COMPETENCY OF THE HEARING IMPAIRED IN ACCESSING PUBLIC UTILITIES

Submitted by

S.RAMALAKSHMI

(Reg.No.20PSE010)

Under the guidance of

Dr. S. REVATHI, M.Sc, M.Ed, M.Phil.Ph.d

Assistant Professor

Department of Special Education

A THESIS SUBMITTED TO THE

AVINASHILINGAM INSTITUTE FOR HOME SCIENCE AND

HIGHER EDUCATION FOR WOMEN

COIMBATORE 641 043

IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF EDUCATION SPECIAL EDUCATION (HEARING IMPAIRMENT)

May 2022

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CERTIFIED AS A BONAFIDE RESEARCH WORK

Signature of the Head of the Department	**Signature of the Dean of the Faculty**	**Signature of the Guide**

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“THE ONLY THING I CAN’T DO IS HEAR”

- MARLEE MATLIN

1.0 Introduction

According to Vivekananda, education was not only **collection of information, but something more meaningful**; he felt education should be man-making, life giving and character-building. His view on education was an assimilation of noble ideas.

Life skills are the capabilities that cover the way for positive and useful behavior, and these capabilities enable the person to assume his/her social responsibilities, and handle with daily problems and interpersonal relations without hurt himself/herself and the others. Life Skills are not something new; they are a set of essential skills that enable us to effectively manage the challenges and many questions we face in our daily lives. They include confidence, assertiveness, decision-making, and the ability to stay safe and very healthy. Schools are uniquely placed to play a role in promoting life skills and mental health for sustainability of the young people’s emotional and social health, as part of their role in providing a round quality education which helps pupils to gain the confidence they need to develop into successful adult.

UNICEF defines life skills as, "a behavior change or behavior development approach designed to address a balance of three areas namely knowledge, attitude and skills."

WHO defines life skills as “abilities for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life”.

Life skills include psychosocial competencies and an interpersonal skill that helps people make decisions, solve problems, think critically and creatively, communicate effectively, build healthy relationships, empathize with others, and cope up with managing their lives in a healthy and productive manner. Life skills are the skills we need to deal efficiently with the challenges in everyday life, whether at school, at work or in our personal

lives. Life Skills is a term used to describe a set of skills acquired through knowledge and/or direct life experience that are used to help individual and group effectively handle problems and questions commonly encountered in their daily life.

Competency is a set of demonstrable characteristics and skills that enable, and develop the efficiency of, performance of a work. Competencies are not skills, although they are equal. Skills are learned, while competencies are natural qualities an individual that possesses collaboration skills, knowledge and ability.

Competency Skills are:

- Knowledge,
- Behaviours,
- Attitudes and
- Skills that lead to the ability to do something successfully

1.1 Concept of hearing impairment

Hearing Impairment cannot be seen and hence its effects are not visible to others, so deaf suffer in silence. A deaf person is so isolated from family and friends and greeted by uncaring attitude s/he is often depressed and needs psychological counselling. The consequences of the child born with hearing loss are quite severe. (**Varshney S., 2016**)

Hearing impairment is related to health and significantly affects child's ability to normally acquire the speech. It has an influence on life of a child, earlier the problem is identified, and health issue can be reduced accordingly. It is a fact that hearing loss is critical to language development and affects academic performances.

Hearing impairment is a generic term referring to any organic hearing problem regardless of degree. It is a deviation or change for the worse in either structure or function which is usually outer the range of normal. It generally includes a broad range of hearing disability, ranging in severity from mild hearing impairment to profound hearing impairment.

Rights of Persons with Disability Act, (RPwD Act, 2016), explained “deaf" as persons having 70 dB hearing loss in speech frequencies in both ears; and "hard of hearing" as person having 60 dB to 70 dB hearing loss in speech frequencies in both ears. The higher the decibel (dB), the louder is the sound.

1.2 Categorization of hearing impairment

The Global Burden of Disease Expert Group likely classification of Hearing loss according to the language acquired, site of damage, and degree of loss as follows:

According to the Language acquired

- **Pre Lingual Hearing Loss**: It is the loss of hearing sensitivity existing at birth or childhood before speech and language patterns are acquired. In such condition, increase of speech and language, voice and articulation are affected. As an adult the individual is likely to continue to have limitation. It is also called congenital deafness
- **Post Lingual Hearing Loss**: It is the loss of hearing sensitivity after birth and the increase of speech and language. Language may not reduce; however since reception of high frequency sounds are affected there will be slight change in voice and articulation.

According to the Site of Damage

- **Conductive Hearing loss**: When the transmission of sound through the external ear or middle ear is interfere by any condition, then it is called conductive hearing loss
- **Sensory Neural Hearing loss:** Any problem in the inner ear i.e. in cochlear or in the auditory nerves
- **Mixed Hearing loss:** When the transmission of sound is interfere by problem in the external ear, middle ear, and also inner ear, then that condition is called as mixed hearing loss.

According to the Degree of Hearing Loss

- **-10 to 20dB (normal)** – Hardly has any impact on communication in noisy environments, soft sounds are difficult to understand

- **20 to 35dB (mild hearing loss) -** Even in quiet environments, distant speech is challenging to hearing
- **36 to 50dB (moderate hearing loss) -** Conversational speech can be heard only from nearby distance. Group activities are always challenging
- **50 to 65dB (moderately-severe hearing loss)** – Clear conversational speech can be heard only when it is loud and speech is obviously impaired
- **65 to 80dB (Severe hearing loss)** – Cannot recognize many of the words in the conversational speech even when loud. Speech is not understandable
- **80 to 95dB (Profound hearing loss)** – Only hear very loud sounds and primary mode of communication would be during non-verbal mode
- **95 dB + (Complete or Total hearing loss) –** Cannot hear any speech or sound (Olusanya. O. B., Davis. C. A., Hoffman. J. H., 2019).

1.3 Characteristics of hearing impairment

One of the major characteristics of the deaf as well as hard of hearing children are that they often have delayed language and speech development which eventually affects their verbal communication skills. Children with hearing impairment repeatedly use gestures and sign while communicating with others. Children with Hearing Impairment display abnormal rhythm in speech with nasal sound, mispronunciation and monotonous voice. Their speech is unintelligible. In written language, hearing impaired children frequently find problems associated with sentence construction, gender, tense, appropriate uses of verbs, adjectives, nouns, idioms, etc. All these influence academic growth of hearing impaired students. Both reading and arithmetic performances are deficient in these children. **(Arya. A., 2016)**

In cognitive functioning, Children with hearing impairment face difficulty in understanding abstract concepts. Because of limited vocabulary their comprehension ability is reduced. On all the aspects of development, i.e., mental-intellectual, personality and educational achievement, the hearing impaired students are lesser and are at low level. Many of the characteristics presented by hearing impaired children create unique problems for teachers. **(U. S. Department of Education, 2008)**

1.4 Causes of hearing impairment

Hearing loss is caused by many factors, most commonly from natural aging or exposure to loud noise. The most general causes of hearing loss are:

- Aging
- Noise exposure
- Head trauma
- Virus or disease
- Genetics
- Ototoxicity

1.5 Concept of accessibility

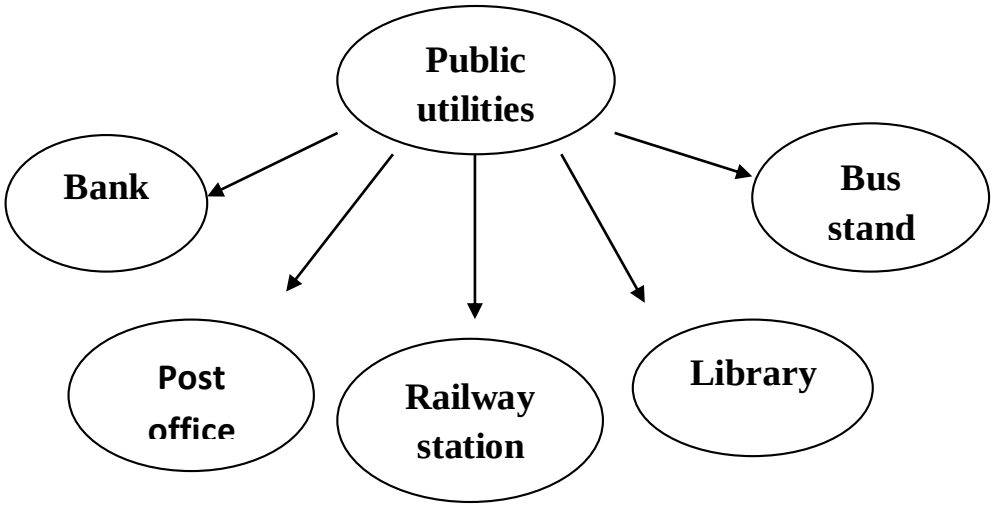
Accessibility can be refer as the "ability to access" and benefit from some system. The concept access facilities focuses on enable barrier free environment for persons with hearing impairment, or enabling access through the use of assistive technology brings overall development in accessibility and benefits to everyone.

Access facilities enable the persons with hearing impairment to travel about safely and freely, and use the facilities within the environment. The goal of access design is to provide a suitable environment that supports the independent functioning of individuals so that they can participate without assistance, in everyday activities. Therefore, to the maximum level possible, public places, schools and transportation systems for public use will be made barrier free access facilities for children with hearing impairment. The concept of universal inclusive design has emerges as a result of the great effort of persons with hearing impairment for accessible physical environment

Access needs for the persons with hearing impairment

Government has the responsibility to improve the understanding of issues concerning barrier-free environment in the communities. This is particularly referring in the case of remote rural areas where there is need of non-governmental organization (NGO) development assistance and the communities have limited access to the mass media. The need for public

awareness activities in rural areas is critical in view of the greater difficulty, compared with urban areas, in enforcing access legislation and policy requirements. However, action has been initiated to improve public awareness of access issue among rural communities including the mobilization of village-level opinion leaders and involving them in dissemination of the relevant messages using traditional media.



Bank

A bank is a financial institution approved to receive deposits and make loans. Banks may also provide financial services for example wealth management, currency exchange, and safe deposit boxes. By knowing how to access bank, the hearing impaired children can collect their scholarship amount from bank independently.

Post office

Post offices deliver important services to communities, including universal access to mail and parcels, but also access to benefits, bill payment and banking services. It will help the hearing impaired students to collect their letters independently.

Railway station

A train station, railway station, railroad station or depot is a railway facility or area where trains usually stop to load or unload passengers, freight or both. With the help of this knowing about railway station, the hearing impaired children move from one place to another place independently without depending others .

Library

Library is a room where books and other literary materials are kept. A collection of literary materials, films, CDs, children toys, etc, kept for borrowing or reference. The building or institution that houses such a collection is in a public library. Libraries contain a variety of material. They contain printed materials, films, sound and video recordings, maps, photographs, computer software, online databases, and other media. A library is not a bookstore. It will help the hearing impaired students to collect n number of study materials in one place.

Bus stand

A bus station is a structure where buses stop to pick up and drop off passengers. A bus station is larger than a bus stop, which is regularly a place on the roadside where buses stop. Some bus station is terminal stations, which mean that station is the end of the route. With the help of this learning , the hearing impaired children move from one place to another place independently without depending others .

1.6 Importance of Life Skills Education/ Life Skills Based Education

Initiatives to increase and implement life skills education in schools have been undertaken in many countries around the world. The need for life skills education is highlight, directly and indirectly in the convention of the rights of the child and a numbers of international recommendations. Life skills education is aimed at facilitating the growth of psychosocial skills that are required to deal with the demands and challenges of their everyday life. Many countries are now considering the implementation of life skills education in response to the want to restructuring traditional education system, which appear to be out of step with the realities of current social and economic life. From the moment our children are born they are on a journey to independence. But to lives independently without us one day, as adults, we need to teach them necessary life skills. They cannot learn life skills out of a book or at school. These are thing they learn from their parents and from other important adults and role model in their lives. To be ready for school involves mastering certain life

skills so that they can happily and very confidently manage being at school without their parents.

1.7 Importance of learning life skills for hearing impaired children

In everyday life, the development of life skill helps hearing impaired children to **find new ways of thinking and problem solving**. Recognize the impact of their measures and teach them to take responsibility for what they do rather than blaming others. Build more confidence both in spoken skills and for group collaboration & cooperation. It strengthens the ability of an individual to met the needs and demands of the society and helps in dealing with an issues in a manner to get desired behavior practical. Imparting life skills training through inculcating life skill education will help hearing impaired children to overcome more difficulties in life.

1.8 Need and significance of the study

Persons with hearing impairment had difficulty in accessing public utilities due to lack of awareness, knowledge and understanding. They also facing the following difficulties in accessing public utilities:

- Difficulty in accessing public places, which results in inability to go anywhere independently
- Lack of self confidence, it leads to frustration
- Poor knowledge in accessing public utilities- bank, post office, railway station, library, bus stand

To overcome these barriers are very important one. Thus, the present study focuses on competency of the hearing impaired in accessing public utilities.

1) The first aim of the study is to give awareness and knowledge about this public places
2) The second aim of the study is to develop their interest in learning
3) The third aim of the study is to taught the importance of this public places
4) The fourth aim of the study is to taught how to accessing public places independently

1.9 Statement of the problem

The problem is stated as "**Competency of the Hearing Impaired in Accessing Public Utilities".**

1.10 Definitions of important terms

Hearing impairment

Hearing impairment is defined by IDEA as "an impairment in hearing, whether permanent or fluctuating, that adversely affects a child's educational performance."

Deafness

Deafness is defined as "a hearing impairment that is so severe that the child is impaired in processing linguistic information through hearing, with or without amplification."

Accessibility

Accessibility is defined as "whether a product or service can be used by everyone however they encounter it."

Bank

A bank is a financial institution licensed to accept deposits and make loans. But they may also perform other financial services.

Post office

Post office is defined as "a government department or agency handling the transmission of mail."

Railway station

A railway station is a railway facility or area where trains regularly stop to load or unload passengers, freight or both.

Library

Library is a collection of books or other written or printed materials, as well as the facility in which they are housed and the institution that is responsible for their maintenance

Bus stand

Bus stand is the place in a town or city where buses leave and arrive, especially to and from other towns

1.11 Objectives of the study

The objectives of the study were:

- To identify the children with hearing impairment.
- Designing a tool for the assessment of those who have difficulty in accessing public utilities among children with hearing impairment.
- To find out the area of difficulty for the children with hearing impairment in accessing public utilities.
- Develop their ability to access public utilities among the hearing impaired children by using tool.
- To find out the difference between pre test and post test mean score of accessing public utilities among children with hearing impairment.

1.12 Hypothesis of the study

- There is no significant difference in accessing public utilities among before and after intervention of children with hearing impairment.
- There is no significant difference in accessing bank among before and after intervention of children with hearing impairment.
- There is no significant difference in accessing post office among before and after intervention of children with hearing impairment.
- There is no significant difference in accessing railway station among before and after intervention of children with hearing impairment.

- There is no significant difference in accessing library among before and after intervention of children with hearing impairment.
- There is no significant difference in accessing bus stand among before and after intervention of children with hearing impairment.

1.13 Scope of the study

- The present study will help to know the level of difficulty and knowledge in accessing public utilities among children with hearing impairment.
- The study will help the hearing impairment children to know about their area of strength and weakness in accessing public utilities.
- The study will be helpful the children with hearing impairment to work on intervention for developing in accessing public utilities if they are weak in it .
- This study will also helps the hearing impaired children to improve their ability in accessing public utilities.

1.14 Limitations of the study

- The study carried out only for the children between the age group of 5 to 15 years.
- The study administered only in the integrated and special schools.
- The sample size is limited to 30.
- The study is conducted in Coimbatore and is limited to only three schools.

1.15 Organization of the study

The study is organized **"Competency of the hearing impaired in accessing public utilities"** in five chapters.

- The first chapter presents introduction, need and significance of the study, statement of the problem, objectives, and hypothesis of the study, scope of the study and limitations of the study.
- The second chapter includes review of related literature and researchers to the present study.

- The third chapter includes the method of the study undertaken for the present study.
- The fourth chapter presents the detailed analysis on the data collected from the sample.
- The fifth chapter deals the summary of the findings discussion, recommendations, suggestions and conclusion

REVIEW OF RELATED LITERATURE

CHAPTER II

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REVIEW OF RELATED LITERATURE

2.0 Introduction

A literature review is the collection of a scholarly articles, books, journals, conference proceedings and other resources which are relevant to a particular issue, area of research, or area of problems and provides a path down to follow the past researches for an effective use in the present study. A review of literature is both the process and the product where it provides a graphic and logical conclusion of the materials existed based on specific area or topic of the study. A literature review process involves a study about existing scholarly articles. A literature review seeks to explain, conclude, analyze, clarify and evaluate the data bases of primary reports such as written documents of prior researches **(Cooper, H.M., 1988).**

A Literature Review is "a systematic, explicit, and reproducible method for identifying, evaluating, and synthesizing the existing body of completed and recorded work produced by researchers, scholars, and practitioners" explained by **Fink, A (2005)**

In this chapter it reveals about the literature related to the title and it was coated under following headings.

- Studies conducted in India
- Studies conducted in Abroad

2.1 Studies conducted in India

Forough Jafari (2019), conducted a study on "Technology-Assisted Navigation in Public Spaces for Hard of Hearing People". While it is incredibly difficult for a hearing person to understand exactly what it's like to be Deaf and hard of hearing, most individuals are aware that hearing difficulty comes with a unique set of challenges. This forces those who are Deaf and hard of hearing to experience the world in an entirely different way than the rest of the population, and not always how hearing people expect. Deaf and hard of hearing people cannot hear loudspeaker announcements, so utilizing public transportation often involves trying to communicate with hearing people which can be challenging. This is especially true when people are rushed. User-interface technology helps improve how people with different abilities navigate public spaces. However, through a comprehensive literature review, I concluded that the current mobile applications available do not effectively address these problems and others issues that Deaf travelers experience. This thesis focuses on tackling these issues in airports and by considering the experiences of those who cannot hear. Surveying and interviews were used to gain insight and knowledge from Deaf and hard of hearing individuals, which was used to guide the development of a design intervention. The design process included evaluating wireframe prototypes of smart phone application design through a series of user testing. This assisted in refining an application called the Hear Here app. The resulting design is broadcasts information shown on airport monitors. Alerts and notifies travelers of changes in gates or flights that are announced by public announcements.

Kusters, A. (2009), done a research on "Deaf on the lifeline of Mumbai".This article is a result of MSc Deaf Studies dissertation that is situated on an intersection between Deaf geography, anthropology and Deafhood theory. During five weeks of participatory observation and interviews in Mumbai, their attention was drawn to the city's lifeline: the suburban train system. It appeared that Deaf people tend to travel in specific compartments for people with disabilities that were set up about eight years ago. They started to use these compartments and also the train platforms as important meeting places. The article explains how this evolved and the reasons for traveling in compartments for disabled people rather than in general train compartments reasons that have

nothing to do with a "deficit" perspective on deafness. Not only has this way of traveling several socio cultural consequences that appear to strengthen links in the Mumbai Deaf community; in addition the visibility of signing Deaf groups has caused a growth in Deaf awareness among hearing people in these "disabled" compartments in particular and at the train stations in general. It is because of Mumbai's geography, its resulting population density and the heavy use of suburban trains unique for this city, that these several different effects were so strongly spread in both the Deaf community and among hearing people.

Bezyak, J. L., Sabella, S. A., & Gattis, R. H. (2017), on "Public transportation: an investigation of barriers for people with disabilities" .The physical accessibility of public transportation increased nationwide following the passage of the Americans With Disabilities Act (ADA) in 1990. Despite removal of many physical barriers within fixed-route systems, significant barriers to overall access of public transportation systems are still widespread. The purpose of the current study was to provide a full description of barriers experienced by individuals with disabilities when using the public transportation and the complementary paratransit services. An online survey was developed and disseminated to contacts of the National Network of ADA Centers, and 4,161 individuals responded. Results highlight significant barriers for people with disabilities who use public transportation and complementary paratransit services. Barriers to these transit systems are physical and attitudinal in nature, and as a result, modifications to the physical environment and educational opportunities to reduce negative attitudes toward individuals with disabilities are recommended.

Sapkota, A. (2019), carried out a research on "Developing speech recognition in public transportation for universally designed information flow" .Today, information in public transport is largely provided through speakers. This is especially true in unforeseen events, such as signal failures, platform change and in emergencies such as fire, evacuation and the like. Such situations are often chaotic, and the driver / conductor / pilot is reading messages about what happens and what passengers are going to do. This rarely helps the hearing impaired to bring along. There is therefore a need for a system that recognizes the speech to the driver / conductor / pilot and translates speech to text on screen. And this thesis has

explained the procedure and possibilities of creating such a system for the public transportation system.

Nicklas, J. P., Schlüter, N., Winzer, P., & Schnieder, L. (2015), done a research on "Accessible and Inclusive Mobility for All with Individual Travel Assistance--Aim4lt".It Public transportation is a main factor for a reliable mobility in urban and rural areas. Every user group and their specific requirements have to be considered during planning and realization of public transportation services. Hence public transport operators have to ensure a barrier-free public transportation service. Certainly this barrier-freeness still is not realized for every user group, due to the high complexity of public transportation systems. Therefore this paper focuses on a comprehensive Systems Engineering-based approach to handle complexity for development of a new individual travel assistance and its integration into existing background systems of public transport operators. This approach is based on several use-cases. One use-case will be focused on for an exemplary system introduction.

