.05	0	0.04	0	0	0.29	0.11	0.25	0.06	0.03

*Joint attention levels:

Level 1- Can play fleeting attention but any new event will distract

Level 2- Will attend to own choice of activity but will not tolerate intervention particularly verbal. Attention is single-channeled.

Level 3- Still single channeled. The child will attend to the adult's choice of activity but is still difficult to control.

Level 4- Single channeled, but more easily controlled

Level 5- Integrated attention for a short spell, attention span still short

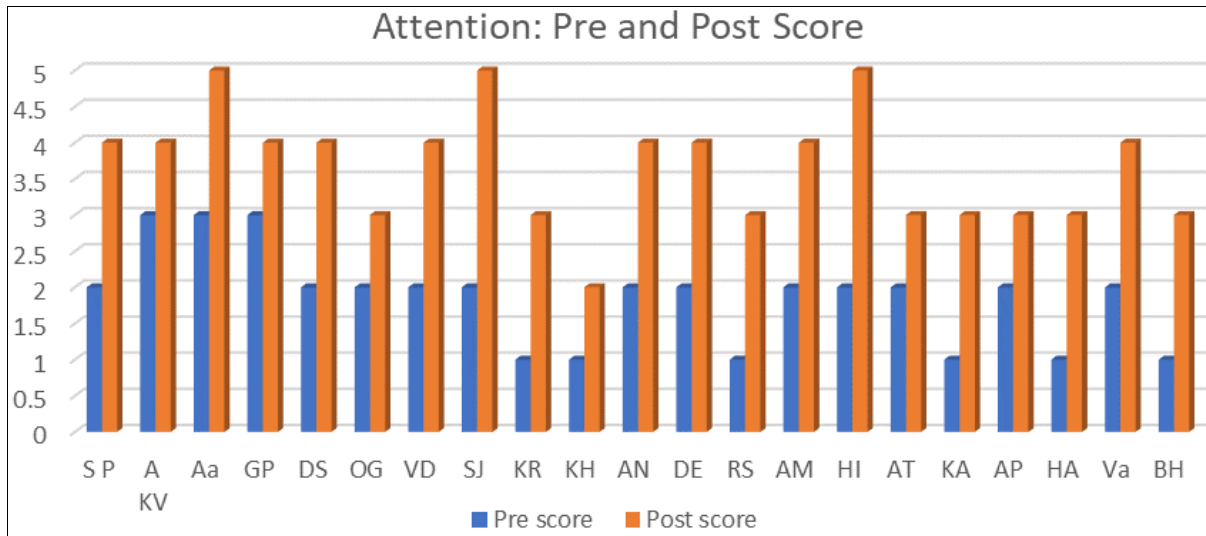
Level 6- Integrated attention is well controlled and sustained.

Auditory Skills: SA-Awareness of Sounds, SM-Meaning of Sounds, AF -Auditory Feedback and Integration, LSC -Localizing Sound Source, and AD -Auditory Discrimination

Attention

From table 1 it is seen that on the pre-test, 6 children had a joint attention level of 1, 12 children had a joint attention level of 2, and 3 children had a joint attention level of 3. After 30 sessions of training with the written activities under section 1, Attention under the manual post-test was done and it was noted that 3 children had a joint attention level of

5, 9 children had a joint attention level of 4, 8 children had joint attention level of 3 and only one child had joint attention level of 1. This indicates the written activities under Attention are suitable for the children to develop their attention skills. The same may be seen in Graph 1.



Graph 1: Shows the result of Pre and Post Score Attention:

Paired Samples Test was done to see a significant difference for Pre and post-test under section I, Attention:

Paired Samples Test					
Time	Paired Differences		t	P	
	Mean	Std. Deviation			
Attention-Reynal- Pre -1 - Post	-1.810	.602	-13.784	<0.001***	

The test result shows that there is a very high significant difference which was observed for Pre and post-test under Attention, as the P value is <0.001.

Auditory Training

The Functional Auditory Performance Indicators (FAPI) assesses the functional auditory skills of children with hearing loss. It can be used by parents, therapists, early interventionists, and teachers. The profile lists auditory skills in an integrated hierarchical order. There are different categories.

