

**DEVELOPMENT OF SCREENING CHECKLIST FOR POST
SCHOOL TRANSITION OF INDIAN ADOLESCENTS WITH
HEARING IMPAIRMENT**

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**This dissertation is submitted as a part fulfilment of
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May 2015

Certificate

This is to certify that this dissertation entitled '*Development of screening checklist for post school transition of Indian adolescents with hearing impairment*' is a bonafide work as a part fulfilment of the degree of Master of Special Education (Hearing Impairment) of the student with Registration No. 14MSD006. This has been carried out under the guidance of a faculty of this institute and has not been submitted earlier to any other University for the award of any other diploma or degree.

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This is to certify that this dissertation entitled '*Development of screening checklist for post school transition of Indian adolescents with hearing impairment*' has been prepared under our supervision and guidance. It is also certified that this has not been submitted earlier to any other University for the award of any other diploma or degree.

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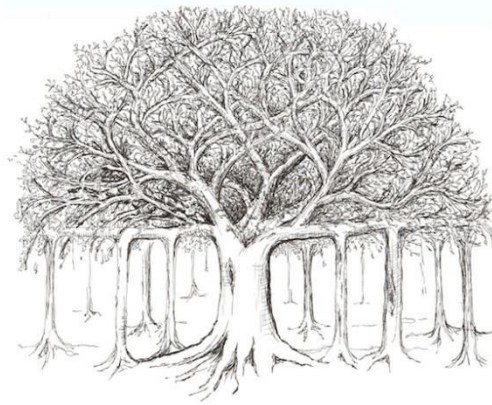
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This dissertation entitled '*Development of screening checklist for post school transition of Indian adolescents with hearing impairment*' is the result of my own study under the guidance of Dr. G. Malar, Reader in Special Education and the co-guidance of Mr. Freddy Antony, Lecturer in Clinical Psychology, All India Institute of Speech and Hearing, Mysuru; and has not been submitted earlier to any other University for the award of any diploma or degree.

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To my Mom, Dad and God with love.
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Abstract

Post-school transition is a very important phase in the life of any individual, where in the foundation for the accomplishments in future life as adults are laid. However, differently-able adolescents like those with hearing impairment lack essential services and supports to help them successfully transit this crucial stage of life. As a first step of assistance it is necessary that they are assessed for their life skill development, along with consideration of their vocational inclinations. Such evaluation of their developmental levels will help in making up for any lacunae in their development, as well help in making crucial decisions. In Indian context, such tools are available mostly for adolescents with developmental disabilities. Therefore this study undertook the task of developing a screening checklist for assessing readiness for post-school transition of adolescents with hearing impairment. The checklist comprised of 2 major parts – first an appraisal in life skills by a caregiver or significant other and second for direct testing of vocational awareness and inclinations of the adolescent under scrutiny. After validation by experts in the field of clinical psychology and special education, and a pilot study; the final screening checklist was field tested with 49 typically developing adolescents to determine its norms, validity and reliability. In the process the test was found to have content, convergent and criterion validity. Its reliability in terms of satiability, equivalence and internal consistency were also proved. Further data collection with adolescents with hearing impairment revealed significant deficits in development of community living, academic performance and study skills, and employability.

Keywords: hearing impairment, adolescent, post-school transition, checklist

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CHAPTER I
INTRODUCTION

Chapter 1

Introduction

“Adolescence is the conjugator of childhood and adulthood.” – Louise J. Kaplan

1.1 Adolescence

Adolescence is a crucial stage in the process of human development which bridges the childhood with adulthood. During this stage, vital physical and psychological aspects of development take place which lead to the transformation of a child into adult, and prepare them for bracing the responsibilities of adulthood (Christie & Viner, 2005). The crucial stage is also seen as a stormy stage for the individual adolescents, as they undergo a lot of identity and adjustmental crises during the period (Wilder, 2003). Traversing this stage along with disabilities like hearing impairment is more complex.

1.1.1 *Hearing Impairment & Its Implications in Adolescence*

Hearing impairment in layman’s perception is any deficiency or deviation in the functioning of hearing sense for practical purposes. However the terminology comprises a wide variety of clinical conditions, severity levels and functional implications. However the educationally-oriented definitions of Brill, MacNeil & Newman (1986, p. 67 as qtd. in Hallahan, Kauffmann, & Pullen, 2009, p. 340) describe a deaf person as one whose hearing disability precludes successful

processing of linguistic information through audition, with or without a hearing aid. On the other hand, hard of hearing persons are described as those who have sufficient residual hearing and with the use of hearing aid will be able to process linguistic information through audition.