Eisner, N. S. (2012), on his research "Engaging deaf and hard of hearing students in the school library: A handbook for teacher-librarians". Over seventy percent of students who are deaf or hard of hearing will attend a public school and enroll in a classroom with their hearing peers or in a self-contained classroom with other deaf and hard of hearing students. Teacher-librarians who work in these schools can improve their instruction by understanding not only what it means to be deaf or hard of hearing but also how deaf and hard of hearing students learn to read and what challenges they may encounter in the school library classroom. This paper offers practical suggestions and recommendations to help teacher librarians teach within the concept of Universal Design for Learning to make learning accessible for all students, but specifically for students who are deaf and hard of hearing.

Paul, P. V. (1987), studied entitled "Deaf Children's Comprehension of Multimeaning Words: Research and Implications". Although knowledge of multimeaning words is important for reading comprehension, deaf readers may know only the most common meanings or nuances of high-frequency multimeaning words. Results of a study are reported in which 33 profoundly hearing impaired students stratified into three equal age groups (ages 10, 11, and 12) were administered a 60-item pictorial, multimeaning vocabulary test. Each item contained

one target word and five possible responses in the form of contextual illustrations. Results indicated that knowing two meanings proved significantly more difficult than knowing one meaning of the same words. Selecting more than one meaning was not influenced by age, suggesting that deaf students may lack not only an in-depth knowledge of words, but also the ability to use available context clues in deriving word meanings. To enrich vocabulary development, a three-step plan for teaching multimeaning words is described: (1) activate and enrich the students' prior knowledge; (2) develop activities that give students practice in applying newly learned word knowledge; (3) provide opportunities for reading familiar and new words in a wide variety of natural, meaningful contexts.

Pieslak, R. F. (1975), conducted a study on "About Banking". The student manual for high school level special needs students was prepared to provide deaf students with the basic fundamentals of banking. Five units are presented covering the topics of banks and banking services, checking accounts, other services of banks, savings accounts, and other investments. Each lesson was carefully written for easy reading and comprehension and provides information, vocabulary, and assignment questions for the specific topic covered.

Boucher, M. J. (2010), on his research "Maps: Developing critical thinking skills for deaf students in a social studies curriculum". In Deaf classrooms, social studies instruction is usually conveyed via the banking approach instead the inquiry approach leaving students without opportunities to exercise their critical thinking skills. This curriculum addressed this problem by demonstrating how deaf students can be given opportunities to develop and use their critical thinking skills in social studies content using maps. Learning activities in this curriculum designed with the following four goals in mind; support students in developing their critical thinking skills, foster students‟ skills in reading, interpreting, and using maps, develop and use academic language associated with maps in both ASL and English, and encourage students to use the inquiry approach as a learning strategy. This curriculum was field tested at a school for the deaf in a 5th grade classroom with seven deaf and hard of hearing students. Field notes, artifacts, and lesson assessments were used to evaluate the outcomes of the curriculum to determine whether if it was a success. The evaluation indicates that the curricular goals were successfully met.

Cox, S., Lincoln, M., Tryggvason, J., Nakisa, M., Wells, M., Tutt, M., & Abbott, S. (2002), carried out a research on "Tessa, a system to aid communication with deaf people". TESSA is an experimental system that aims to aid transactions between a deaf person and a clerk in a Post Office by translating the clerk's speech to sign language. A speech recogniser recognises speech from the clerk and the system then synthesizes the appropriate sequence of signs in British Sign language (BSL) using a specially-developed avatar. By using a phrase lookup approach to language translation, which is appropriate for the highly constrained discourse in a Post Office, we were able to build a working system that we could evaluate. We summarise the results of this evaluation (undertaken by deaf users and Post office clerks), and discuss how the findings from the evaluation are being used in the development of an improved system.

Fedida, S. (1977), done a research on" Viewdata a Post Office interactive information medium for the general public". In the year of the Caxton quincentenary celebrations, it is fitting to write about Viewdata, the most recent development in the art and technology of electronic communication by means of the written word, intended for members of the general public

John L Luckner ,Kathy Carter (2001),on his research "Essential Competencies for Teaching Students With Hearing Loss and Additional Disabilities".The purpose of this national study was to establish an initial database of the essential competencies needed for working with students who are deaf or hard of hearing with additional disabilities. Surveys were sent to program supervisors across the United States; each supervisor was asked to give the survey to a professional on his or her staff who worked with students who were deaf or hard of hearing with additional disabilities. Respondents indicated that there were 67 specific competencies needed for working with this diverse population of students. A list of the specific competencies and a rationale for providing more in-depth training for teachers is provided.

Marilyn Sass-Lehrer (1986), did a study on "Competencies for Effective Teaching of Hearing Impaired Students".Instructional supervisors' ratings of competencies critical to teaching effectiveness for hearing impaired students were collected and analyzed. Supervisors from special schools and public school programs for hearing impaired students (N = 150) rated 40 competency statements using a modified forced choice Q-sort procedure. Confidence interval testing was used to determine which competencies were rated as most critical to teaching effectiveness, and 11 competencies were identified. Supervisors in special schools and public school classes agreed on 10 of the 11 competencies as those most critical to effective teaching. The results indicate that while supervisors in different educational settings may disagree about the relative importance of some competencies, they agree on 10 competencies which are the most critical to the effective teaching of hearing impaired students

Luckner, J. (1991), done a research on "The competencies needed for teaching hearing-impaired students: A comparison of elementary and secondary school teacher perceptions".Many hearing-impaired students demonstrate difficulty in academically measuring up to their hearing peers. The deficiencies become especially obvious during their secondary school years. This study surveyed a national sample of elementary and secondary level teachers of the hearing impaired to compare their perceptions of the competencies needed to work with hearing-impaired students. The results suggest that teachers at both levels believe that some skills are fundamental for all teachers of the hearing-impaired, regardless of the age level of the students. However, the data also suggest there are some important differences. Concerns about state certification procedures and current practices in teacher training programs are discussed.

Marilyn Sass-Lehrer, American Annals of the Deaf (1983), on his research "Competencies Critical to Teachers of Hearing-Impaired Students in Two Settings". The purpose of this study was to determine whether teachers of elementary-level hearing-impaired students in two distinct educational settings had similar perceptions of competencies most critical to the effective performance of their jobs. A total of 96 teachers working with pupils 6 through 12 years old in residential and regular public school programs participated in the study. A listing of 45 competency statements were developed by the investigator and reviewed by 12

professionals involved in teacher preparation. Results of the data analysis indicated that the two groups had significantly different perceptions regarding 19 of the 45 competencies and that the groups were highly distinguishable across items. Overall, the results support the notion that teachers working in different educational settings have different perceptions of competencies most critical to their jobs.

Vernosfaderani, A. M. (2013), did a research on "The effectiveness of life skills training on enhancing the self-esteem of hearing impaired students in inclusive schools". This research investigates the effectiveness of life skills training on enhancing the self-esteem of 8 - 16 years-old students with hearing impairment in inclusive schools. The sample was included of 54 students with hearing impairment from inclusive school whom their age and IQ were matched. They were randomly divided into an experimental and a control group (27 students in each group). The participants were assessed by Coopersmith Self-esteem Inventory (58-items version). The gathered data were analysed using the t-test method through the SPSS package. The results showed that training life skills to students with hearing impairment promote their self-esteem. In other words, life skill training is effective for enhancing the self-esteem of hearing impaired students in inclusive schools.

Jaya, H., Haryoko, S., & Suhaeb, S. (2018), carried out a research on "Life skills education for children with special needs in order to facilitate vocational skills". Life skill skills for students with special needs are very important and valuable for them to get in education. This skills education program is a part of life skill. With this provision is expected they will be able to live independently by not / less dependent on others. This skill training focuses on the various skills to produce a product in the form of real objects that are beneficial to life. By learning the various skills expected, children with special needs can gain a perceptual experience, appreciative experience, and creative experience. Children with disabilities include blind children, hearing impaired, mentally disabled, tuna barrel, gifted child, and children with specific learning difficulties. Seeing the disorder they have a very varied intelligence. so there are children who have a high cognitive disabilities, but also have a low cognitive. Some have a severe disability and some are mild. Seeing this condition the kind of life skills that are suitable to be developed are general life skills and vocational life skills for children with disabilities. There are Types of life skills education for children with

disabilities, severe disability and other disabilities children who have less developed intelligence life skills education in general life skills and vocational life skills. While blind children, deaf, deaf, and tuna barrel, gifted children and children with specific learning difficulties developed general life skills, academic life skill, and vocational life skills. Through the help of learning media can help children with special needs in understanding the content of the lessons and facilitating vocational skills.

Adibsereshki, N., Vernosfaderani, A. M., & Movallali, G. (2015), on his research "The effectiveness of life skills training on enhancing the social skills of children with hearing impairments in inclusive schools". School is not only the place where children learn the knowledge, skills, and competencies to access workforce opportunities later in life, but also where they learn social skills and ways of being in the world. In school, children practice forming and maintaining relationships with teachers and other students. They learn independence, and how to prepare for assessments and take in new and potentially challenging information. Students with special needs may require additional support and instruction in these interpersonal interactions. As classrooms worldwide become more inclusive of students of varying strengths and abilities, teachers and education officials must respect diverse needs and ways of learning. In this article, the authors recognize the increased need for life skills instruction for Iranian students with hearing impairments, and explore ways of helping them better integrate into school and community life.

Donnellan, L., & Mathews, E. S. (2021),did a research on "Service providers' perspectives on life skills and deaf and hard of hearing students with and without additional disabilities: transitioning to independent living". Life skills are essential for the successful transition from dependent childhood to independent adulthood. However, research has shown that there are substantial independent living concerns for many d/Deaf and hard of hearing (DHH) young people, in particular those with additional disabilities. Despite these difficulties, there has been limited data collected on service providers' understanding of life skills acquisition among their service users. This exploratory study examines how professionals working with young DHH adults, aged 15 to 20, many of whom have additional disabilities, conceptualise life skills. The key objective of this study was to ascertain how life skills are understood by these professionals. A purposive sample of 17 education and social care professionals was

interviewed using semi-structured interviews. Thematic analysis revealed that while professionals from both the education and social care domains had an understanding of life skills, the classification of these skills was quite narrow and limited. Nonetheless, participants were able to provide much detail on deficits their service users had in many areas of life skills development

Stacey, P. C., Fortnum, H. M., Barton, G. R., & Summerfield, A. Q. (2006),on his research "Hearing-impaired children in the United Kingdom, I: Auditory performance, communication skills, educational achievements, quality of life, and cochlear implantation". The objectives of this study were to identify variables that are associated with differences in outcome among hearing-impaired children and to control those variables while assessing the impact of cochlear implantation. In a cross-sectional study, the parents and teachers of a representative sample of hearing-impaired children were invited to complete questionnaires about children's auditory performance, spoken communication skills, educational achievements, and quality of life. Multiple regression was used to measure the strength of association between these outcomes and variables related to the child (average hearing level, age at onset of hearing impairment, age, gender, number of additional disabilities), the family (parental occupational skill level, ethnicity, and parental hearing status), and cochlear implantation. Questionnaires were returned by the parents of 2858 children, 468 of whom had received a cochlear implant, and by the teachers of 2241 children, 383 of whom had received an implant. Across all domains, reported outcomes were better for children with fewer disabilities in addition to impaired hearing. Across most domains, reported outcomes were better for children who were older, female, with a more favorable average hearing level, with a higher parental occupational skill level, and with an onset of hearing-impairment after 3 years. When these variables were controlled, cochlear implantation was consistently associated with advantages in auditory performance and spoken communication skills, but less consistently associated with advantages in educational achievements and quality of life. Significant associations were found most commonly for children who were younger than 5 years when implanted, and had used implants for more than 4 years. These children, whose mean (preoperative, unaided) average hearing level was 118 dB, were reported to perform at the same level as non implanted children with average hearing levels in the range from 80 dB

to 104 dB, depending on the outcome measures. When rigorous statistical control is exercised in comparing implanted and non implanted children, pediatric cochlear implantation is associated with reported improvements both in spoken communication skills and in some aspects of educational achievements and quality of life, provided that children receive implants before 5 years of age.

Davoudi, I., Kascani, R. M., & Honarmand, M. M. (2014), did a research on "Social skill, life satisfaction and locus of control in normal-hearing and hearing-impaired students". Some evidence suggests that hearing impairment has negative effect on psychological characters of hearing-impaired adolescences and they are more vulnerable to mental health problems than their hearing peers are. This was a comparative study of social skills, life satisfaction and external and internal locus of control in normal-hearing and hearing-impaired students.This multi-stage random sampling method consisted of 50 students with hearing impairment (boy and girls) and 50 matched normal-hearing students. The participants completed Matson evaluation of social skills with youngster, students life satisfaction, and Levenson multidimensional locus of control scales. The results of multivariate analysis of variance showed statistically meaningful differences in social skills, life satisfaction and locus of control between the two groups ($p=0.002$ for all). Social skills in normal-hearing students were higher than students with hearing impairment and locus of control in normal student was more internally. Training the parents and school-staff on development of locus of control and making it more internally in hearing-impaired students is suggested.

Yazdani, S., Oryadi-Zanjani, M. M., Vahab, M., & Nikandish, M. (2022), studied entitled "Comparison of the Effectiveness of Parenting Training with Life Skills Training on the Mental Health of Mothers of Children with Hearing Loss". Hearing loss is one of the most common sensory disorders. The consequences of hearing loss and its effect on the mothers of these children on the one hand and the emphasis of previous research on the effectiveness of educational interventions along with the lack of comparative studies on the other hand prompted us to do this research. Educational interventions have been approved for prevention of unwanted effects between mother and child. One of these interventions is a positive parenting program. This educational program seeks to create a useful relationship between mother and child. Another life skills training intervention enables life skills to cope. This

study was a randomized clinical trial. The research sample consisting of 46 mothers who have child with hearing loss were divided into two groups: a positive parenting training group and a group that was trained in a life skills program. The workshops of both groups were accomplished online due to the limitations caused by the Covid-19 pandemic. Data collection tools were three questionnaires of parenting, life skills, and general health that were completed in both pre-test and post-test stages. For data analysis, SPSS software version 26 was used. The results indicate that parenting education in mothers with children with hearing impairment has significantly reduced anxiety and depression. This research showed that parenting education has increased the quality of life of mothers with children with hearing impairment and the positive effects of this education are confirmed.

Hayes, M. F. (1987), on his research "Using the Paper around Us to Supplement a Life Skills Curriculum". Such everyday paper materials as cash register receipts, labels, travel pamphlets, and train schedules provide a wealth of excellent materials for teaching life skills and functional reading to multi handicapped hearing-impaired students. Possible activities include comparing grocery receipts and conjecturing about the shoppers and reading medicine labels and prescriptions.

Shojaee, S. (2017), conducted a study on "The Effectiveness of Life Skills Training on the Mother-Child Relationship in Mothers of Children with Hearing Problems". The purpose of present study was to investigate the effect of life skills training on the mother-child relationship in mothers of children with hearing problems. The study's procedure was experimental with pretest-posttest design employing a control group. The participants include 36 mothers of children with hearing problems in Shiraz who were selected by an available sampling method and assigned into experimental and control group, randomly; hence, each group included 18 mothers. Both groups had undergone a pre-test. The experimental group received life skills training in 12 sessions while the control group did not. After the intervention period the post-test was administered for both groups. The Roth mother-child relationship strategies scale (1961) was employed to assess the mother-child relationship strategies. The data analyses by ANCOVA showed that there was a significant effect in the mean score of mother-child relationship in mothers of children with hearing problems in the experimental group ($p<0/0001$) and increased the acceptance of child and reduced the

overprotection, the overindulgence and the child rejection among the mothers of experimental group. Therefore, life skills training program construction and employment are highly recommendable to improve mother-child relationship strategies among mothers of children with hearing problems.

Niemensivu, R., Roine, R. P., Sintonen, H., & Kentala, E. (2018), on his research "Health-related quality of life in hearing-impaired adolescents and children". To evaluate health-related quality of life (HRQoL) in hearing-impaired adolescents and children and to compare it with that of hearing individuals. Hearing-impaired adolescents and children were recruited to the study during their annual control visit to the Hearing Clinic of Helsinki University Hospital. They filled in a HRQoL questionnaire, either the 16-dimensional 16D (adolescents aged 12–17 years) or the 17-dimensional 17D (children aged 7–11 years). The total HRQoL scores were compared with previously collected data, matched for age and gender, from adolescents and children without any known handicaps or illnesses. In total 50 adolescents and 50 children completed the questionnaire. Of the 16/17 dimensions of the HRQoL instrument, hearing and communication were affected the most. The total HRQoL scores were somewhat lower in adolescents and children with hearing impairment than in the general populations of age-matched peers ($p < .001$ for adolescents and .030 for children). HRQoL in hearing-impaired adolescents and children is only slightly worse than in hearing adolescents and children.

Scheetz, N. A. (1993), conducted a study on "Closing the gap: Fostering a smooth transition toward independent living for the hearing impaired student entering the postsecondary setting".Students entering post-secondary institutions without the mastery of Independent living skills are prone to failure and thus, develop an inability to complete their freshman year. Students with disabilities, in particular hearing loss, are more prone to failure due to their social isolation. The author presents an argument for specific training in the area of life skills and proposes a three-component focus for that training: (a) accessing and utilizing support services, (b) mastering and incorporating daily living skills, and (c) developing and enhancing negotiating skills.

Movallali, G., Musavi, Z., & Hakimi-Rad, E. (2018),on his research "Feeling of loneliness in deaf adolescents: The effect of an online life skills program".The aim of the current study was to investigate the effect of life skills training on the reduction of feeling of loneliness among deaf and hard of hearing adolescents.This study had a pretest-posttest with control and experimental group design using convenience sampling. The Feelings of Loneliness Questionnaire developed by Dehshiri (1387) was filled in by 275 individuals who were joined in a special social network for the deaf. The age rang of the sample group was from 17 to 37. Thirty of them who had the lowest scores in feelings of loneliness were randomly assigned to two fifteen-person groups. The experimental group received online life skills-based education, while the control group received no intervention. The training was performed in ten 120-minutes sessions. The data were analyzed by ANCOVA and repeated measures test. The results indicated that the online life skills-based training program reduced feelings of loneliness caused by a lack of interaction with friends and family in deaf adolescents. According to the results of this study life skills are so important for deaf adolescents and paying attention to these skills is a social necessity through which the mental health of individuals with hearing impairment and deafness can be improved. In addition, regarding the effectiveness of online life skills-based education and considering the inaccessibility of conventional consultation for all of individuals with hearing impairment and deafness, online counseling and also online social, cognitive, and consultative rehabilitation can be used and is recommended in other domains.

Luft, P., Bonello, M., & Zirzow, N. K. (2009), did a research on "Technology skills assessment for deaf and hard of hearing students in secondary school". To be competitive in the workplace, deaf and hard of hearing students must not only possess basic computer literacy but also know how to use and care for personal assistive and listening technology. An instrument was developed and pilot-tested on 45 middle school and high school deaf and hard of hearing students in 5 public school programs, 4 urban and 1 suburban, to assess these students' current technology skills and to prepare them for post–high school expectations. The researchers found that the students' computer skills depended on their access to technology, which was not always present in the schools. Many students also did not know basic care practices or troubleshooting techniques for their own personal hearing aids (if worn), or how to access or use personal assistive technology.

Valentine, G., & Skelton, T. (2007), on "Re-defining 'norms': D/deaf young people's transitions to independence". Traditionally, young people's transitions from a state of dependent childhood to an independent adult identity have been measured in terms of a developmental stage model. However, it is increasingly being recognised that young people are not a universal category and that their transitions need to be understood within the diverse context of peers, family, and communities. This paper draws on a rich body of work from the interdisciplinary field of Deaf studies and original research with D/deaf young people – a group generally overlooked by sociological research – to challenge and to advance conventional interdisciplinary debates about youth transitions in two ways. In the first half of the paper we examine D/deaf young people's conventional school-to-work, housing and domestic transitions and in doing so reflect upon the ways that their experiences shed a new light on understandings of these traditional markers of independent adulthood. In the second half of the paper we challenge conventional definitions of what marks an important transition by focusing on the transition that many D/deaf young people themselves define as the *most* significant in their lives, learning BSL and the transition to an independent D/deaf identity that this enables them to make. In doing so the paper mainstreams within sociology an important body of research about D/deaf people's experiences from Deaf studies.

2.2 Studies conducted in Abroad

Hersh, M. A. (2016), studied entitled "Improving deafblind travelers' experiences: an international survey". This article draws on the experiences of 28 deafblind people in six different countries to discuss accompanied and unaccompanied independent travel for deafblind people. These experiences were obtained from interviews carried out as part of a larger research project on travel issues. The research aimed to improve understanding of their travel behavior, including preferences for the use of travel aids or sighted guides, their spatial representations and the need for accessible information systems and public spaces, as well as cross-country comparisons and the changes required to facilitate both everyday and tourism travel for (deaf)blind people. The analysis of their experiences was used to develop recommendations in the areas of communication and access to information, international standardization to support international travel, crossing (indicators), street furniture,

orientation and mobility training, and public transport, as well as suggestions for further research.

Bezyak, J. L., Sabella, S., Hammel, J., McDonald, K., Jones, R. A., & Barton, D. (2020),did a study on "Community participation and public transportation barriers experienced by people with disabilities" Background of the study are barriers to public transportation quickly impact the ability of people with disabilities to fully experience their community. The objective of the study is a national survey of people with disabilities was conducted to understand the barriers and supports to accessing public transportation and the impact on community participation. A total of 1748 respondents responded to a web-based survey investigating the accessibility of public transportation. Results present frequency of barriers to public transportation and group differences using Pearson's chi-square technique and Mann–Whitney U tests. A majority of respondents experienced difficulties accessing public transportation, and community activities that do not occur on a regular schedule are more affected by problems with public transportation. Individuals with blindness or low vision, psychiatric disabilities, chronic health conditions, or multiple disabilities experienced more problems using public transportation for community participation, along with participants who were female, Hispanic, Latino/Latina, or Spanish origin. Significant challenges face individuals with disabilities as they use public transportation, and certain disability groups are more severely impacted by these problems.