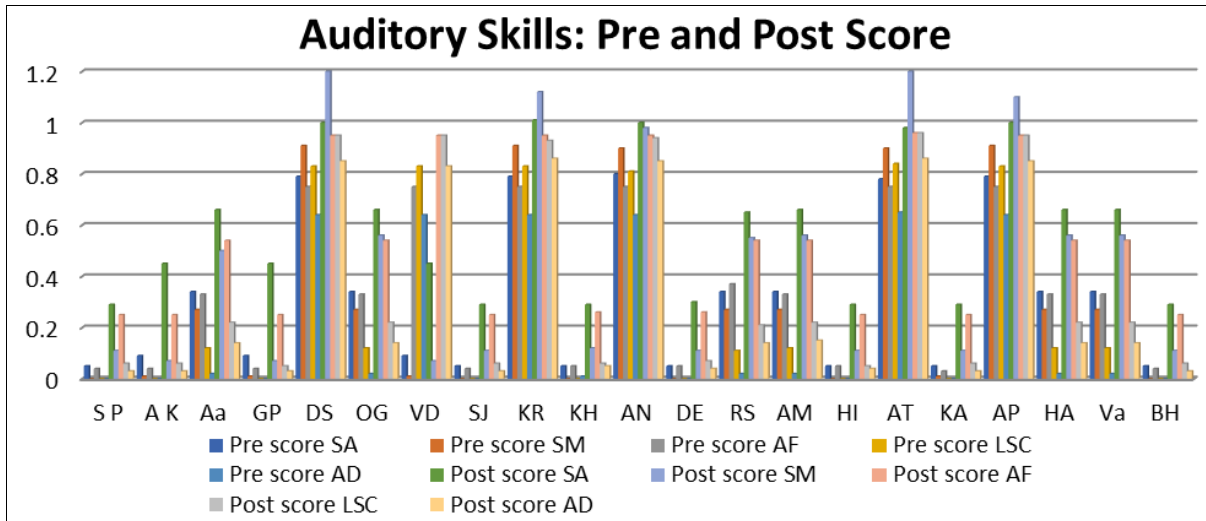
- Awareness and Meaning of Sounds:** The child is aware that an auditory stimulus is present. The child may demonstrate awareness of loud environmental sounds, noisemakers, music, and/or speech. The child further demonstrates that sound is meaningful by associating a variety of auditory stimuli with their sound source. The stimuli include loud environmental sounds or noisemakers, music, vocalizations (non-true words), and speech stimuli.
- Auditory Feedback and Integration:** The child changes, notices, and monitors his/her vocal productions. A child may demonstrate this skill by responding to sound when amplification is turned on, by vocalizing to monitor when amplification is working, and/or by noticing his/her vocalizations. Furthermore, the child uses auditory information to

produce an oral spoken utterance that approximates or matches a spoken stimulus.

- Localizing Sound Source:** The child searches for and/or finds the auditory stimulus. Searching is a prerequisite skill for localizing. Children with hearing in only one ear may not be able to localize to the sound source.
- Auditory Discrimination:** The child distinguishes the characteristics of different sounds including environmental sounds, suprasegmental characteristics of speech (e.g., intensity, duration, pitch), non-true words, and true words
- Auditory Comprehension:** The child demonstrates an understanding of linguistic information that is heard by identifying what is said, identifying critical elements in the message, and following directions.
- Short-term Auditory Memory:** The child can hear, remember, repeat, and recall a sequence of numbers. This skill is developmentally appropriate for children who are two years of age and older. Numbers are used to isolating the skill – auditory memory – that is being tested.
- Linguistic Auditory Processing:** The child utilizes auditory information to process language. This category measures how an audition is used to sequence language, learn and use morphemes, learn and use syntactic information, and understand spoken language.

In the present study, most of the children completed their auditory skills till auditory discrimination, as the rest of the domains of the test require higher auditory skills which were not present in all of the children. Therefore, Table 1 indicates the pre and post-comparison of the scores where all the children showed good improvement in all the areas till auditory Discrimination. This indicates that written activities under auditory training are suitable for the

children to develop their auditory skills. The difference between pre and post may also be seen in graph 2.