Mularski, C. (1987), on "Academic library service to deaf students: Survey and recommendations". Deaf students are a small but growing minority on American campuses, yet as a survey conducted in Ohio shows, very few librarians are prepared to meet deaf students' special communication needs when providing library service. The author urges regular contact and cooperation between library reference staffs and disabled student services offices, more library outreach to deaf students, and inservice education for library staff all low-cost solutions that improve library service for this special population.

Mahvashe Wernosfaderani, A., Adibsereshki, N., & Movallali, G. (2012), on "The effectiveness of life skills training on enhancing the social skills of hearing impaired boy secondary school students in inclusive schools".The purpose of this research was to determine the effectiveness of life skills training on enhancing the social skills of 12-to-16 year-old male students with hearing impairment in inclusive schools. The design of this study was experimental with pretest-posttest and control group. thirty 12-to-16 year-old male students with hearing impairment attending inclusive schools of Arak (Iran) were randomly selected and assigned to either an experimental (n = 15) or a control group (n = 15). The Social Skills Rating Scale (SSRS) was completed by students' teacher at the pretest. The experimental group received a 14-week life skills training program consisting of 16 sessions of 2 hours each, two times a week. The same questionnaire (SSRS) was used for the posttest measurements. The Posttest SSRS were administered immediately after the termination of the intervention program. Kolmogorov-Smirnov, Independent t test and ANCOVA were conducted for the statistical analysis of data. The experimental group had better performance in social skills in comparison to the control group. Also, they obtained higher scores in cooperation, self control and assertion skills than did the control group ($P<0.001$).Life skills training can significantly increase those aspects of social skills that concern social life and cooperation, self control, and assertion in male students with hearing impairment attending inclusive schools.

Mingsiritham, K., & Chanyawudhiwan, G. (2020), on his research "Experiment of the prototype of online learning resources on massive open online course (mooc) to develop life skills in using technology media for hearing impaired students".This research aimed to experiment the prototype of online learning resources on Massive Open Online Course (MOOC) to develop life skills in using technology media for hearing impaired students. The research sample were 33 hearing impaired students from Thungmahamek School for the Deaf in secondary school level. Tools included pretest, posttest, and satisfaction assessment form. Data analysis was done by average statistics, standard deviation, and content analysis. The research found that academic achievement scores after the experiment were higher than the scores before the experiment with statistical significance at the level of .05 ($t = -12.14$, $p = .00$). The overall students' satisfaction was at the highest level ($\bar{X} = 4.53$, $SD = 0.67$).

Considering each item, it was found that the up-to-date content has the highest mean ($\bar{X}$ = 4.77, SD = 0.48), followed by MOOC learning allowing freedom of study ($\bar{X}$ = 4.64, SD = 0.58), the clarity of sign language to describe the content ($\bar{X}$ = 4.62, SD = 0.67), and the ease of online access ($\bar{X}$ = 4.62, SD = 0.63).

Tuccelli, M. (1983), studied entitled "It's a hearing, hearing world: a life skills workshop for hearing-impaired students". A workshop model designed to help hearing-impaired students develop business survival skills and to serve as a motivational tool for their career planning as well as to help business leaders develop an awareness of the communication problems of the hearing impaired is described. This type of workshop may be used for students in both mainstreamed day programs and residential schools for the deaf, as well as in regular day or oral programs for the deaf. The initial workshop was presented by the Kiwanis Club of Greater St. Augustine and the State of Florida's Department of Vocational Rehabilitation in collaboration with the Florida School for the Deaf's Office of Community Education.

Khan, A. M., Batool, H., & Hussain,Z (2019), on "A STUDY TO EXPLORE PRESENCE OF SOCIAL SKILLS AMONG HEARING IMPAIRED STUDENTS". Present study attempted to explore presence of social skills among hearing impaired students taking education from government special education schools and to compare different level of social skills based on different demographic variables. It is a descriptive study in nature and survey method is used to collect the data. Population of study is hearing impaired children living in division Faisalabad and Lahore. Sample of N=200 hearing impaired students are selected through convenient sampling technique. Responses of social skills are taken from mothers as mothers have better knowledge of proficiencies of their hearing impaired children's social skills. Children's age group was 05-20 years. Age range of mothers was 25-55 years. Social skills checklist was used to as tool of the study for collection of data. It is a mixed method approach and statistical measures were made via frequency distribution, t-test and ANOVA. Results of current study clearly depicted that 82% hearing impaired students have low level of social skills and 18% hearing impaired students have best level of social skills. Current study also find out that there is significant difference in social skills of students on the basis of living area and children age and there is no significant difference in presence of social skills in hearing impaired students based on mother's working status (house wife and job holders)

and mothers education level. Study also demonstrated that there was positive correlation among presence of social skills in hearing impaired students and their age. The study concluded that teachers should focus on individual differences while teaching social skills to hearing impaired children and should adopt different teaching methods and teaching strategies for every student. It was also recommended that job holder mothers should manage their time table and must spare their proper time for their special children to make them beneficial and socially adjusted child of community.

Perez-Mora, R., Lassaletta, L., Castro, A., Herran, B., San-Roman-Montero, J., Valiente, E., & Gavilan, J. (2012), studied entitled "Quality of life in hearing-impaired children with bilateral hearing devices". Quality of life in hearing-impaired children with bilateral hearing devices. To evaluate the quality of life (QOL) of hearing-impaired children fitted with either a cochlear implant and a hearing aid or bilateral hearing aids, and to compare their outcomes with those of normal-hearing peers. We also investigated the impact of demographic, clinical, and audiological results on QOL. Cross-sectional study using a generic QOL questionnaire. Questionnaires were completed by children and their parents. Eighty-eight children were divided into three groups: bilateral deaf children with a cochlear implant and a contralateral hearing aid (bimodal group), bilateral deaf children with bilateral hearing aids (hearing aid group), and normal-hearing children. The Spanish version of the KINDLr test was used. Responses were correlated with demographic, clinical, and audiological data. The questionnaires revealed a high health-related QOL with a total self-rating score for the children and a proxy score for the parents of 75 or higher in five out of six domains. No significant difference was found in the QOL among the three groups. Additionally, there was no significant difference between the self-rating and the proxy total scores, and no significant association was found between the QOL and the variables of the study. Our results indicate a high level of QOL in hearing-impaired children and their families following treatment with either bilateral hearing aids or bimodal stimulation. Children and their parents reported a QOL similar to that of normal-hearing children.

Movallali, G., & Mahvashe-Wernosfaderani, A. (2014), carried out a research on "The Effectiveness of Social Skill Training on Hearing Impaired Students". The hearing impairment child is at risk the loneliness living and the lost of social discussion coequals partnership. The purpose of this research was to determine the effectiveness of social skills training on decreasing the social phobia of students with hearing impairment. In this study, students with hearing impairment were randomly selected and the pre-test of SPIN was completed by them. Post-test for SPIN were administered immediately after intervention. To evaluate participant's performance after a period of one month from the end of the instruction, both groups were reassessed. Result of the follow-up scores show that after removing the effect of pre-test, there is statistically significant difference ($F=11.371$, $p<0.001$) between the scores of both group in follow-up position. Social skills training significantly decreased the social phobia in students with hearing impairment.

Ashori, M. (2019), studied entitled "The effectiveness of life skills training on the social skills of deaf students". The aim of this research was to investigate the effectiveness of life skills training on the social skills of deaf students. The present research was used the experimental method with pretest, posttest design and a control group. The participants were 24 deaf students, with sensory-neural hearing impairment in the range of 50 to 80 decibels. They were selected from two schools for the deaf in Tehran Province using a random sampling method. Subjects were randomly divided into an experimental group and a control group, each consisting of 12 students. The experimental group received life skills training within 9 sessions, while the control group did not. Social skills rating scale was used for measuring their social skills. The obtained data was analyzed by MANCOVA. The results showed that life skills training had a significant effect on the social skills and subscales (cooperation, assertiveness and self-control) in the experimental group. Life skills training can improve the social skills of deaf students. Therefore, training of life skills has a crucial role in improving the social skills of these students

Kholoud Adeeb Al-Dababneh , Eman Al-Zboon, Mutasem Akour (2016), carried out a research on "Competencies that Teachers Need for Teaching Children Who Are Deaf and Hard-of-Hearing (DHH) in Jordan". This study investigates what competencies are needed by teachers of children who are deaf and hard-of-hearing (DHH), in the changing circumstances of their profession in Jordan. One hundred and five teachers of children who are DHH from kindergarten up to primary grade took part in this study. A scale was developed in order to achieve the goals of the study. The results revealed that the teachers' competencies on the development of Instructional Planning Strategies subscale ranked first as the most important teaching competency that teachers need to develop. Competencies in definitions and communication skills, assessment, managing the classroom environment, and team working ranked lower, with developing positive attitude ranked the last. Moreover, the results showed that there were significant differences at ($\alpha = 0.05$) according to school type in favour of private schools, according to educational settings in favour of local public schools (inclusion settings), and according to teachers' background in favour of ordinary teachers with general teaching qualifications. Based on the findings, appropriate recommendations for the educational system of the DHH in Jordan were outlined.

Abedi, A., Dadkhah, A., Rostami, M., Soltani, P. R., Movallali, G., & Salehy, Z. (2016), done a research on "Marital satisfaction of Iranian deaf women: the role of a life skills training program". Given that marital satisfaction and the factors influencing it are of high importance among deaf women, the present study aimed to examine the impact of life skills training on the marital satisfaction of deaf women in the Iranian Deaf Association (IDA). A multiple-baseline, single-case experimental design was conducted. The statistical population consisted of all deaf women in the IDA during 2014-2015. A total of 3 deaf women who met the inclusion criteria were selected using a purposeful sampling method. They participated in a 9-session life skills training program for 45 minutes a week. The instrument used in the present study was the 47-item version of the ENRICH Marital Satisfaction Scale (EMS). The data from repeated measures was processed using the trend comparison charts, and the clinical significance of the data was determined using the recovery rate formula. The results from the trend comparison charts, recovery rate formula, and visual analysis showed that the life skills training improved the marital satisfaction of the samples. According to the study

findings, it can be concluded that life skills training improves the marital satisfaction among deaf women. Therefore, the method used in the present study can be recognized as an appropriate method in psycho-educational interventions for strengthening family foundation and improving marriage durability of deaf couples at the beginning of marriage.

2.3 Conclusion

In spite of limited studies conducted on hearing impairment particularly in the area of accessing public utilities and in depth analysis of related review of literature helped the investigator to understand the genesis of the study proposed.

METHODOLOGY

CHAPTER III

METHODOLOGY

CHAPTER- III

METHODOLOGY

3.0 Introduction

Research methodology is a way to scientifically solve the research problem. In simple terms, methodology is used to gives a clear cut idea of what the researcher is carrying out in his/ her research. **According to federal policy, USA, (2005)** research means a systematic investigation, including research development testing, and evaluation, designed to develop or contribute to generalize knowledge

These chapters provide information in detail what the investigator did to solve the problems. These chapters provide an overview of the total layout including consideration of how the work was executed. It is at this stage that essential decisions were made for the objective to be achieved. The attainments of the objectives of any research depend upon many factors. Among these factors, selection of suitable methodology is one of the most important factors.

The main purpose of the study is to develop their ability and knowledge in accessing public utilities independently. Having described the rationales of the study supported by a clear review of literature, the investigator aimed at describing the methodology of the study in this chapter. The methodology of the present study entitled "**Competency of the Hearing Impaired in Accessing Public Utilities".** At the beginning the objectives of the study are presented for ready reference. The objectives are following by the description of variables, the sample, and the research tools used for the study.

3.1 Objectives of the Study

The objectives of the study were:

- To identify the children with hearing impairment.
- Designing a tool for the assessment of those who have difficulty in accessing public utilities among children with hearing impairment.
- To find out the area of difficulty for the children with hearing impairment in accessing public utilities.
- Develop their ability to access public utilities among the hearing impaired children by using tool.
- To find out the difference between pre test and post test mean score of accessing public utilities among children with hearing impairment.

3.2 Selection of Sample

3.2.1 Site Description

The sample was selected from two integrated schools and one special school where the students with hearing impairment pursue primary and secondary education. The schools were clustered in and around Coimbatore.

3.2.2 Sample

The sample consisted of children in the age group between 5 & 15 years. A total of 30 children were selected and among them 15 were boys and 15 were girls.

Purposive sampling technique was used to select the samples. The investigator explored the hearing impaired children enrolled in the integrated and special schools in Coimbatore district and sample for the study consisted of 30 children.

Table 3.1

Age wise Distribution of Sample

S.No.	Age group	Number of Students	Percentage
1	5-10 years	12	**40**
2	11-15 years	18	**60**
	Total	**30**	**100**

The sample consisted of 40% sample with age group of 5-10 years and 60% sample with age group 11-15 years.

Table 3.2

Grade wise Distribution of Sample

S.No.	Grade	Number of Students	Percentage
1	I to V	12	**40**
2	VI to X	18	**60**
	Total	**30**	**100**

The sample was spread between I &X standard. Twelve children were from I – V standard and eighteen children were from VI- X standard.

3.3 Variables of the Study

Selection of variable is another important aspect of the research. We must choose the correct variables according to the problem question because the variables have a major influence on the result of the research. The present study aims at identify the difficulty in accessing public utilities by using pretest and gives the intervention for improving their knowledge in accessing public utilities and it will be tested using post test.

3.3.1. Dependent Variable

The dependent variables included in the study were improving their knowledge in accessing public utilities

3.3.2. Independent Variable

The independent variables were Grade level, Age, Gender, Locality, Educational Status of Parents, Mode of communication, Type of School, Type of Family, Degree of Hearing Loss, Onset of disability

Table 3.3

Variables and their Level

S.No.	Variables	Levels
1	Age	5-10 years
		11-15 years
2	Gender	Boys
		Girls
3	Type of Locality	Urban
		Rural
4	Educational Status of Parents	Illiterate
		Literate
5	Mode of Communication	Oral
		Manual
6	Type of Family	Nuclear
		Joint
7	Type of School	Special
		Integrated
8	Grade level	I to V
		VI to X
9	Onset of disability	Congenital
		Acquired
10	Degree of hearing loss	Mild
		Moderate
		Severe
		Profound

Table 3.4

Degree of hearing loss as per variables

S.No.	Variables	Boys	Girls	Total	Percentage
1	Mild	2	3	5	**17**
2	Moderate	4	3	7	**23**
3	Severe	4	5	9	**30**
4	Profound	5	4	9	**30**
	Total	**15**	**15**	**30**	**100**

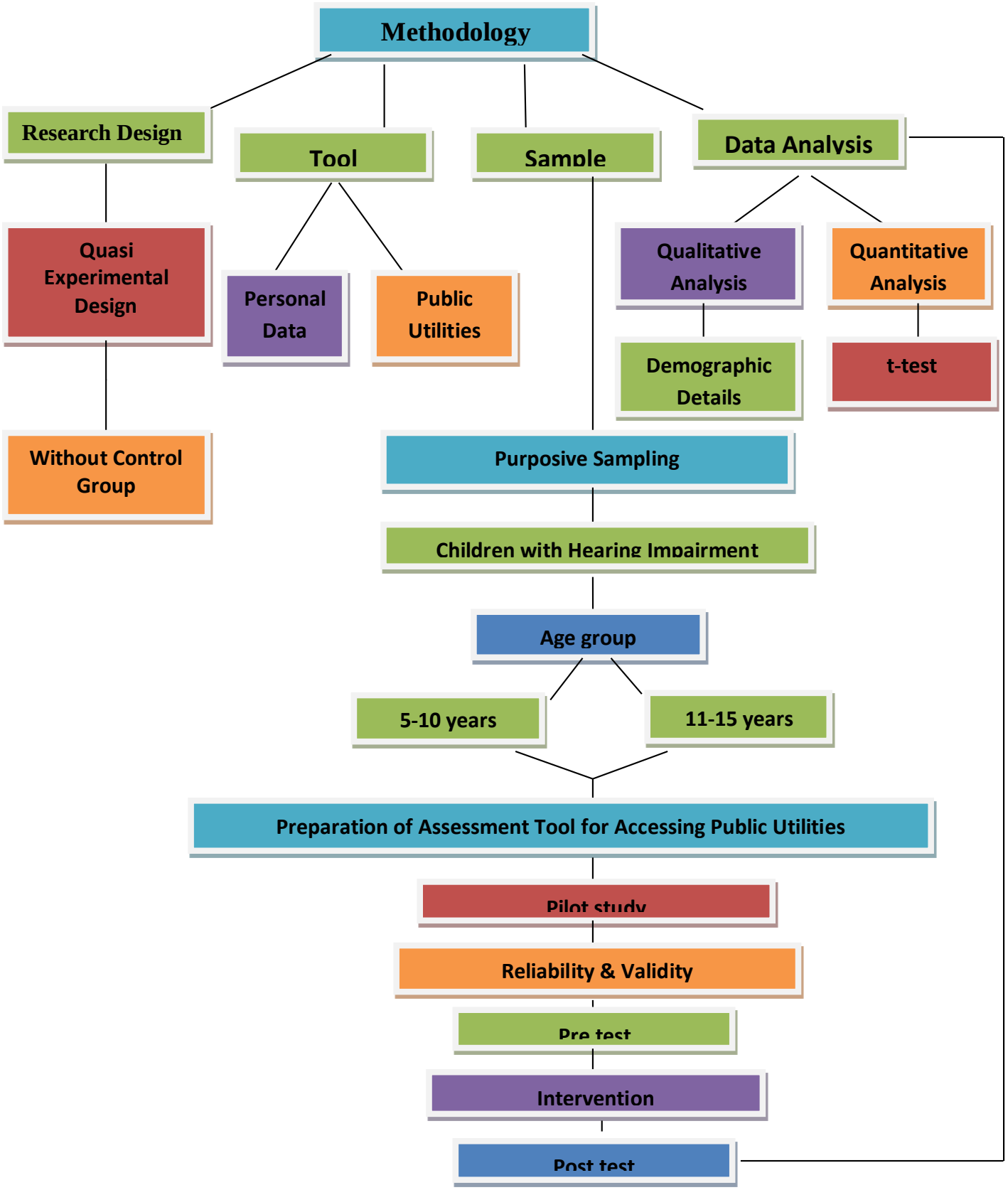
The sample consisted of 17% sample with mild, 23% sample with moderate, 30% sample with severe and 30% sample with profound hearing loss.

3.4 Research Design

The researcher adopted Quasi- experimental design to find out the **Competency of the Hearing Impaired in Accessing Public Utilities.** The study was designed on the basis of pre test and post test without control group

The flow chart 3.1 represents the methodology followed in the study

Figure 3.1 Flow Chart Represent the Methodology of the Study



3.5 Tools used for the Study

Based on the objectives of the study, the investigator selected appropriate tools such as;

Personal data bank was used to collect the information about the subjects such as grade level age, gender, type of locality, educational status of parents, mode of communication, type of family, type of school, degree of hearing loss, onset of disability and the same personal data bank enclosed in **annexure – I**

The tool developed by the investigator was used to elicit the information about difficulties faced by the hearing impaired children in accessing public utilities. Tool for public utilities consisted of five domains as listed below and in the **annexure – II**

Domains in Public Utilities

- Bank
- Post office
- Railway station
- Library
- Bus stand

3.6 Construction of Tool

The tool was constructed to elicit the competency of the hearing impaired in accessing public utilities.

This tool consists of 50 questions under 5 domains related to accessing public utilities and it is developed in Tamil language. Based on this the investigator developed the visual aid to enhance the knowledge of accessing public utilities for hearing impaired students. Assessment tool for accessing public utilities involves domains like bank, post office, railway station, library, bus stand.

Table 3.5

Construction of Tool

S.No	Domains in accessing public utilities	No. of questions
1.	Bank	10
2.	Post office	10
3.	Railway station	10
4.	Library	10
5.	Bus stand	10

3.7 Pilot Study

Pilot study was administered with the help of tool to assess the accessing public utilities for 10 hearing impaired students from age group 5 to 15 years. The domains in public utilities were evaluated using rating scale with two points rating. When the task is able to perform a score one was given. If the student is unable to perform zero score was marked .Based on the scores secured by the students the investigator incorporated certain modifications. The modified tool was further scrutinized by expert's namely special educators, teacher educators and professionals working in the field of special education. Based on their opinion and ideas the tool was modified and finalized.

3.8 Realiability and Validity

The Cronbach's Alpha Coefficient was used to analyze the pre and post test scores, the reliability of the assessment tool 'α' value was found to be 0.811

The reliability coefficients clearly indicate that the tool used was reliable. The process of pilot study took one month. However the investigator sought the opinion from experts. They opined that the tool is valid and reliable.

3.9 Administration of Tool and Data Collection Procedure

The present study used quasi experimental design with pre and post test without control group. The study was conducted in four phases. The flow chart 3.2 depicts administration of the test diagrammatically.

Phase I –Personal data bank was used to collect the personal data of the selected samples.