Graph 2: Shows the result of Pre and Post Score of Auditory Training

Paired Samples Test was done to see a significant difference for Pre and post-test under section II, Auditory Training:

Paired Samples Test				
Time	Paired Differences		T	P
	Mean	Std. Deviation		
SA -PRE - SA-Post	-.272	.056	-22.138	<0.001***
SM -PRE - SM -Post	-.176	.094	-8.591	<0.001***
AF- PRE - Af- Post	-.206	.010	-96.358	<0.001***
LSC-PRE - LSC-Post	-.088	.027	-14.770	<0.001***
AD-PRE - AD-Post	-.109	.075	-6.635	<0.001***

Test results show that there is a very high significant difference, observed for Auditory Training as the P value is <0.001.

Table 2: shows the comparison scores of pre and post-test of Verbal Comprehension (Receptive Language), Oral Expression (Expressive Language), and Articulation

S. No	Client Name	Age/Sex	Receptive Language Age		Expressive Language Age		Articulation	
			Pre-score (in Months)	Post score(in Months)	Pre-score (in Months)	Post score(in Months)	Pre score (Sound Target)	Post score (Completed)
1.	SP	3.6 Yrs/F	6-7 Month	16-18 Month	6-7 Month	14-16 Month	/l/,/h/	Yes
2.	AK	6Yrs/M	27-30 Month	33-36 Month	14-16 Month	27-30 Month	/t/	Yes
3.	AA	5Yrs/M	24-27 Month	33-36 Month	17-18 Month	30-33 Month	/k/	No
4.	GP	5Yrs/M	18-20 Month	24-27 Month	9-10 Month	12-14 Month	/b/	Yes
5.	DS	5Yrs/M	17-18 Month	22-24 Month	10-11 Month	14-16 Month	/a/	Yes
6.	OJ	4 Yrs/M	10-12 Month	20-22 Month	8-9 Month	12-14 Month	/l/,/h/	Yes
7.	VD	4Yrs/M	27-30 Month	33-36 Month	14-16 Month	27-30 Month	/t/	No
8.	SJ	4 Yrs/ F	10-12 Month	22-24 Month	14-16 month	22-24 month	/a/,/h/	Yes
9.	KR	3.6 Yrs/F	16-18 Month	20-22 Month	9-10 Month	12-14 Month	/a/,/h/	Yes
10.	Kh	5 Yrs/F	18-20 Month	24-26 Month	14-16 Month	24-26 Month	/t/	Yes
11.	An	4Yrs/M	10-12 Month	22-24 Month	8-9 Month	12-14 Month	/h/	Yes
12.	De	3 Yrs/M	6-7 Month	16-18 Month	6-7 Month	16-18 Month	/a/,/i/	Yes
13.	RS	6Yrs/M	24-27 Month	30-33 Month	17-18 Month	27-30 Month	/t/,/s/	/s/-NO
14.	AM	4 Yrs/M	18-20 Month	22-24 Month	11-12 Month	16-18 Month	/d/	No
15.	Hi	2.6Yrs/M	6-7 Month	12-14 Month	6-7 Month	12-14 Month	/a/	Yes
16.	AT	4 Yrs/M	16-18 Month	24-26 Month	12-14 Month	22-24 Month	/K/	No
17.	Ka	4 Yrs/M	10-12 Month	20-22 Month	14-16 Month	27-30 Month	/h/	Yes
18.	AP	6Yrs/M	10-12 Month	18-20 Month	10-11 Month	14-16 Month	/a/,/i/, /h/	Yes
19.	Ha	3 Yrs/M	9-10 Month	18-20 Month	8-9 Month	12-14 Month	/a/,/i/	No
20.	Va	4Yrs/M	10-12 Month	20-22 Month	12-14 Month	22-24 Month	/t/, /h/	Yes
21.	Bh	2 Yrs/M	6-7 Month	12-14 Month	6-7 Month	12-14 Month	/a/,/i/	Yes

Verbal Comprehension (Receptive Language)

From table 2 it is seen that on the pre-test, 4 children had their RLA of 6-7 Months, 1 child had an RLA level of 9-10 Months, 6 children had RLA of 10-12 Months, 3 children

had RLA of 16-18 Months, 3 children had RLA of 18-20 Months, 2 children had RLA of 24-27 Months and 2 children had RLA of 27-30 Months. After 30 sessions of training with the written activities under section III, Verbal

Comprehension under the manual post-test was done and it was noted that 2 children had RLA of 12-14 Months, 2 children had RLA of 16-18 Months, 2 children had RLA of 18-20 Months, 4 children had RLA of 20-22 Months, 4 children had RLA of 22-24 Months, 3 children had RLA of 24-26 Months, 1 child had RLA of 30-33 Months, and 3 children had RLA of 33-36 Months. This indicates the written activities under verbal comprehension are suitable for the children to develop their verbal comprehension. Paired Samples Test was done to see a significant difference:

Paired Samples Test				
Time	Paired Differences		T	P
	Mean	Std. Deviation		
Receptive Language-Reels -Pre - Post	-7.95238	2.43364	-14.974	<0.001***

The test result shows that there is a very highly significant difference, observed for Verbal comprehension as the P value is <0.001.