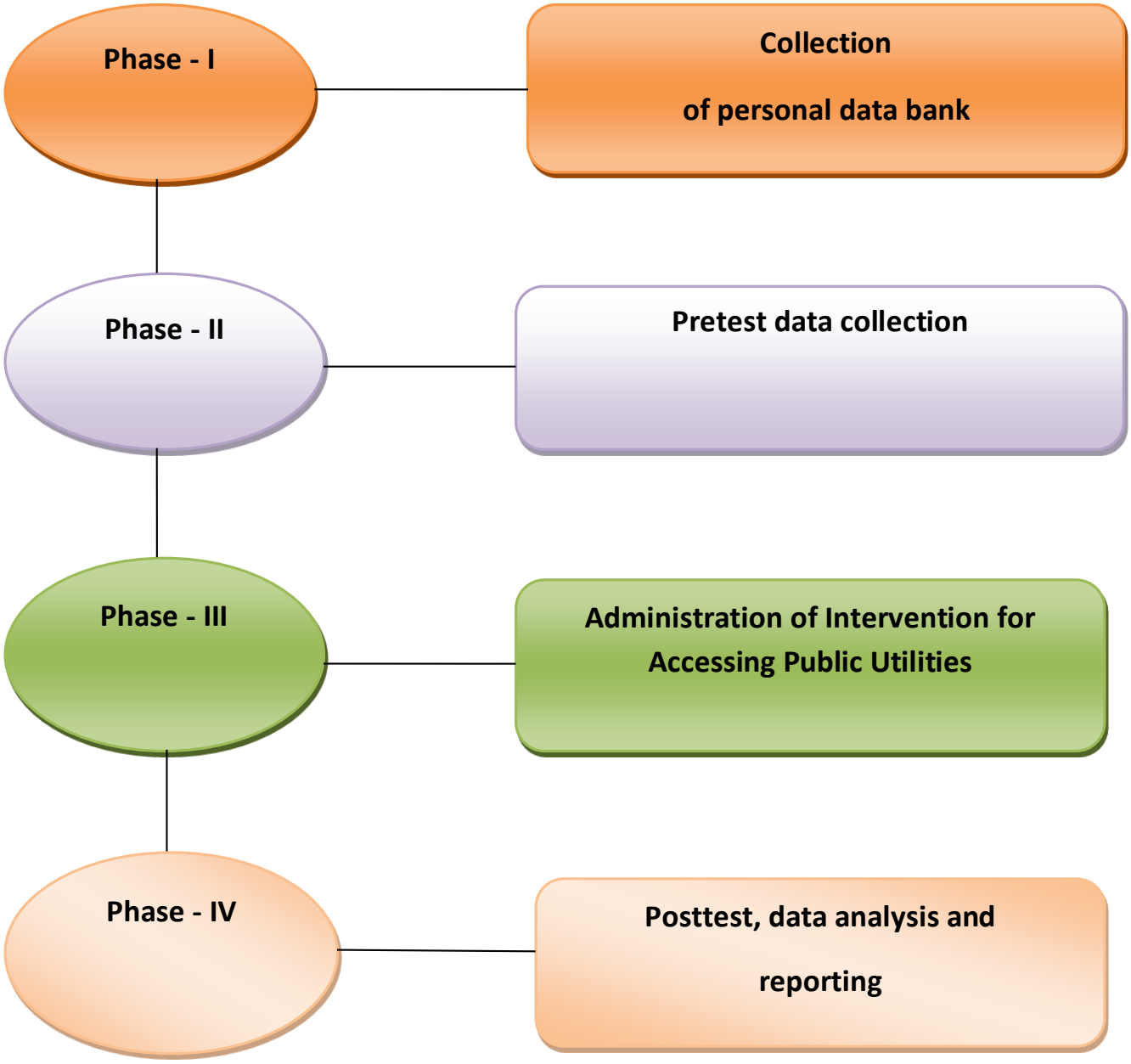
Phase II- Pretest data collection- Pre testing was done to find out the hearing impaired children facing difficulties in accessing public utilities by using assessment tool. After pretesting, the teachers oriented how the tool needs to be used to develop their knowledge in accessing public utilities for children with hearing impairment.

Phase III- Administration of Intervention for Accessing Public Utilities- Intervention in accessing public utilities was given to each child individually. The training was given from 45 minutes per day for each child based on their ability for duration of one month.

Phase IV- Posttest, data analysis and reporting- After intervention the investigator used the same tool to collect the post test data.

Figure 3.2

Flow chart representing the phases involved in administration of tool for public utilities



3.10 Intervention Strategies

Visual aid was used as the medium of instruction for providing intervention in accessing public utilities among students with hearing impairment. More colorful pictures were given by the investigator for the students to understand about the concepts. The visual aid helped the students to understand the concept how to use and access public utilities. Visual aid was given to each individual of the selected sample where it allowed them to learn how to access public utilities independently. The visual aid made the students a clue for their answers and it provided immediate feedback for the investigator. It helped the students to improve their scores in the test.

3.11 Data Analysis

The obtained data has been analyzed by using appropriate statistical techniques. The investigator used qualitative procedure and quantitative procedure to analyze the data. To study the effect of Age, Gender, Type of Locality, Type of Family, Educational Status of Parents on developing their knowledge in accessing public utilities for students with hearing impairment the following test was used:

- Mean
- Standard deviation
- Test of significant ‘t’ test

The formula used to analyses the data are as follow

Mean

The mean is the arithmetical that is obtained by adding all scores X (Mean) in distribution and dividing by the number of scores.

$$\text{Mean} = A + \frac{\Sigma f d^2}{N} \times C$$

Standard Deviation

Standard deviation is defined as the square-root of the average of square of deviation, when such deviations for the values of individual items in a series are obtained from the

arithmetic average. The most widely used measure of dispersion of the series and commonly denoted by the symbol "σ" (pronounced as sigma).

The formula is

$$S.D= \sqrt{\frac{\Sigma f d^2}{N} - \left(\frac{\Sigma f d}{N}\right)^2} \times C$$

Test of Significance

A t-test is an analysis of two populations means through the use of statistical examination, a t-test with two samples is commonly used with small sample sizes, testing the difference between the samples when the variances of two normal distributions are not known.

3.12 Conclusion

In this chapter the methodology of the present investigation is enumerated. A clear cut view about the method selected, administration of the tool and evaluation of the tool is discussed. Thus the data collected were consolidated, analyzed, interpreted and presented in the next chapter IV Analysis and interpretation

ANALYSIS AND INTERPRETATION

CHAPTER IV

ANALYSIS AND INTERPRETATION

CHAPTER – IV

ANALYSIS AND INTERPRETATION

4.0. Introduction

This chapter presents the results of the study conducted in **"Competency of the Hearing Impaired in Accessing Public Utilities"**.

Analysis of data involves a number of closely related operations that are performed with the purpose of summarizing the collected data and organizing them in such a manner that they will yield answer to research question. Some scholars are of the opinion that processing of data is one under analysis of data **(Bhandarkar, 2005).**Interpretation refers to the task of picture inferences from the collected facts after an analytical and or experimental study. **Best (2003)** states that "Investigation of information is the core of the research report."

The data pertaining to accessing public utilities of hearing impaired children were processed and analyzed with the use of both qualitative and quantitative analysis and the results obtained are discussed under the following section.

4.1. Section I- Qualitative analysis

4.1.1 Background information of the selected samples

4.1.2 Overall pre test scores of accessing public utilities among children with hearing impairment

4.1.3 Overall pre test scores of domains in accessing public utilities among children with hearing impairment

4.1.4 Overall post test scores of accessing public utilities among children with hearing impairment

4.1.5 Overall post test scores of domains in accessing public utilities among children with hearing impairment

4.1.6 Overall results of accessing public utilities among children with hearing impairment with respect to age

4.1.7 Overall results of accessing public utilities among children with hearing impairment with respect to gender

4.1.8 Overall results of accessing public utilities among children with hearing impairment with respect to type of locality

4.1.9 Overall results of accessing public utilities among children with hearing impairment with respect to educational status of parents

4.1.10 Overall results of accessing public utilities among children with hearing impairment with respect to type of family

4.2. Section II - Quantitative analysis

4.2.1 Comparison of pre and post test scores in accessing public utilities among children with hearing impairment

4.2.2 Comparison of pre and post test scores of accessing bank among children with hearing impairment

4.2.3 Comparison of pre and post test scores of accessing post office among children with hearing impairment

4.2.4 Comparison of pre and post test scores of accessing railway station among children with hearing impairment

4.2.5 Comparison of pre and post test scores of accessing library among children with hearing impairment

4.2.6 Comparison of pre and post test scores of accessing bus stand among children with hearing impairment

4.1. Section I- Qualitative analysis

This section contains the qualitative information about overall frequency and percentage of accessing public utilities among selected samples. These data were analyzed and interpreted in the following.

4.1.1. Background information of the Selected Sample

Table 4.1.1 and Figure 4.1.1 represent the background information of the selected sample.

Table 4.1.1

Background information of the Selected Sample

Particulars	Categories	No. of Samples	Percentage (%)
Age	5-10 years	12	40
	11-15 years	18	60
Grade level	I to V	12	40
	VI to X	18	60
Gender	Boys	15	50
	Girls	15	50
Mode of communication	Manual	18	60
	Oral	12	40
Type of Locality	Urban	15	50
	Rural	15	50
Educational status of Parents	Literate	18	60
	Illiterate	12	40
Type of Family	Nuclear	12	40
	Joint	18	60
Degree of hearing loss	Mild	5	17
	Moderate	7	23
	Severe	9	30
	Profound	9	30
Type of school	Integrated	15	50
	Special	15	50
Onset of disability	Congenital	17	57
	Acquired	13	43

Information gathered in general on the Grade level, Age of the student, Gender, Type of Locality, Type of Family, Educational status of Parents, Mode of communication, Degree of hearing loss, Type of school , Onset of disability of selected sample were analyzed qualitatively and presented in the table 4.1.1.

It was shown that 40 percent of the selected samples were 5 – 10 years while others were 60 percent belonging to 11 – 15 years.

It was observed that 40 percent of the selected samples were studying I to V grade while remaining 60 percent were studying VI to X grade.

It was observed that 50 percent of the selected samples were boys while remaining 50 percent of the selected samples were girls.

Analyzing the mode of communication of the selected samples it was revealed that 60 percent of them were using manual communication while 40 percent of them were using oral communication.

It was observed that among the selected samples 50 percent of them were from urban areas where as 50 percent of them were from rural areas.

It was shown that 60 percent of the selected samples were having literate parents while remaining 40 percent of the selected samples were having illiterate parents.

Analyzing the type of family of the selected samples it was revealed that 40 percent of them were coming from nuclear family while 60 percent of them were coming from joint family.

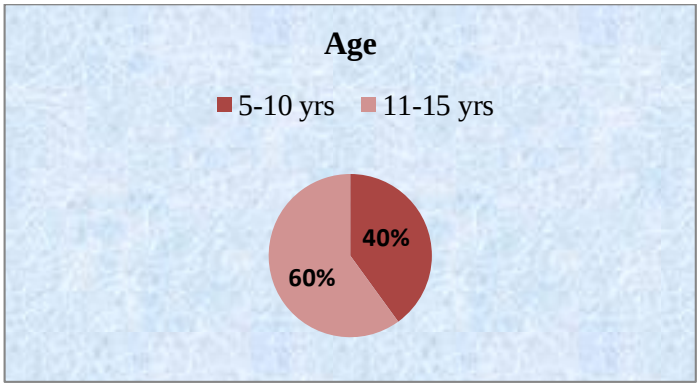
It was observed that among the selected samples 17 percent of them were having mild hearing loss while as 23 percent of them were having moderate hearing loss then remaining 60 percentage of them were having severe and profound hearing loss.

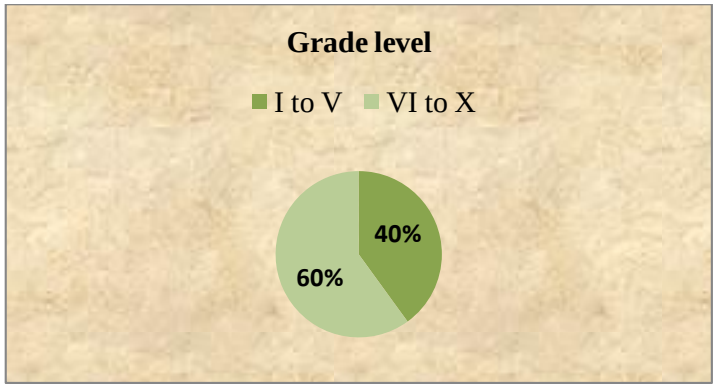
It was observed that 50 percent of the selected samples were studying in integrated school while remaining 50 percent of the selected samples were studying in special school.

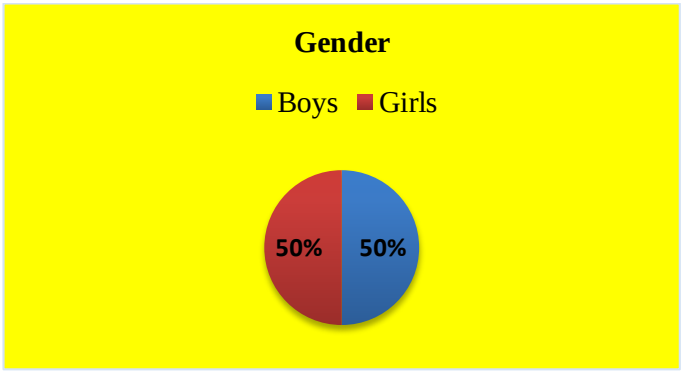
Analyzing the onset of disability of the selected samples it was revealed that 57 percent of them were having hearing loss in congenital while 43 percent of them were having hearing loss in acquired.

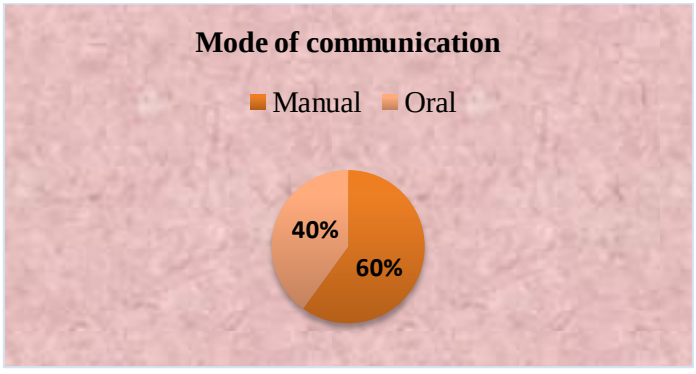
Figure 4.1.1

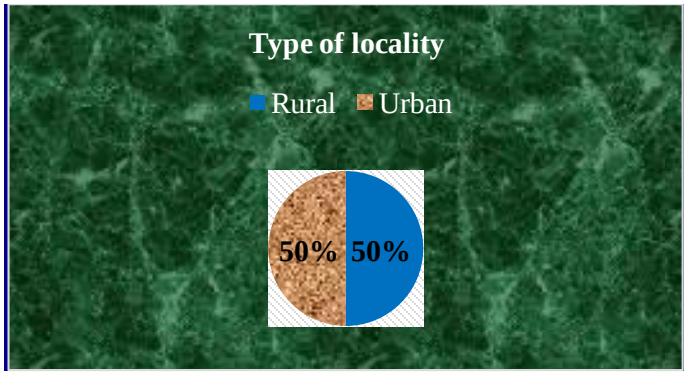
Background information of the Selected Sample

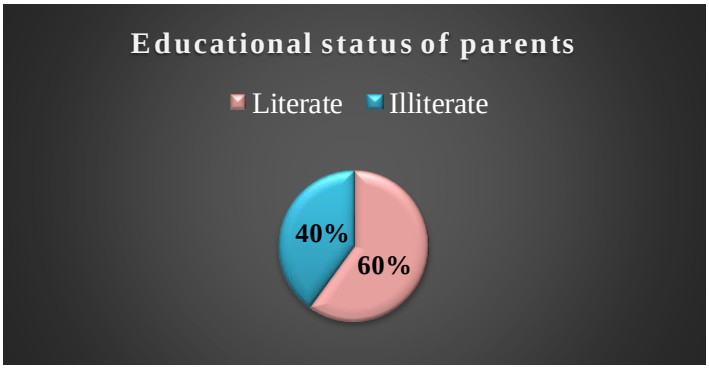


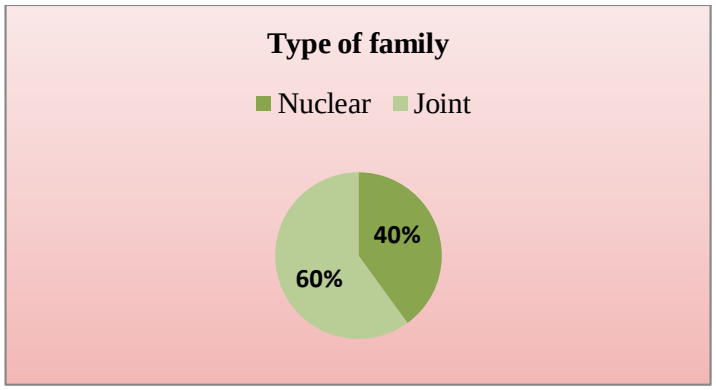


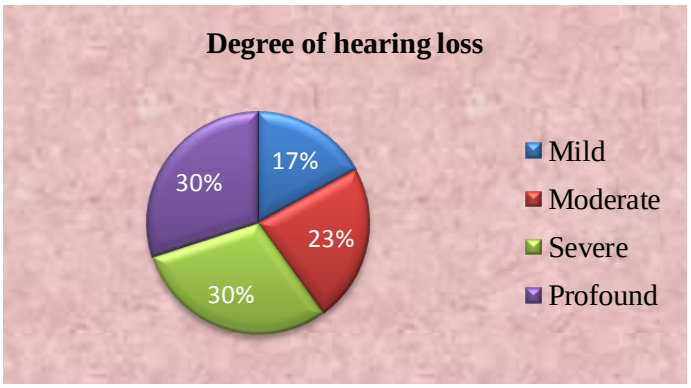


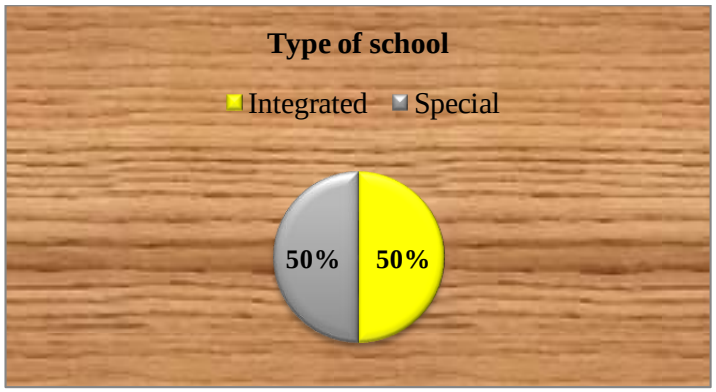







Type of family
Nuclear
Joint
40%
60%


Degree of hearing loss
17%
23%
30%
30%
Mild
Moderate
Severe
Profound


Type of school
Integrated
Special
50%
50%

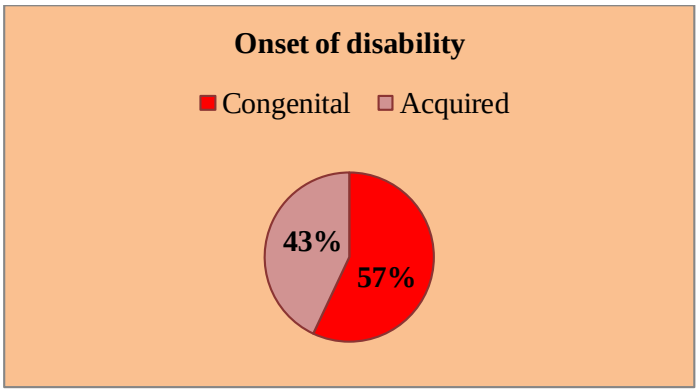

Onset of disability
Congenital
Acquired
43%
57%

Table 4.1.2

Overall pre test scores of accessing public utilities among children with hearing impairment

Testing	No. of. students	Overall Performance of the Students			
		TPR	%	TNR	%
Pre test	30	464	30.93	1036	69.06

TPR-Total positive response; TNR-Total negative response; %-Percentage

The above table shows the overall pre test result of students in accessing public utilities. It reveals that the students call for intervention to overcome their difficulties in accessing public utilities.

Figure 4.1.2

Overall pre test scores of accessing public utilities among children with hearing impairment

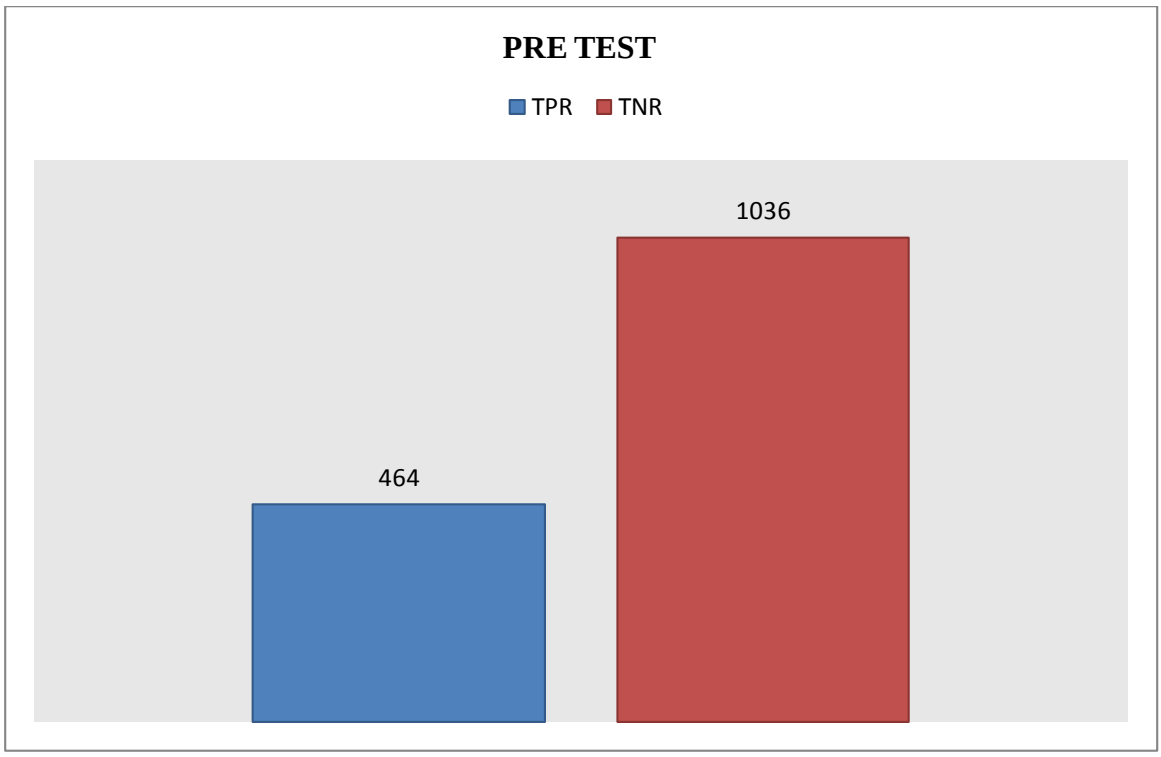


Table 4.1.3

Overall pre test scores of domains in accessing public utilities among children with hearing impairment

Testing	Domains	Overall Performance of the Students			
		TPR	%	TNR	%
Pre test	Bank	73	24.3	227	75.6
	Post office	98	32.6	202	67.3
	Railway Station	81	27	219	73
	Library	93	31	207	69
	Bus stand	119	39.6	181	60.3

TPR-Total positive response; TNR-Total negative response; %-Percentage

The above table shows the overall pre test result of students in domains of accessing public utilities. It reveals that the students having more positive response in accessing bus stand. Then they show average performance in accessing library and post office. The students having poorer response in accessing bank and railway station. From the above table it reveals that the students call for intervention to overcome their difficulties in accessing public utilities.

Figure 4.1.3

Overall pre test scores of domains in accessing public utilities among children with hearing impairment

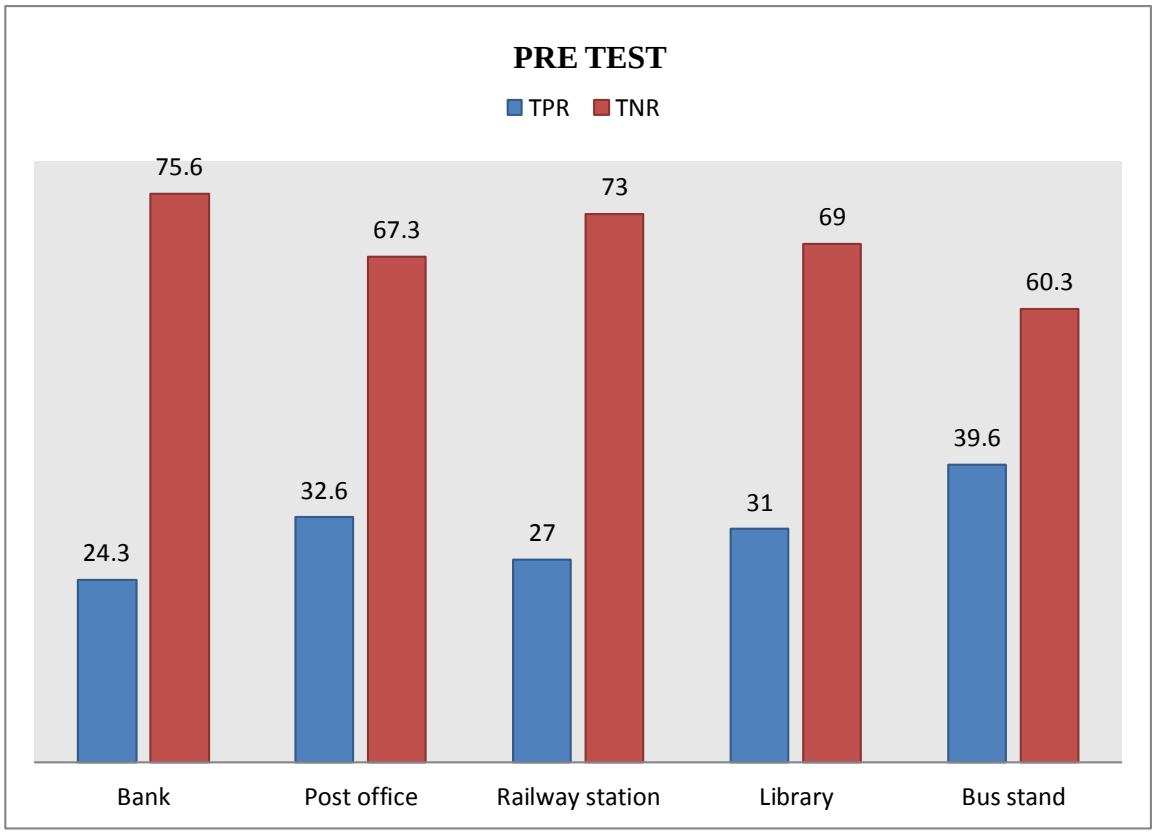


Table 4.1.4

Overall post test scores of accessing public utilities among children with hearing impairment

Testing	No. of. students	Overall Performance of the Students			
		TPR	%	TNR	%
Post test	30	1377	91.8	123	8.2

TPR-Total positive response; TNR-Total negative response; %-Percentage

The above table shows the overall post test result of students in accessing public utilities. It reveals that with the help of intervention the students overcome their difficulties in accessing public utilities.

Figure 4.1.4

Overall post test scores of accessing public utilities among children with hearing impairment

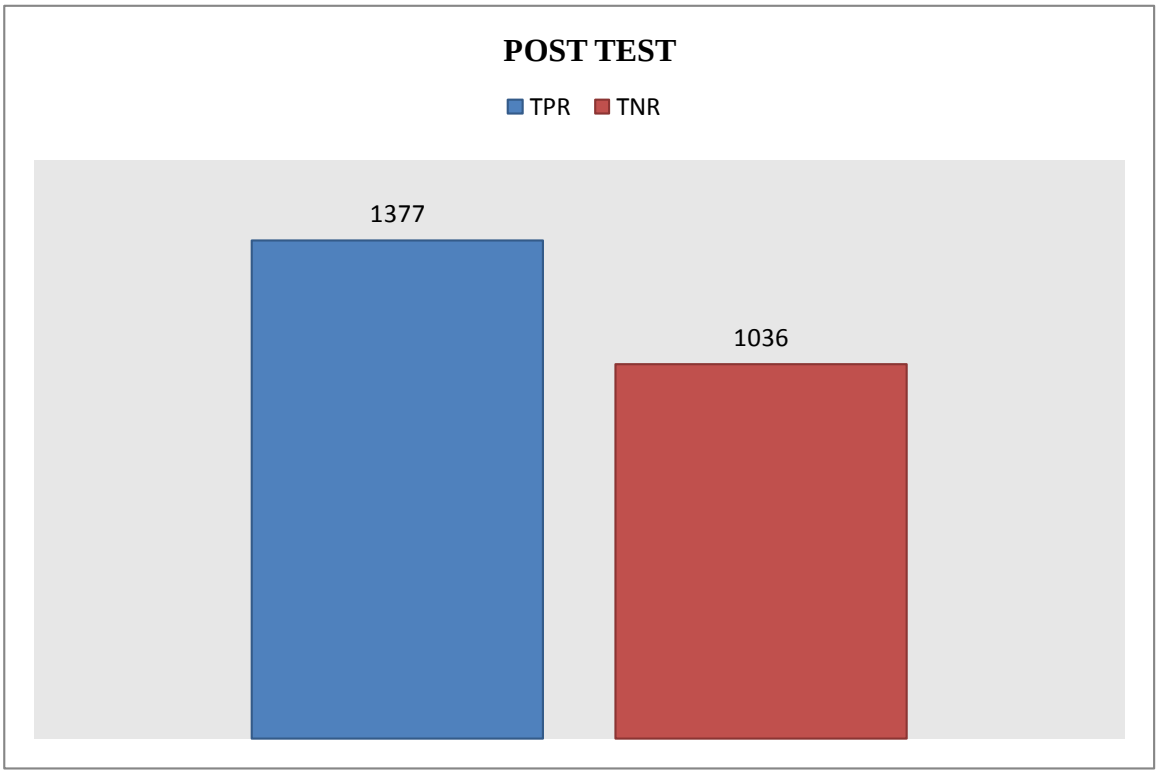


Table 4.1.5

Overall post test scores of domains in accessing public utilities among children with hearing impairment

Testing	Domains	Overall Performance of the Students			
		TPR	%	TNR	%
Post test	Bank	263	87.6	37	12.3
	Post office	264	88	36	12
	Railway station	285	95	15	5
	Library	274	91.3	26	8.6
	Bus stand	291	97	9	3

TPR-Total positive response; TNR-Total negative response; %-Percentage

The above table shows the overall post test result of students in domains of accessing public utilities. It reveals that the students having more positive response in accessing railway station, library and bus stand. Then they show average performance in accessing bank and post office. From the above table it explains that the students got more improvement in accessing public utilities because of intervention they had.

Figure 4.1.5

Overall post test scores of domains in accessing public utilities among children with hearing impairment

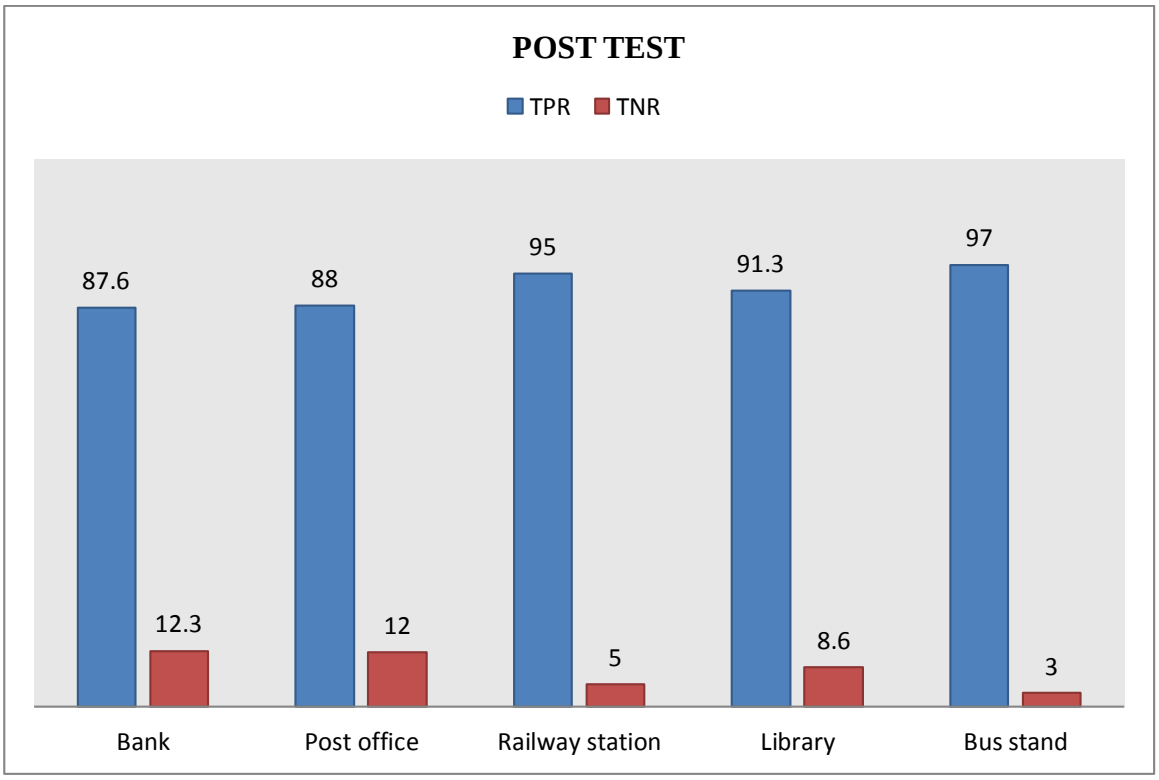


Table 4.1.6

Overall results of accessing public utilities among children with hearing impairment with respect to Age

PUBLIC UTILITIES	AGE	OVERALL PERFORMANCE OF THE STUDENTS							
		PRE TEST				POST TEST			
		TPR	%	TNR	%	TPR	%	TNR	%
Bank	5-10yrs	40	33.33	80	66.66	100	83.33	20	16.66
	11-15yrs	50	27.77	130	72.22	165	91.66	15	8.33
Post office	5-10yrs	30	25	90	75	110	91.6	10	8.33
	11-15yrs	43	23.88	137	76.11	157	87.22	23	12.77
Railway station	5-10yrs	35	29.1	85	70.83	103	85.83	17	14.16
	11-15yrs	57	31.66	123	68.33	170	94.44	10	5.55
Library	5-10yrs	27	22.5	93	77.5	95	79.16	25	20.83
	11-15yrs	63	35	117	65	143	79.44	37	20.55
Bus stand	5-10yrs	50	41.66	70	58.33	112	93.33	8	6.66
	11-15yrs	61	33.88	119	66.11	166	92.22	14	7.77

TPR-Total positive response; TNR-Total negative response; %-Percentage

The above table shows the overall result of students based on their age group. The students have divided into two groups-‘5-10years’ and ‘11-15 years’. The table reveals that the small age group hearing impaired showing average performance in accessing public utilities because that is the learning stage in accessing public utilities among those children, the children in ‘11-15 years’ age group shows good performance in all the domains of accessing public utilities compared to ‘5-10 years’ age group because they explore more in the society compared to smaller age group.

Figure 4.1.6

Overall results of accessing public utilities among children with hearing impairment with respect to Age

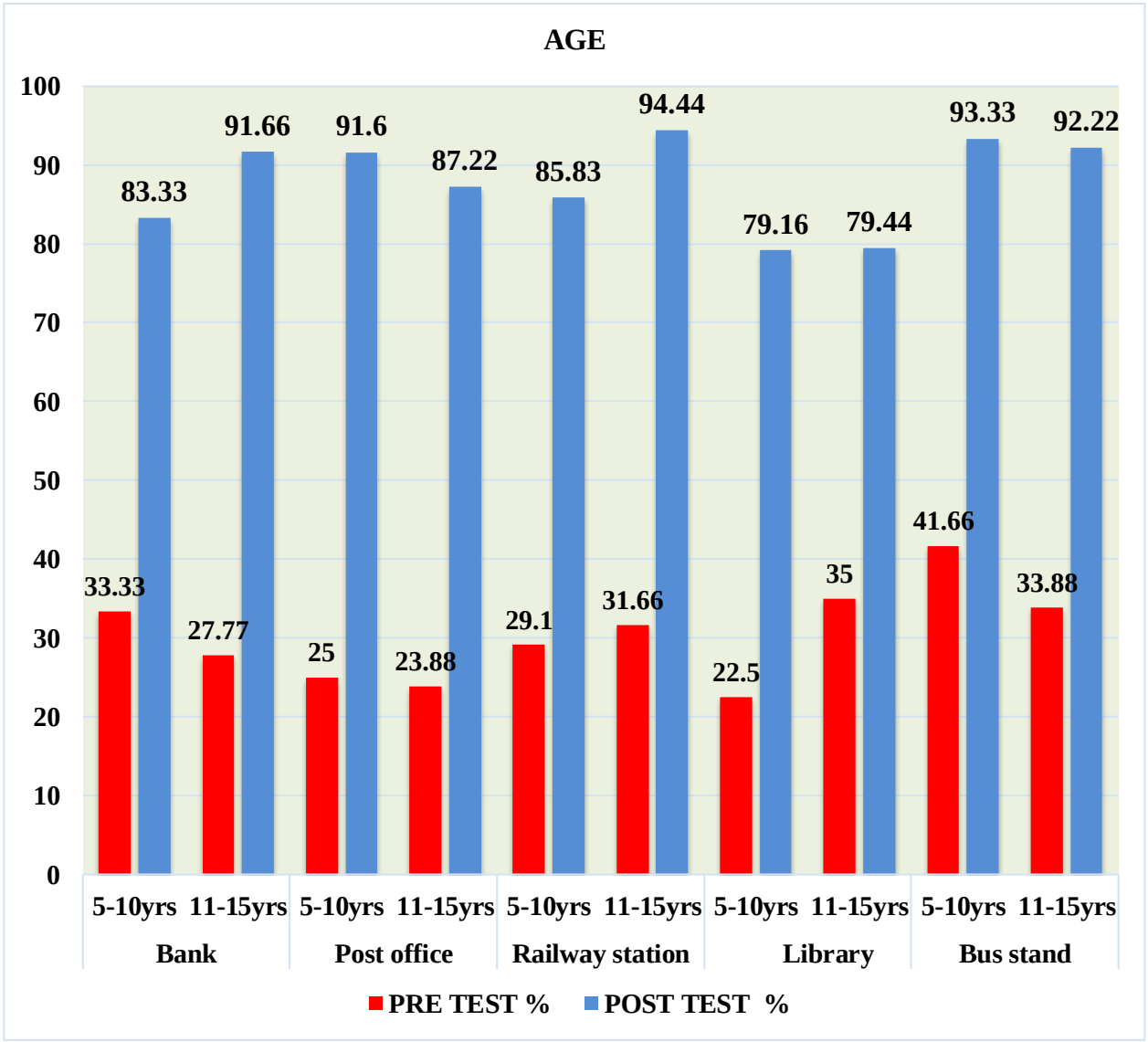


Table 4.1.7

Overall results of accessing public utilities among children with hearing impairment with respect to Gender

PUBLIC UTILITIES	GENDER	OVERALL PERFORMANCE OF THE STUDENTS							
		PRE TEST				POST TEST			
		TPR	%	TNR	%	TPR	%	TNR	%
Bank	Boys	32	21.33	118	78.66	135	90	15	10
	Girls	41	27.33	109	72.66	128	85.33	22	14.66
Post office	Boys	50	33.33	100	66.66	129	86	21	14
	Girls	48	32	102	68	135	90	15	10
Railway station	Boys	33	22	117	78	140	93.33	10	6.66
	Girls	48	32	102	68	145	96.66	5	3.33
Library	Boys	51	34	99	66	138	92	12	8
	Girls	42	28	108	72	136	90.66	14	9.33
Bus stand	Boys	59	39.33	91	60.66	148	98.66	2	1.33
	Girls	60	40	90	60	143	95.33	7	4.66

TPR-Total positive response; TNR-Total negative response; %-Percentage

The above table shows the overall result of students based on gender. The students have divided into two groups-‘Boys’ and ‘Girls’. The table reveals that the girls having more positive response in accessing public utilities particularly in post office, railway station, but they shows average performance in accessing library, bus stand. Then they show poorer performance in bank. The boys shows good response in accessing public utilities particularly in bank, library, bus stand then average performance in accessing railway station but they shows poorer performance in post office. From the above table it reveals that the accessing public utilities of the girls are less than the boys.