Oral Expression (Expressive Language)

From table 2 it is seen that on the pre-test, 4 children had their ELA of 6-7 Months, 5 children had their ELA of 14-16 Months, 2 children had their ELA of 9-10 Months, 2 children had their ELA of 10-11 Months, 3 children had their ELA of 8-9 Months, 2 children had their ELA of 16-18 Months, 1 child had their ELA of 11-12 Months and 2 children had their ELA of 12-14 Months.

After 30 sessions of training with the written activities under section IV, Oral Expression under the manual, a post-test was done and it was noted that 3 children had ELA of 14-16 Months, 7 children had ELA of 12-14 Months, 2 children had ELA of 16-18 Months, 4 children had ELA of 27-30 Months, 3 children had ELA of 22-24 Months, 1 child had ELA of 24-26 Months and 1 child had ELA of 30-33 Months. This indicates the written activities under oral expression are suitable for the children to develop their oral expression.

Paired Samples Test was done to see a significant difference:

Paired Samples Test				
Time	Paired Differences		T	P
	Mean	Std. Deviation		
Expressive Language-Reels-Pre- Post	-8.405	3.942	-9.770	<0.001***

The test result shows that there is a very high significant difference, observed for Oral expression as the P value is <0.001.

Articulation

From table 2 it is seen that on the pre-test, speech sounds /l/,/h/ /t/,/k/ /b//a//i/,/s/ were taken to target their articulation teaching and After 30 sessions of training with the written activities under section V, Articulation under the manual, post-test was done and it was noted almost all the children have achieved the targeted speech sounds except sound /t/, /k/, and /s/. This indicates the written activities under Articulation are suitable for the children to develop their articulation. However, some require more time to achieve certain speech sounds in a different routine.

Paired Samples Test was done to see a significant difference:

Symmetric Measures				
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		Value	Asymp. Std. Error ^s	Approx. T	Approx. Sig.
Ordinal by Ordinal	Kendall's tau-b	-.137	.139	-.990	.322

For articulation, it was not of much significance as the P value is .322, however it was observed that the post scores were good compared to pre scores.

Statistical Analysis was done to establish the validity of the developed manual:

- Significant differences were observed in Attention, Auditory skill, Verbal comprehension, and Oral expression as the P value is <0.001.
- For articulation, it was not of much significance as the P value is .322, however it was observed that the post scores were good compared to pre scores.

Conclusion

Children with severe to profound hearing loss rarely have speech that even comes close to being normal, so they must always be considered "different". The range in the severity of social-communication impairment brought on by hearing loss necessitates the issue of language intervention for children with hearing loss to be broad. In addition, it stands to reason that interventions targeted at supporting the start of a communication system will be very different from those intended to improve a single component of language in children with hearing impairment. However, the overarching objective of language intervention for all hearing-impaired children is to raise their quality of life by enhancing their language and communication. The importance of the home-based training approach comes from the fact that most parents would react with worry when they realize that their child is having learning difficulties and is not progressing as expected. So, it was thought that a manual of activities should be created and made available to all parents in need. Additionally, it is believed that the goals and exercises in the activity manual will work in a variety of socio-cultural and linguistic contexts. The current manual will comprise a limited-area exercise with five sections, including Section-I: Pre-linguistic skills (Attention), Section-II: Auditory Training Section-III: Verbal comprehension, Section IV: Oral expression, and Section-V: Articulation.

The results indicate the current developed manual is helpful to develop their Pre-linguistic skills (Attention), Auditory Training (Auditory Skills), Verbal comprehension (Receptive Language), Oral expression (Expressive Language and Articulation in their different day-to-day routine at home, and in schools. The developed manuals also will complement speech therapists, special educators, and parents to refer to the activities and plan their child's development of communication.

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