Figure 4.1.7

Overall results of accessing public utilities among children with hearing impairment with respect to Gender

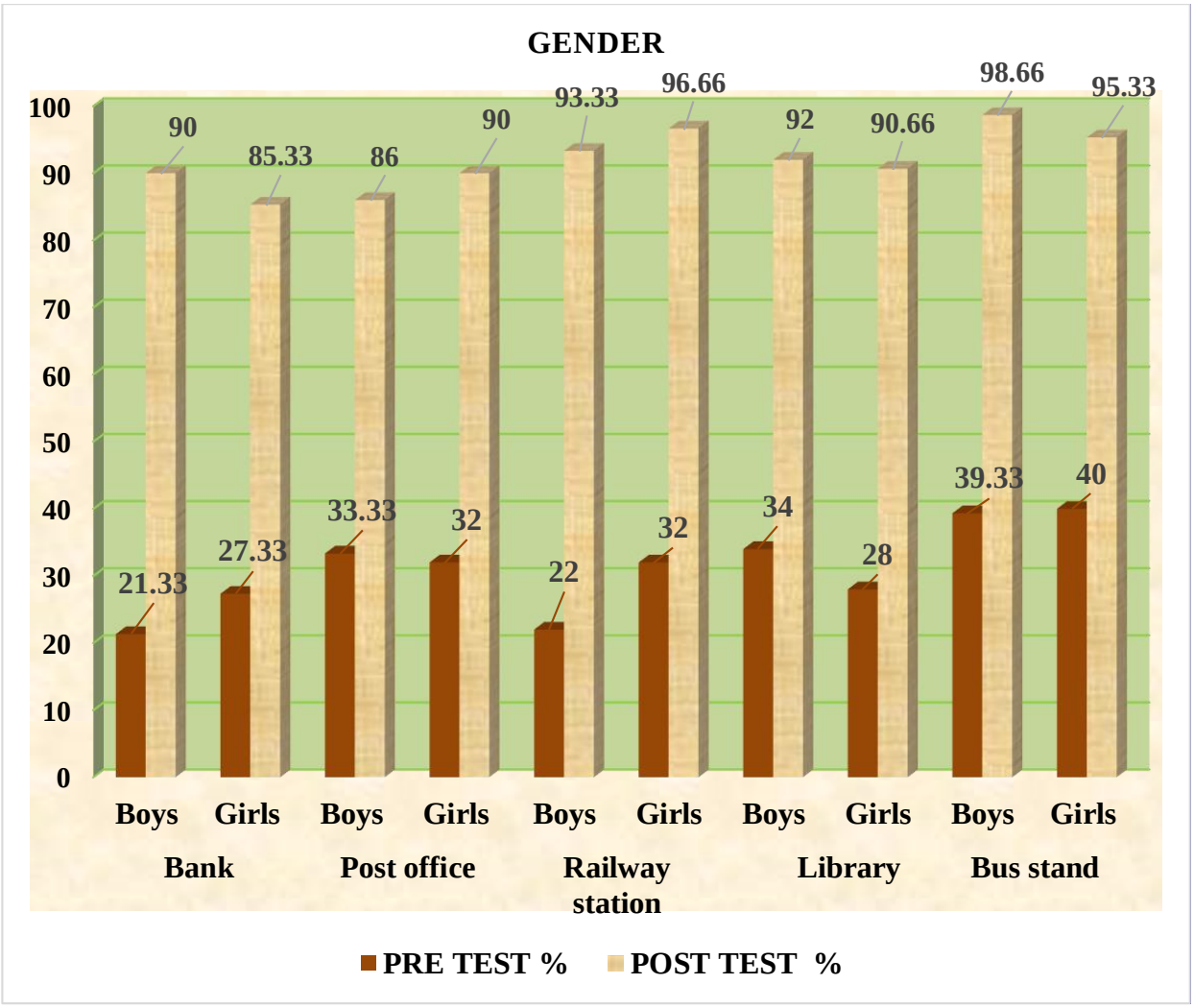


Table 4.1.8

Overall results of accessing public utilities among children with hearing impairment with respect to Type of locality

PUBLIC UTILITIES	TYPE OF LOCALITY	OVERALL PERFORMANCE OF THE STUDENTS							
		PRE TEST				POST TEST			
		TPR	%	TNR	%	TPR	%	TNR	%
Bank	Urban	32	21.33	118	78.66	135	90	15	10
	Rural	39	26	111	74	128	85.33	22	14.66
Post office	Urban	50	33.33	100	66.66	120	80	30	20
	Rural	48	32	102	68	135	90	15	10
Railway station	Urban	55	36.66	95	63.33	148	98.66	2	1.33
	Rural	33	22	117	78	147	98	3	2
Library	Urban	48	32	102	68	145	96.66	5	3.33
	Rural	55	36.66	95	63.33	140	93.33	10	6.66
Bus stand	Urban	42	28	108	72	136	90.66	14	9.33
	Rural	60	40	90	60	143	95.33	7	4.66

TPR-Total positive response; TNR-Total negative response; %-Percentage

The above table shows the overall result of students based on type of locality. The students have divided into two groups-'Urban' and 'Rural'. The table reveals that those students coming from urban background having more positive response in accessing public utilities particularly in bank, railway station, library but they shows average performance in accessing bus stand. Then they show poorer performance in post office. Those students coming from rural background having good response in accessing public utilities particularly in post office, bus stand then average performance in accessing library, railway station but they shows poorer performance in bank. From the above table it explains that those students coming from urban areas having more knowledge in accessing public utilities compared to the those students coming from rural areas.

Figure 4.1.8

Overall results of accessing public utilities among children with hearing impairment with respect to Type of locality

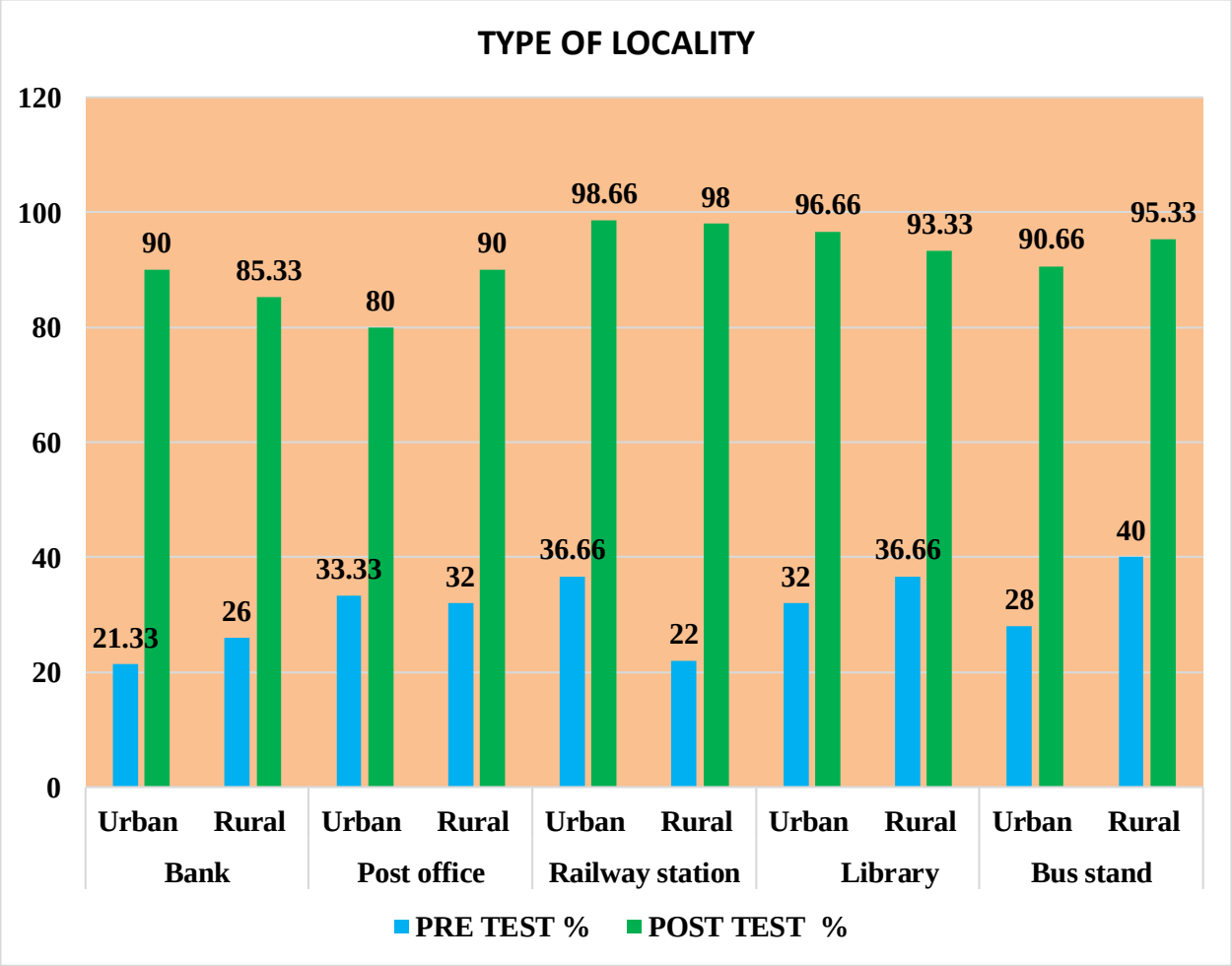


Table 4.1.9

Overall results of accessing public utilities among children with hearing impairment with respect to Educational status of parents

PUBLIC UTILITIES	EDUCATIONAL STATUS OF PARENTS	OVERALL PERFORMANCE OF THE STUDENTS							
		PRE TEST				POST TEST			
		TPR	%	TNR	%	TPR	%	TNR	%
Bank	Literate	38	21.11	142	78.88	140	77.77	40	22.22
	Illiterate	53	44.16	67	55.83	110	91.66	10	8.33
Post office	Literate	34	18.88	146	81.11	156	86.66	24	13.33
	Illiterate	49	40.83	71	59.16	106	88.33	14	11.66
Railway station	Literate	47	26.11	133	73.88	160	88.88	20	11.11
	Illiterate	58	48.33	62	51.66	98	81.66	22	18.33
Library	Literate	50	27.77	130	72.22	153	85	27	15
	Illiterate	52	43.33	68	56.66	100	83.33	20	16.66
Bus stand	Literate	40	22.22	140	77.77	163	90.55	17	9.44
	Illiterate	60	50	60	50	105	87.5	15	12.5

TPR-Total positive response; TNR-Total negative response; %-Percentage

The above table shows the overall result of students based on educational status of parents. The students have divided into two categories-'Literate' and 'Illiterate'. The table reveals that those students having illiterate parents they showing average performance in accessing public utilities because their parents having lack of knowledge in accessing public utilities so they didn't teach their children. Those students having literate parents they showing good performance in all the domains of accessing public utilities because their parents having more explore in accessing public utilities so they guide their children properly . From the above table it explains that those students having literate parents are more knowledge in accessing public utilities compared to those students having illiterate parents

Figure *4*.1.9

Overall results of accessing public utilities among children with hearing impairment with respect to Educational status of parents

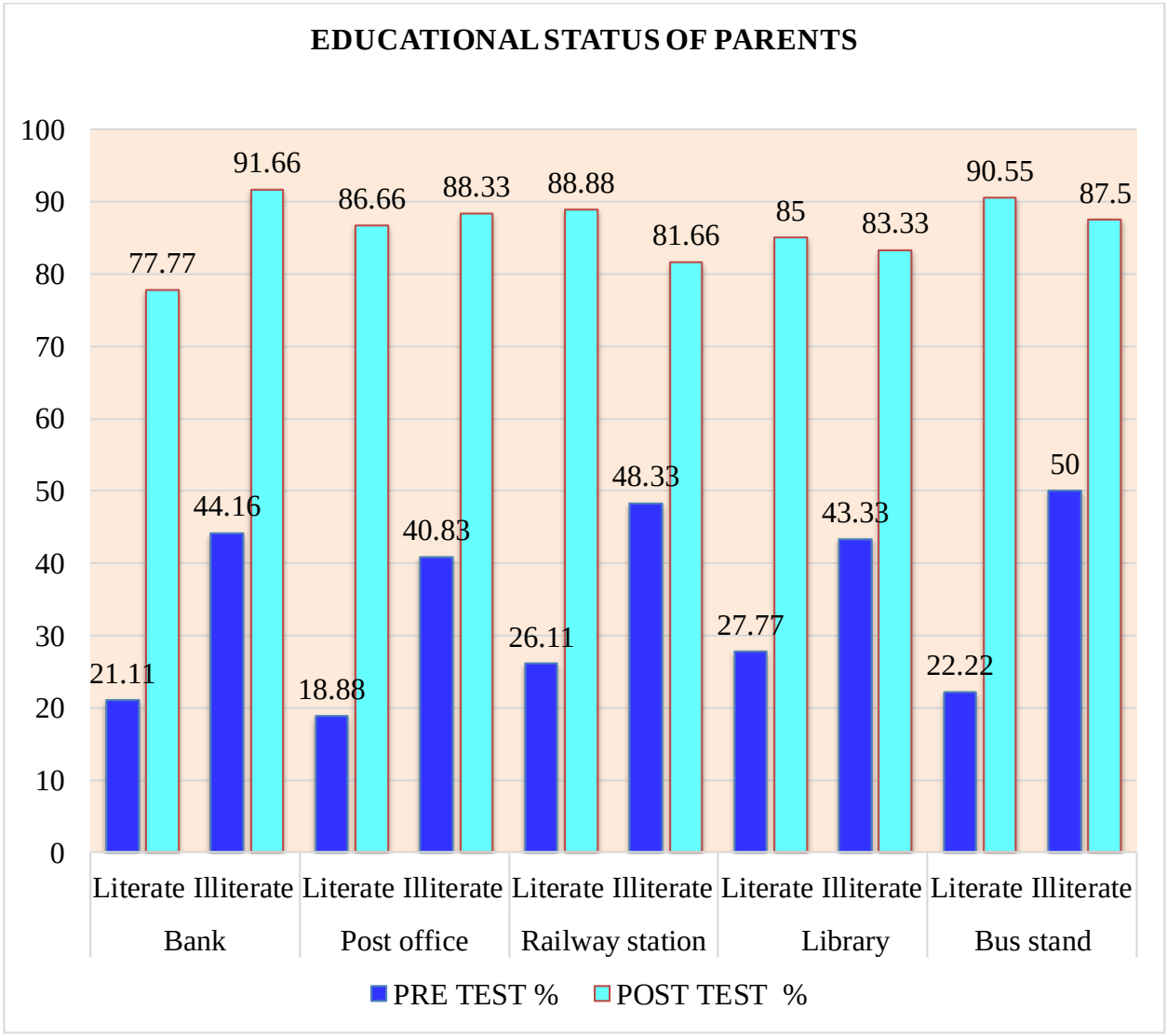


Table 4.1.10

Overall results of accessing public utilities among children with hearing impairment with respect to Type of family

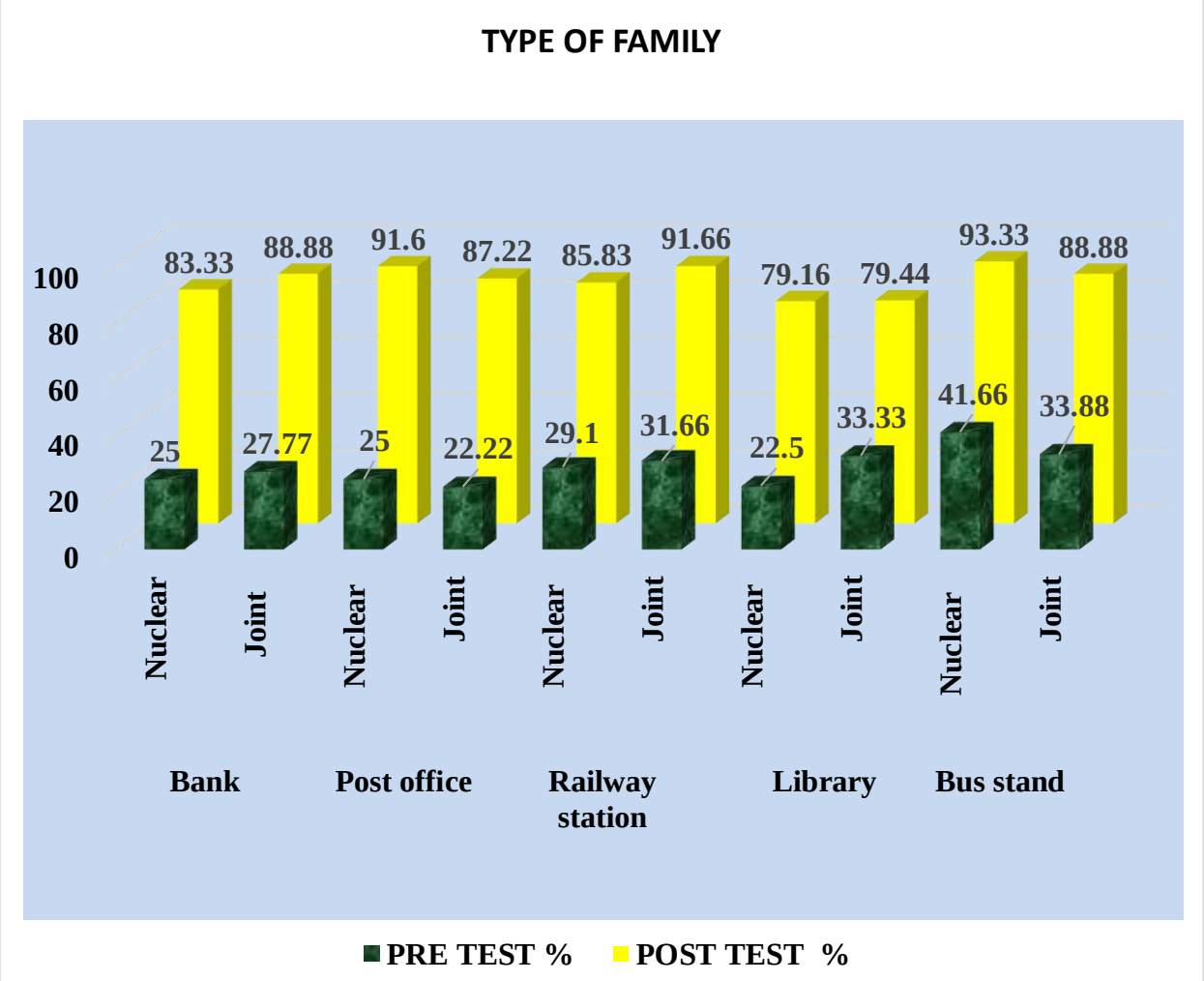
PUBLIC UTILITIES	Type of family	OVERALL PERFORMANCE OF THE STUDENTS							
		PRE TEST				POST TEST			
		TPR	%	TNR	%	TPR	%	TNR	%
Bank	Nuclear	30	25	90	75	100	83.33	20	16.66
	Joint	50	27.77	130	72.22	160	88.88	20	11.11
Post office	Nuclear	30	25	90	75	110	91.6	10	8.33
	Joint	40	22.22	140	77.77	157	87.22	23	12.77
Railway station	Nuclear	35	29.1	85	70.83	103	85.83	17	14.16
	Joint	57	31.66	123	68.33	165	91.66	15	8.33
Library	Nuclear	27	22.5	93	77.5	95	79.16	25	20.83
	Joint	60	33.33	120	66.66	143	79.44	37	20.55
Bus stand	Nuclear	50	41.66	70	58.33	112	93.33	8	6.66
	Joint	61	33.88	119	66.11	160	88.88	20	11.11

TPR-Total positive response; TNR-Total negative response; %-Percentage

The above table shows the overall result of students based on type of family. The students have divided into two groups-'Nuclear' and 'Joint'. The table reveals that those students were coming from nuclear family they showing average performance in accessing public utilities because they have less participation and exposure. Those students were coming from joint family they showing good performance in all the domains of accessing public utilities because their participation and exposure are higher. From the above table it explains that those students coming from joint family are higher compared to those students coming from nuclear family.

Figure 4.1.10

Overall results of accessing public utilities among children with hearing impairment with respect to Type of family



4.2. Section II - Quantitative analysis

The t- test was applied to find out significant difference between the pre test and post test mean scores of accessing public utilities among children with hearing impairment based on variables.

Table 4.2.1

Comparison of Pre and Post test scores in accessing public utilities among children with hearing impairment

Testing	N	Df	Mean	SD	t- value
Pre test	30	29	16.033	5.6841	-24.415*
Post test	30	29	43.03	2.671	

*** Significant at 0.01 level**

The above table states that the results of pre and post test score of accessing public utilities among children with hearing impairment , i.e. (t = -24.415) .The corresponding correlated t value shows that it is significant at 0.01 level. It indicates that the accessing public utilities among children with hearing impairment differ significantly. Therefore the null hypothesis stated **"There is no significant difference in accessing public utilities among before and after intervention of children with hearing impairment"** is rejected

Figure 4.2.1

Comparison of Pre and Post test scores in accessing public utilities among children with hearing impairment

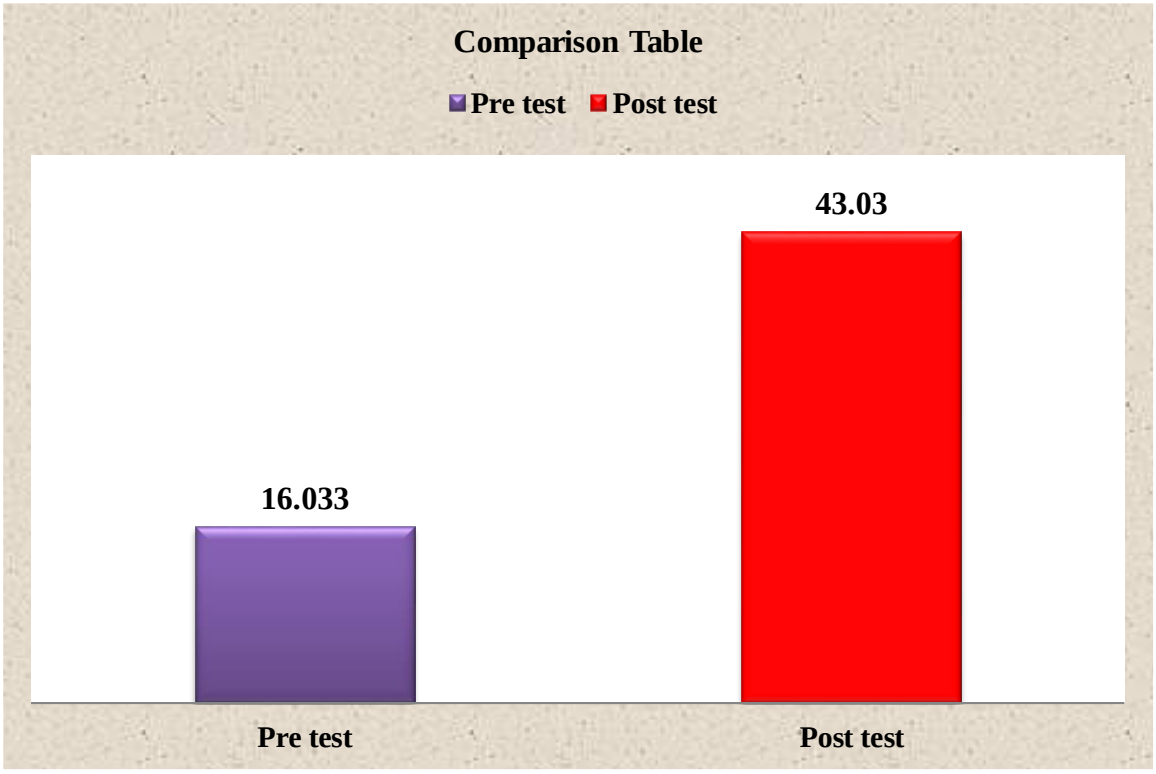


Table 4.2.2

Comparison of pre and post test scores of accessing bank among children with hearing impairment

Domain of accessing public utilities	N	Testing	Df	Mean	SD	t- value
Bank	30	Pre test	29	3.033	1.4499	-22.494*
		Post test		8.333	0.9942	

*** Significant at 0.01 level**

The above table states the results of pre and post test score of accessing bank among children with hearing impairment , i.e. (t = -22.494) .The corresponding correlated t value shows that it is significant at 0.01 level. It indicates that the accessing bank among children with hearing impairment differs significantly. Therefore the null hypothesis stated **"There is no significant difference in accessing bank among before and after intervention of children with hearing impairment"** is rejected.

Figure 4.2.2

Comparison of pre and post test scores of accessing bank among children with hearing impairment

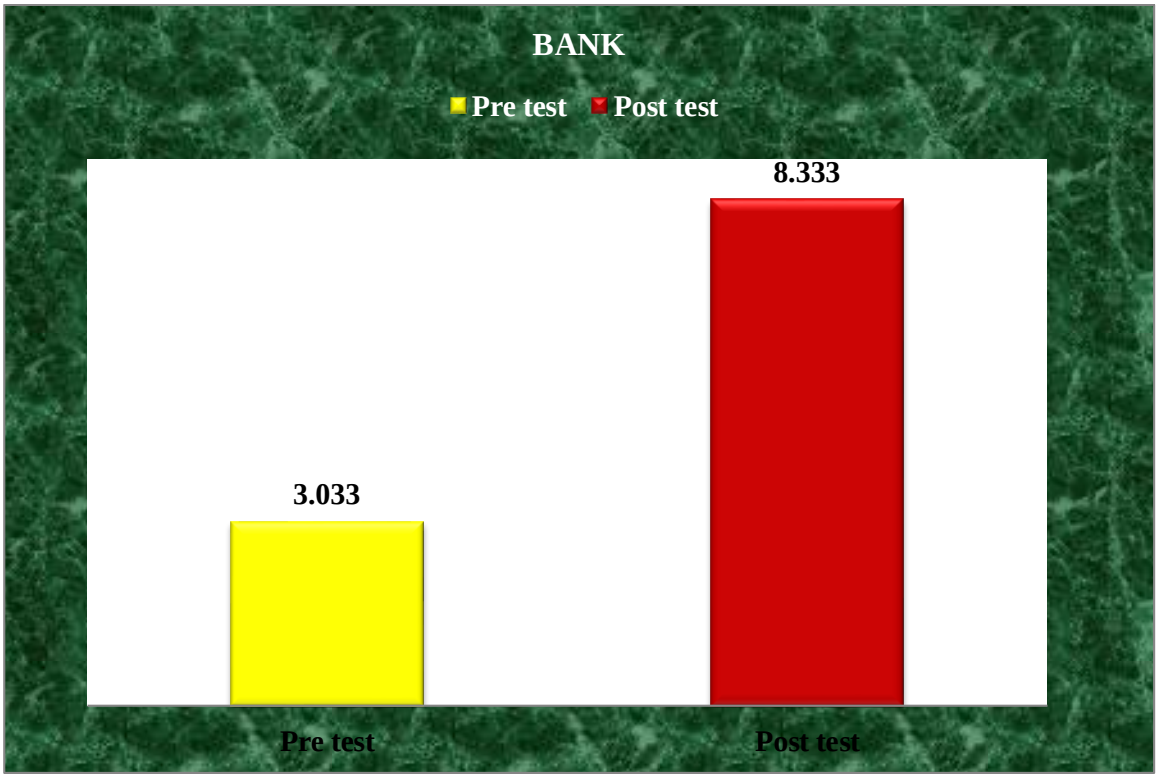


Table 4.2.3

Comparison of pre and post test scores of accessing post office among children with hearing impairment

Domain of accessing public utilities	N	Testing	Df	Mean	SD	t- value
Post office	30	Pre test	29	2.767	1.2780	-22.540*
		Post test		8.733	0.8277	

*** Significant at 0.01 level**

The above table explains the results of pre and post test score of accessing post office among children with hearing impairment , i.e. (t = -22.540) .The corresponding correlated t value shows that it is significant at 0.01 level. It indicates that the accessing post office among children with hearing impairment differs significantly. Therefore the null hypothesis stated **"There is no significant difference in accessing post office among before and after intervention of children with hearing impairment"** is rejected.

Figure 4.2.3

Comparison of pre and post test scores of accessing post office among children with hearing impairment

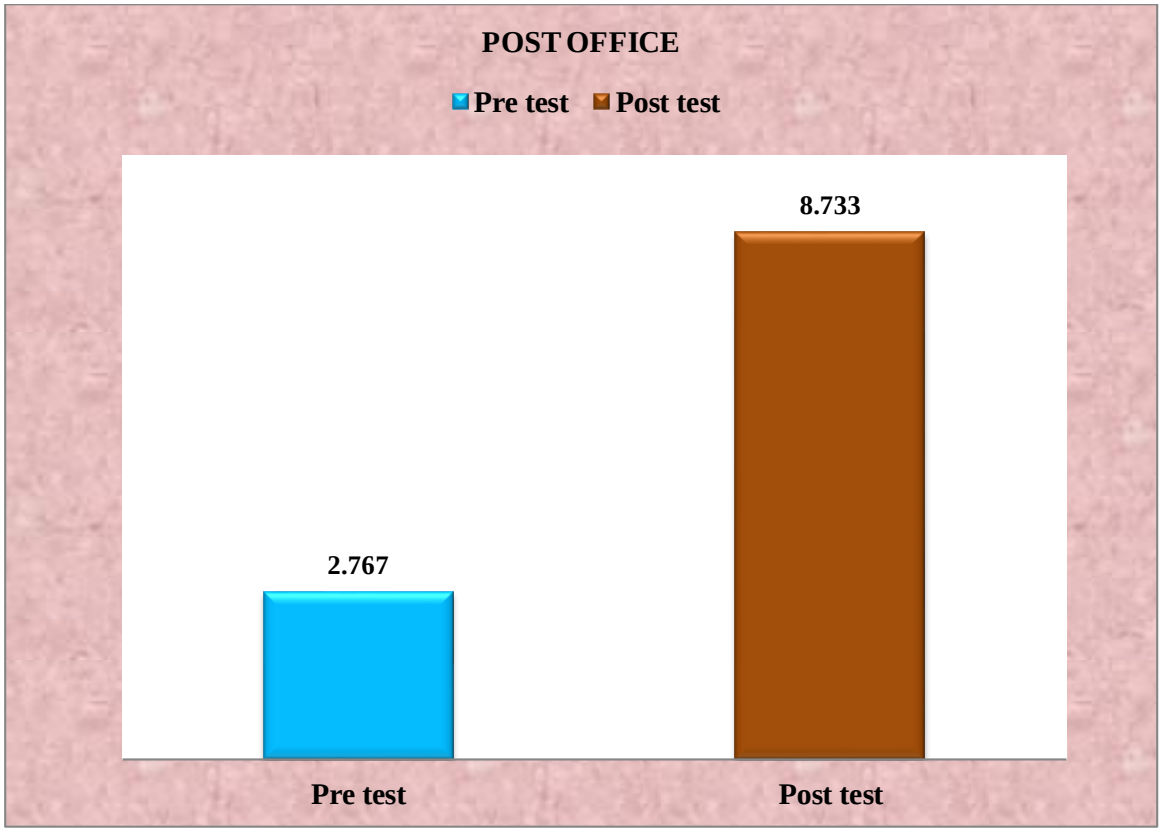


Table 4.2.4

Comparison of pre and post test scores of accessing railway station among children with hearing impairment

Domain of accessing public utilities	N	Testing	Df	Mean	SD	t- value
Railway station	30	Pre test	29	3.500	1.4797	-14.297*
		Post test		8.600	1.0700	

*** Significant at 0.01 level**

The above table reveals the results of pre and post test score of accessing railway station among children with hearing impairment , i.e. (t = -14.297) .The corresponding correlated t value shows that it is significant at 0.01 level. It indicates that the accessing railway station among children with hearing impairment differs significantly. Therefore the null hypothesis stated **"There is no significant difference in accessing railway station among before and after intervention of children with hearing impairment"** is rejected.

Figure 4.2.4

Comparison of pre and post test scores of accessing railway station among children with hearing impairment

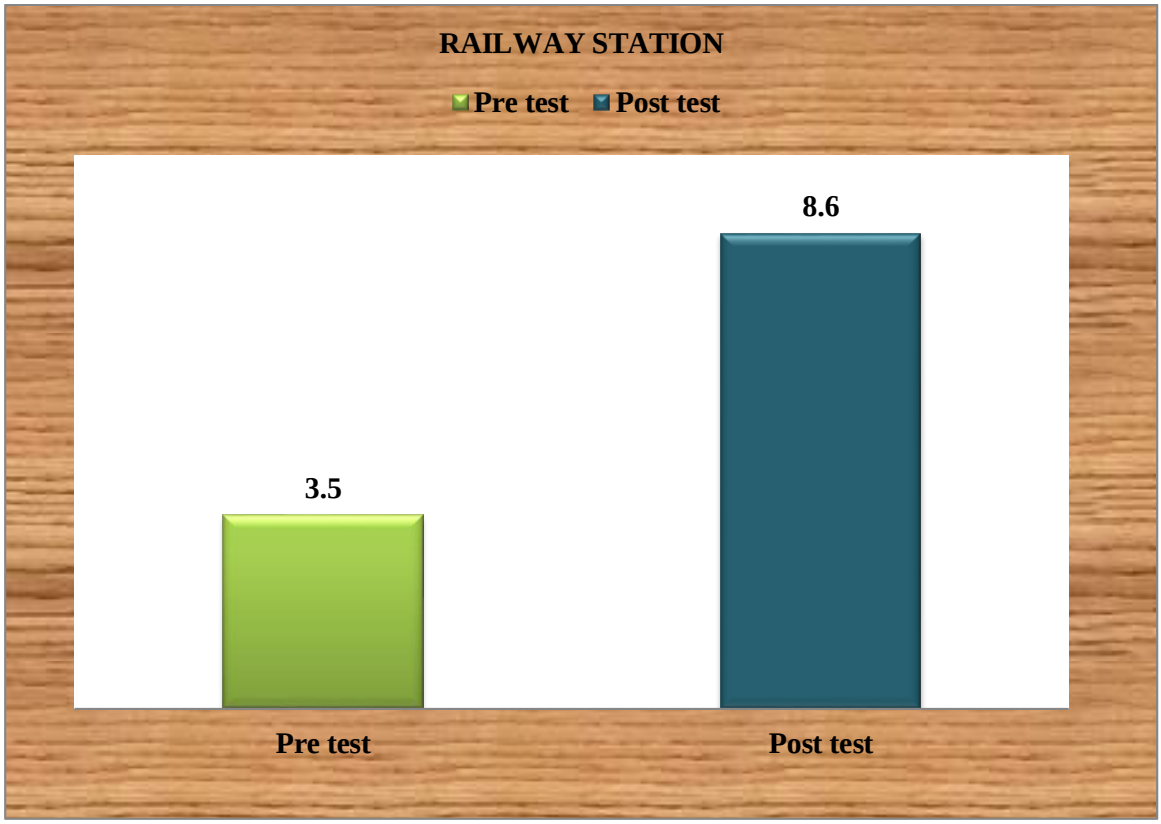


Table 4.2.5

Comparison of pre and post test scores of accessing library among children with hearing impairment

Domain of accessing public utilities	N	Testing	Df	Mean	SD	t- value
Library	30	Pre test	29	3.400	1.2205	-18.709*
		Post test		8.433	1.0400	

*** Significant at 0.01 level**

The above table depicts the results of pre and post test score of accessing library among children with hearing impairment , i.e. (t = -18.709) .The corresponding correlated t value shows that it is significant at 0.01 level. It indicates that the accessing library among children with hearing impairment differs significantly. Therefore the null hypothesis stated **"There is no significant difference in accessing library among before and after intervention of children with hearing impairment"** is rejected.

Figure 4.2.5

Comparison of pre and post test scores of accessing library among children with hearing impairment

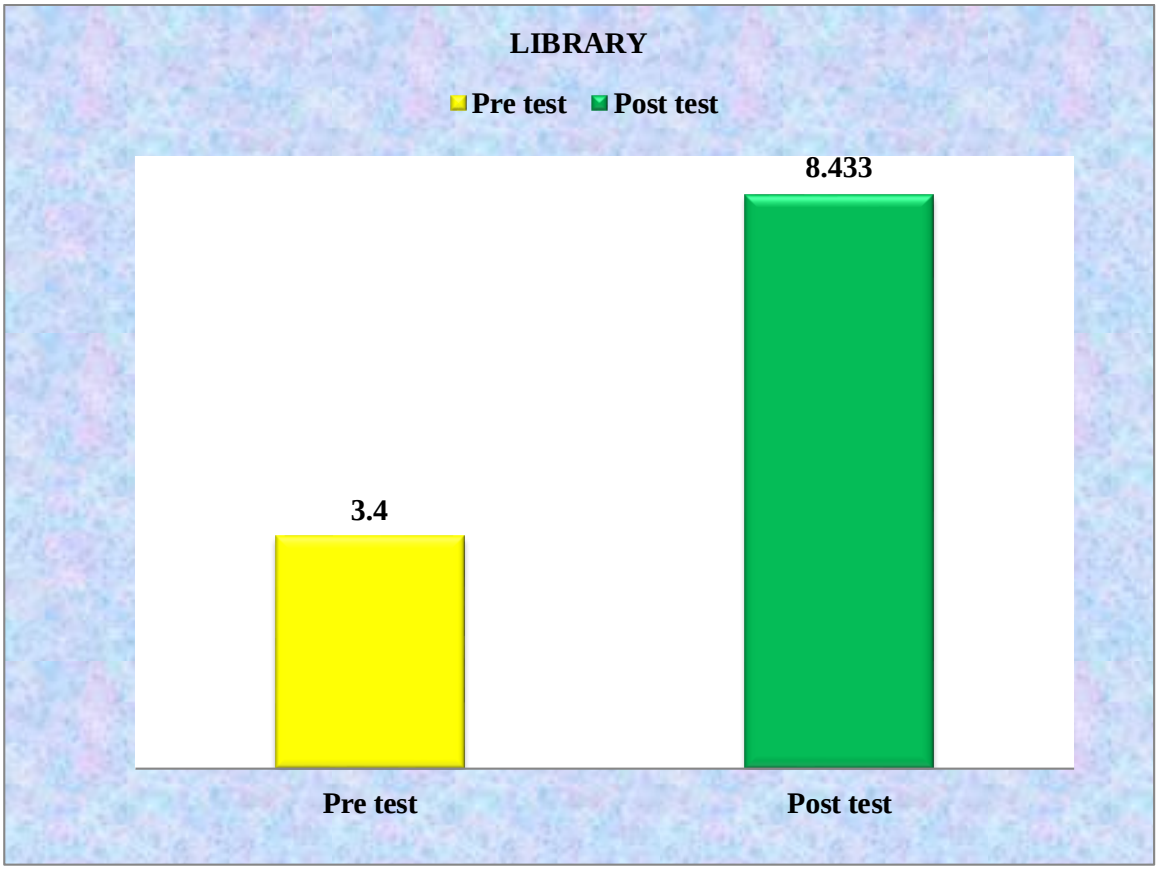


Table 4.2.6

Comparison of pre and post test scores of accessing bus stand among children with hearing impairment

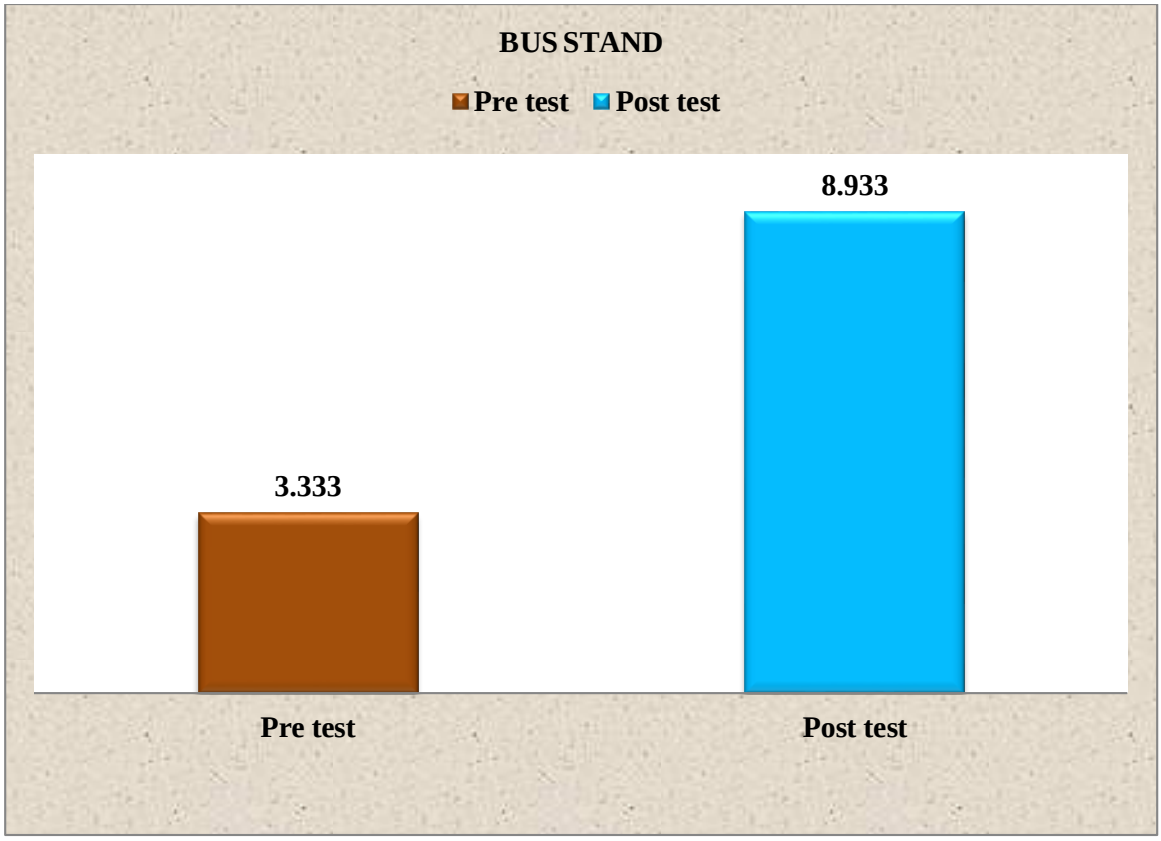
Domain of accessing public utilities	N	Testing	Df	Mean	SD	t- value
Bus stand	30	Pre test	29	3.333	1.4933	-12.072*
		Post test		8.933	2.0667	

*** Significant at 0.01 level**

The above table states the results of pre and post test score of accessing bus stand among children with hearing impairment , i.e. (t = -12.072) .The corresponding correlated t value shows that it is significant at 0.01 level. It indicates that the accessing bus stand among children with hearing impairment differs significantly. Therefore the null hypothesis stated **"There is no significant difference in accessing bus stand among before and after intervention of children with hearing impairment"** is rejected.

Figure 4.2.6

Comparison of pre and post test scores of accessing bus stand among children with hearing impairment



While comparing the all domains it shows that students gave highest performance in accessing bus stand. The students showed average performance in post office and railway station. In access of library and bank, the students have faced more difficulties compared to other three domains.

4.3 CONCLUSION

The findings of the study was summarized and presented in the next chapter.

SUMMARY AND CONCLUSION

CHAPTER V

SUMMARY AND CONCLUSION

CHAPTER - V

SUMMARY AND CONCLUSION

5.0 Introduction

The summary and findings of this chapter is the most broadly comprehend part of the study because it recapitulates the information that has been presented in the previous sections of the report.

5.1 Statement of the problem

The problem is stated as **"Competency of the Hearing Impaired in Accessing Public Utilities".**

5.2 Major findings

The major findings of the study can be broadly categorized into the following areas such as the findings to:

- In relation to public utilities domains.
- Findings in relation with overall results of domains in accessing public utilities among children with hearing impairment with respect to variables.
- Findings in relation with analysis the pre and post test scores of domains in accessing public utilities among children with hearing impairment based on variables.
- Findings in relation with comparison of pre and post test scores of domains in accessing public utilities

The summary of the major findings are comprehend below

- There are total of 30 hearing impaired students were selected for the study
- While analysing the age group of the selected samples, it was observed that 40% of the students were '5-10' years, 60% of students were '11-15' years respectively.
- Among the selected samples, it was observed that 50 % of the students were rural, 50% of students were urban respectively.
- It was found that 50 percent of the selected samples were boys, 50 percent of the selected samples were girls.
- Among the selected samples, it was observed that 40 % of the students were studying I to V grade, 60% of students were studying VI to X grade respectively
- It was revealed that 40 percent of the selected samples were using oral communication and remaining 60 percent of the selected samples were using manual communication.
- It was found that 40% of the selected samples parents were illiterate and 60% of selected samples were literate.
- It was revealed that 40 percent of the selected samples were living in nuclear family and remaining 60 percent of the selected samples were living in joint family.
- It was found that 17% of the selected samples parents were having mild hearing loss then 23% of the selected samples parents were having moderate hearing loss and remaining 60% of selected samples were having severe and profound hearing loss.
- It was found that 50% of the selected samples parents were studying in integrated school and 50% of selected samples were studying in special school.
- Among the selected samples, it was observed that 57% of the students were suffered in congenital, 43% of students were suffered in acquired respectively.
- It was found that overall pre test result of students in accessing public utilities. It reveals that the students call for intervention to overcome their difficulties in accessing public utilities.
- Among the selected sample the overall pre test result of students in domains of accessing public utilities. It reveals that the students having more positive response in accessing bus stand. Then they show average performance in accessing library and

post office. The students having poorer response in accessing bank and railway station.

- It was revealed that the overall post test result of students in accessing public utilities. It shows that with the help of intervention the students overcome their difficulties in accessing public utilities.
- Among the selected sample the overall post test result of students in domains of accessing public utilities. It reveals that the students having more positive response in accessing railway station, library and bus stand. Then they show average performance in accessing bank and post office. It explains that the students got more improvement in accessing public utilities because of intervention they had.
- Among the selected samples, it was clear that the age group '5-10 years' of hearing impairment students showing average performance in accessing public utilities because that is the initial stage of the children to know about in accessing public utilities, the age '11-15 years' hearing impairment children showing good performance in accessing public utilities because they explore more in the society compared to the age group '5-10 years'.
- It was observed that the girls having more positive response in accessing public utilities particularly in post office, railway station, but they shows average performance in accessing library, bus stand. Then they show poorer performance in bank. The boys shows good response in accessing public utilities particularly in bank, library, bus stand then average performance in accessing railway station but they shows poorer performance in post office. It reveals that the accessing public utilities of the girls are less than the boys.
- It was revealed that those students coming from urban background having more positive response in accessing public utilities particularly in bank, railway station, library but they shows average performance in accessing bus stand. Then they show poorer performance in post office. Those students coming from rural background having good response in accessing public utilities particularly in post office, bus stand then average performance in accessing library, railway station but they shows poorer performance in bank. It explains that those students coming from urban areas having

more knowledge in accessing public utilities compared to those students coming from rural areas.

- It was found that those students having illiterate parents they showing average performance in accessing public utilities because their parents having lack of knowledge and experience in accessing public utilities so they didn't teach their children. Those students having literate parents they showing good performance in all the domains of accessing public utilities because their parents having more explore in accessing public utilities so they guide their children properly . It explains that those students having literate parents are more knowledge in accessing public utilities compared to those students having illiterate parents.
- Among the selected samples, it was observed that those students coming from nuclear family they showing average performance in accessing public utilities because their participation and exposure are less. Those students coming from joint family they showing good performance in all the domains of accessing public utilities because those hearing impaired students having more exposure and participation. It reveals that those students coming from joint family are higher compared to those students coming from nuclear family.
- There is significant difference between pre and post test scores in accessing public utilities among children with hearing impairment
- It states the results of pre test score of accessing public utilities among children with hearing impairment having low performance but the results of post test score of accessing public utilities among children with hearing impairment having high performance. It shows that students got intervention and improve their skills in accessing public utilities.
- There is significant difference between pre and post test scores of domains in accessing public utilities
- Among the all domains it shows that students gave highest performance in accessing bus stand. The students showed average performance in post office and railway station. In access of library and bank, the students have faced more difficulties compared to other three domains.

5.3 Recommendations

- Training shall be provided for special teachers to teach how to access public utilities
- The children with hearing impairment who has difficulty in accessing public utilities. should be identified earlier and should be given proper training in developing those skills
- Field visit must be provided for the children with hearing impairment during the training of students in accessing public utilities according to the level of requirements of the student.
- Provide practice for hearing impaired students to access public utilities.
- The same study may be replicated on larger sample
- Create awareness on the importance of knowing how to access public utilities in our daily life independently to the students with hearing impairment
- Students with hearing impairment can be provided with more opportunities for learning to develop their knowledge in accessing public utilities independently in a beneficial and useful manner.
- Peer group interaction shall make learning more effective.
- Suggest the administrators of schools and colleges may plan for the introduction of life skills training program to improve the quality of life of students with hearing impairment.

5.4 Suggestions for future research

In good experience gained by undergoing this study, the investigator has come up with few suggestions for further research work in this area to access public utilities independently by the hearing impaired students

- Innovative methods of teaching life skills for hearing impaired students.
- To study on difficulties faced by the teachers while teaching life skills for hearing impaired students.

- The study could be carried out to identify the other domains in accessing public utilities also.
- The sample size may be increased.
- The same research study can be conducted to other disabilities.

5.5 Conclusion

Life skills are abilities the individuals can learn that will help them to live a fruitful life. Life skills are defined as non-academic ability, knowledge, attitudes and behaviors that must be learned for success in the society. The present study reveals the knowledge of the hearing impaired students in accessing public utilities. These children lack in accessing public utilities. This is essential for our day to day activities to move independently in their life. Identifying the child's knowledge in accessing public utilities as soon as possible can reduce the difficulty level in accessing public utilities and it can help them to overcome their difficulty and move independently in real life with ease.

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APPENDICES

APPENDIX-I

Tool for Domains in Assessing Public Utilities

Personal Data Sheet

1) Name of the student:

2) Standard:

3) Date of birth:

4) Age:

5) Gender:

6) Name of the school:

7) Type of school:

8) Medium:

9) Type of hearing loss:

10) Degree of hearing loss:

11) Onset of disability: Congenital / Acquired

12) Cochlear implant: Yes / No

13) Speech: Present / Absent

14) Mode of communication:

15) Location: Rural/ Urban

17) Details of assistive devices used:

APPENDIX-II

Tool for Domains in Assessing Public Utilities

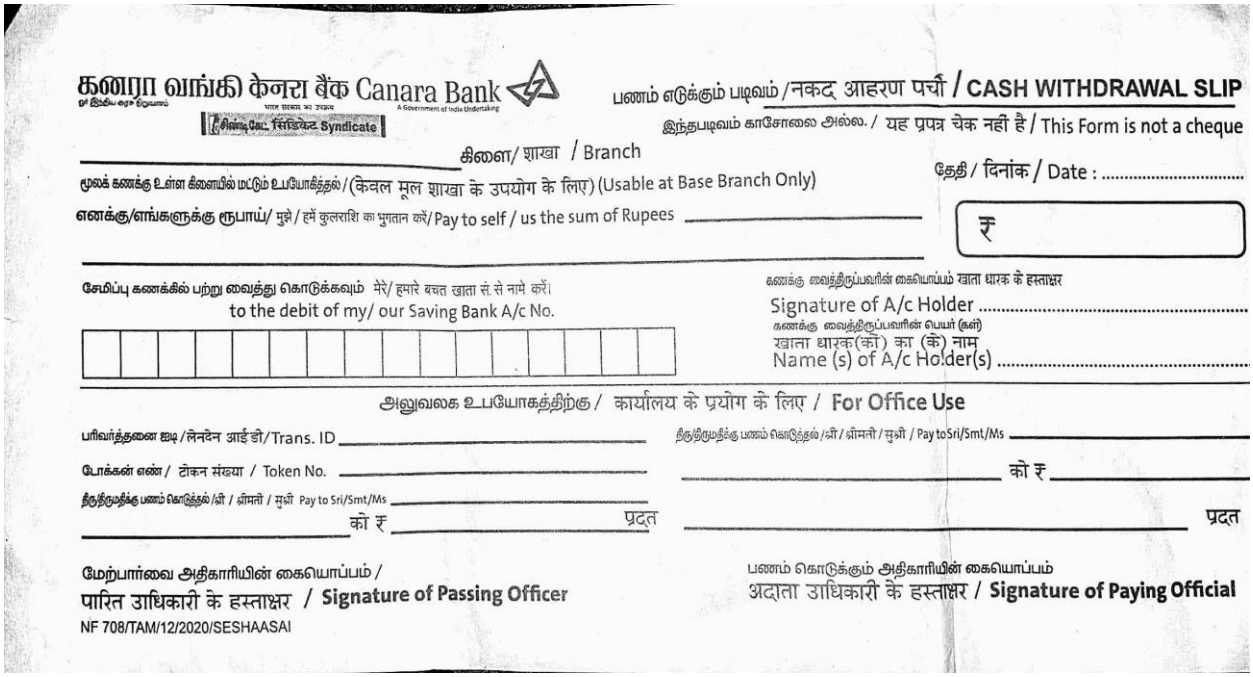
(Assessment tool)

வங்கி

1) **இதன் பெயர் என்ன)?வங்கி/ தபால்அலுவலகம்(**

2) **வங்கியின் பயன்கள் பற்றி தெரியுமா** ? (**ஆம் / இல்லை**)

3) **இதற்க்கு பெயர் என்ன** ?(**சலான் / காசோலை**)


கனரா வங்கி केनरा बैंक Canara Bank
Canara Banks Syndicate
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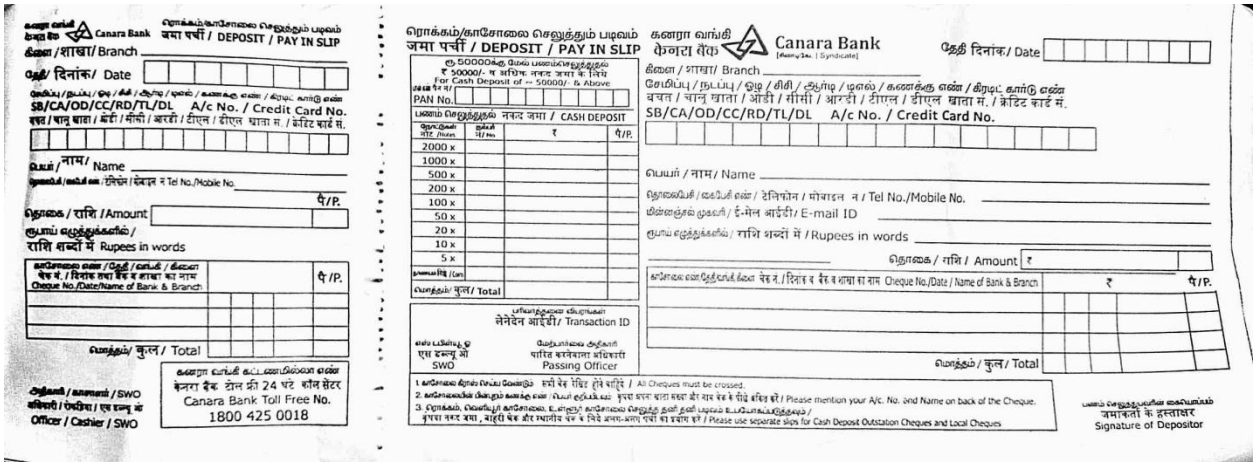
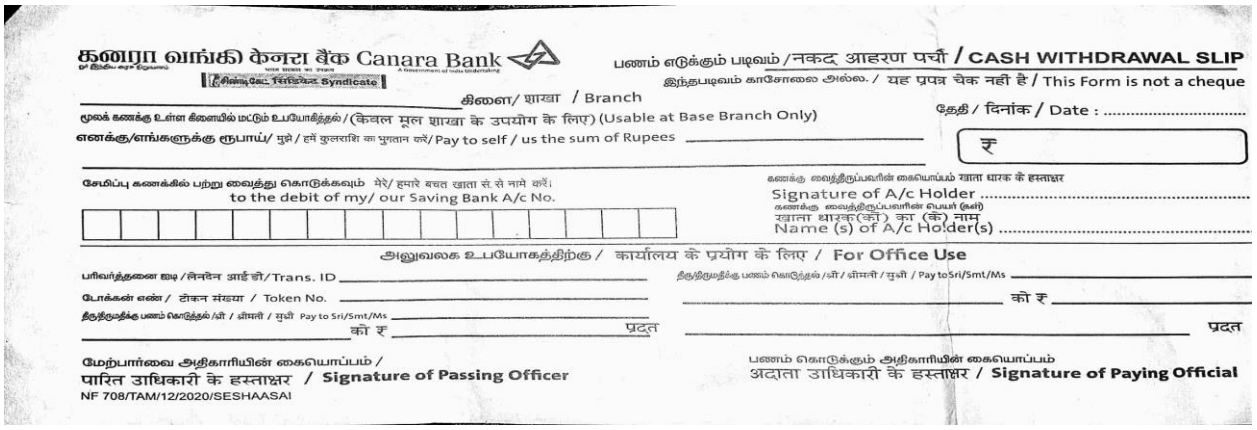
கிளை/ शाखा / Branch
தேதி / दिनांक / Date :
மூலக் கணக்கு உள்ள கிளையில் மட்டும் உபயோகித்தல் / (केवल मूल शाखा के उपयोग के लिए) (Usable at Base Branch Only)
எனக்கு/எங்களுக்கு ரூபாய்/ मुझे / हमें कुलराशि का भुगतान करें/ Pay to self / us the sum of Rupees
₹
சேமிப்பு கணக்கில் பற்று வைத்து கொடுக்கவும் मेरे/ हमारे बचत खाता से से नामे करें।
to the debit of my/ our Saving Bank A/c No.
கணக்கு வைத்திருப்பவரின் கையொப்பம் खाता धारक के हस्ताक्षर
Signature of A/c Holder
கணக்கு வைத்திருப்பவரின் பெயர் (கள்)
खाता धारक(कों) का (कें) नाम
Name (s) of A/c Holder(s)
அலுவலக உபயோகத்திற்கு / कार्यालय के प्रयोग के लिए / For Office Use
பரிவர்த்தனை ஐடி / लेनदेन आई डी/Trans. ID
டோக்கன் எண் / टोकन संख्या / Token No.
தீருநீருமதீக்கு பணம் கொடுத்தல் /திரு / திருமதி / குமரி Pay to Sri/Smt/Ms
को ₹ प्रदत
திருநீருமதீக்கு பணம் கொடுத்தல் /திரு / திருமதி / குமரி / Pay to Sri/Smt/Ms
को ₹ प्रदत
மேற்பார்வை அதிகாரியின் கையொப்பம் /
पारित अधिकारी के हस्ताक्षर / Signature of Passing Officer
பணம் கொடுக்கும் அதிகாரியின் கையொப்பம்
अदाता अधिकारी के हस्ताक्षर / Signature of Paying Official
NF 708/TAM/12/2020/SESHAASAI

4)**வங்கிகளில் எத்தனைவகை சலான்கள் பயன்படுத்தப்படுகின்றன** ? (**இரண்டு / மூன்று**)

5) **இந்த சலான் எதற்காக பயன்படுத்தப்படுகின்றன என்று தெரியுமா ? (ஆம் / இல்லை)**

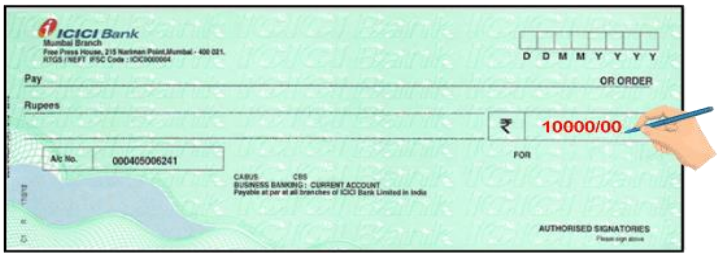


6) **இந்த சலான் எதற்காக பயன்படுத்தப்படுகின்றன? (பணம் போடுவதற்கு / பணம் எடுப்பதற்கு)**



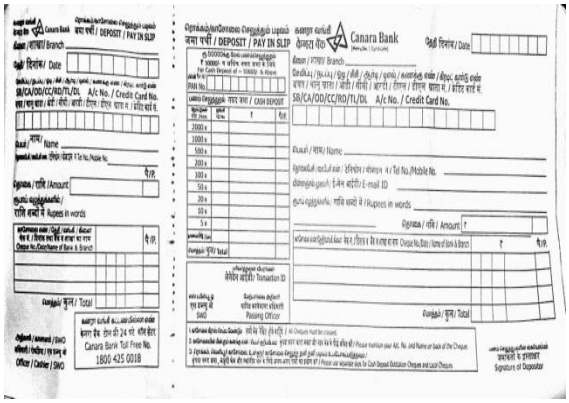
7) **சலான் நிறபுவதற்கு மிகா முக்கியமானவை எவை என்று தெரியுமா ? (ஆம் / இல்லை)**

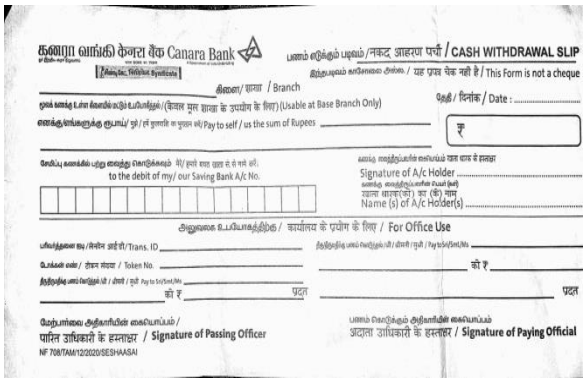
8) **இதை எதற்காக பயன்படுத்துகிறோம் என்று தெரியுமா ? (ஆம் / இல்லை)**



9) **இது என்ன என்று தெரிகிறதா ?(ஆம் / இல்லை)**

10) **சலான்களை நிரப்ப தெரியுமா ? (ஆம் / இல்லை)**





தபால் அலுவலகம்

1) இது என்ன என்று தெரிகிறதா ?(ஆம் / இல்லை)

2) இவர் யார் என்று தெரியுமா ?(ஆம் / இல்லை)

3) இதை பார்த்திருக்கிறீர்களா ?(ஆம் / இல்லை)

4) இதை பார்த்திருக்கிறாயா ?(ஆம் / இல்லை)

5) இவர் என்ன செய்கிறார் ?(தபால் போடுகின்றார் / தபால் எடுகின்றார்)

6) **இது பெயர் என்ன ?(தபால்கள் / சலான்கள்)**

7) **தபால்களை உரிய இடத்தில் சேர்பவர் யார் என்று தெரியுமா ?(ஆம் / இல்லை)**

8) **இது என்ன என்று தெரியுமா ?(ஆம் / இல்லை)**

9) **அனைவரும் ஒரே தபால் நிலையத்தை பயன்படுதலாமா ?(ஆம் / இல்லை)**

10) **(முத்திரை (இதனை எங்கு ஓட்ட வேண்டும் ?(தபால் / சலான்)**

ரயில் நிலையம்

1)**இது என்ன என்று தெரியுமா ?(ஆம் / இல்லை)**

2) **இதில் நீ பயணம் செய்திருக்கிறாயா**? (**ஆம் / இல்லை**)

3) **இதில் நீ பயணம் செய்ய உனக்கு என்ன தேவை என்று தெரியுமா ?(ஆம் / இல்லை)**

4) **இதை பார்த்திருக்கிறாயா ?(ஆம் / இல்லை)**

5) **ரயிலில் பயணம் செய்ய உனக்கு டிக்கெட் எடுக்க தெரியுமா**? (**ஆம் / இல்லை**)

6) **இவர் யார் என்று தெரியுமா ?(ஆம் / இல்லை)**

7) **டிக்கெட்டில் உள்ளவற்றை கண்டு பிடிக்க தெரியுமா ? (ஆம் / இல்லை)**

8) **பச்சை கொடி அசைத்தால் ரயில் என்ன செய்யும்**? (**செல்லும் / நிற்கும்**)

9) **சிவப்பு கொடி அசைத்தால் ரயில் என்ன செய்யும்**? (**செல்லும் / நிற்கும்**)

10) **எத்தனை மணி நேரத்திற்கு முன்பாக நீ ரயில் நிலையம் செல்ல வேண்டும்** ? ((**இரண்டு / அரை**)

நூலகம்

1) இது என்ன என்று தெரியுமா ?(ஆம் / இல்லை)

2) இங்கு நீ சென்றிருக்கிறாயா ? (ஆம் / இல்லை)

3) இங்கு எதற்கு செல்வார்கள் என்று தெரியுமா ?(ஆம் / இல்லை)

4) நூலகத்தில் என்ன இருக்கும் ? (புத்தகம் / விளையாட்டு பொருட்கள்)

5) நூலகத்தில் எவ்வாறு இருக்க வேண்டும் ? (சத்தமாக / அமைதியாக)

6) நூலகம் எங்கு எல்லாம் அமைந்துள்ளது என்று தெரியுமா ?(ஆம் / இல்லை)

7) நூலகத்திலிருந்து புத்தகம் எடுத்து வரலாமா ? (ஆம் / இல்லை)

8) நூலகம் செல்ல கட்டணம் தேவையா ? (ஆம் / இல்லை)

9) நூலகம் செல்வது நல்ல பழக்கமா ? (ஆம் / இல்லை)

10) நூலகத்தில் செய்ய வேண்டியவை / செய்ய வேண்டாதவை என்ன என்று தெரியுமா ?(ஆம் / இல்லை)

பேருந்து நிலையம்

1) **பேருந்தில் நீ பயணம் செய்துள்ளாயா** ? (**ஆம் / இல்லை**)

2) **இது என்ன என்று தெரியுமா** ?(**ஆம் / இல்லை**)

3) **இதற்கு பெயர் என்ன என்று தெரியுமா** ?(**ஆம் / இல்லை**)

4) **பேருந்தில் ஏற எங்கு செல்ல வேண்டும்** ?(**பேருந்து நிலையம்/ ரயில் நிலையம்)**

5) **பேருந்தில் பயணம் செய்ய என்ன தேவை என்று தெரியுமா** ?(**ஆம் / இல்லை**)

6) **டிக்கெட் கொடுப்பவரின் பெயர் என்ன** ?(**கண்டக்டர் / டிரைவர்**)

7) **பேருந்தை ஓட்டுபவர் யார்** ?(**கண்டக்டர் / டிரைவர்**)

8) **படியில் நின்று பயணம் செய்யலாமா** ? (**ஆம் / இல்லை**)

9) **எத்தனை மணிவரை பேருந்தில் பயணம் செய்யலாம் என்று தெரியுமா ?**(**ஆம் / இல்லை**)

10) **எந்த பேருந்தில் ஏறினாலும் உன்னால் வீட்டுக்கு செல்ல முடியுமா** ? (**ஆம் / இல்லை**)