Concerning the prevalence of hearing problems among the masses in India, according to Census of India (2001, as qtd. in Rangasayee, 2007,) there were 1,261,722 persons having difficulty in hearing against the total population of 1,027,015,247. Thus roughly, 1.23% of the total population are said to be suffering from some form of difficulty in hearing. Depending on the severity of loss and the age of onset of the disability and intervention, the difficulty in hearing can affect the lives of individuals in a significant way. ASHA (1997 – 2014) further elaborates the wide ranging implications of hearing loss in individuals beginning from the primary impact on speech and language development and continuing with secondary effects on academic learning and social functioning in terms of both economic self-reliance as well as integration in the society. Early identification followed by timely intervention for speech-language and cognitive development, academic learning and later vocational rehabilitation are suggested to help individuals overcome such adverse implications.

However, children and young persons with hearing impairment in India are found lacking in necessary positive and constructive support in overcoming the impact of hearing loss. Families and societies are said to respond with extreme sentiments like rejection and indifference on one hand or over protection on the other

hand with few occurrences of realistic acceptance in-between (Rangasayee, 2007). These oscillations lead to denial or inadequate provision of opportunities for rehabilitation, as is indicated by the deplorable statistics regarding educational status of persons with hearing impairment in the country. With a majority (68.8%) of them left without any schooling, only 19.5%, 7.65, 2.5%, 1.1% and 09.% of them have access to primary, higher primary, secondary, higher secondary and higher education, respectively (Rangasayee, 2007).

Looking further into the vocational rehabilitation of these individuals, across the globe majority of individuals with hearing impairment are left unemployed or underemployed (Punch, Hyde, & Creed, 2004; Schrimmer, 2001, as qtd. in Hallahan, Kauffmann, & Pullen, 2009,). Kirk (1962,) has reported that majority of persons with hearing impairment (71%) end up with manual and menial jobs like operators, craftsmen, foremen and similar workers; while only a very few get past to higher level jobs like clerks (7%), managers (3%) and professionals (7%). They were also found to be lacking in skills for self-determination, leading to development of learned helplessness facing difficulty in managing money, public transportation, etc. The major reason for these continuing problems in the lives of individuals with hearing impairment is that our educational programmes are not life-oriented, but function within narrow academic framework. To help individuals with hearing impairment avoid or overcome such problems, school programmes have to become more comprehensive in nature preparing them not just to pass examinations, but to face life after school and survive.

1.1.2 *Problems Faced by Adolescents with Hearing Impairment*

As mentioned afore, adolescence is a turbulent period in the lives of young individuals. And presence of disabilities like hearing impairment creates further deficiencies in the process of getting prepared to face responsibilities and challenges of adult life. DiFrancesca (1978) reported that adolescents with hearing impairment have poor awareness about socially appropriate social habits and customs. They are found unaware of the impact of their behaviours on others, like asking extremely personal questions, etc. They face inadequacies in goal setting, planning ahead, making decisions and problem solving. Lacunae in these areas in turn lead to failure in facing adult responsibilities (DiFrancesca, 1978).

Lerman and Guilfoyle (1970) further report that individuals with hearing impairment at large suffer from poor employment status and problems in social adjustment. They also emphasise on the acute need among adolescent students with hearing impairment for realistic information about jobs and job requirements. Most of the educational programmes do not orient them on vocational opportunities or choices, and the scarcity of necessary information leads to their limited choice of employment, underemployment or unemployment (Lerman & Guilfoyle, 1970).

1.1.3 *Preparation of Hearing Impairment Adolescents for Life after School*

For considerable numbers of adolescents with hearing impairment, scope for comprehensive rehabilitation may culminate with schooling; with further efforts and

measures for the most part focusing on vocational rehabilitation and employment. Therefore school programmes should focus beyond mere academic training, and should endeavour to prepare adolescents with hearing impairment for life after school. This would imply that schools should undertake comprehensive measures to prepare such individuals for independent living, community living, and vocational awareness, vocational preparedness and employability. Hearing impairment is a hidden disability and its impact on self determination, independent living, community living and vocational awareness go unnoticed, and consequently the need for rehabilitative training also goes unattended.

1.2 Need for the Study

In India, assessment and planning for comprehensive post-school transition are rarely heard of even in the mainstreams of education, other than a few exceptions of career guidance measures. However, they are practically non-existent for learners with hidden needs like hearing impairment, as lack of visible deficiencies in physical health and functioning overshadow the practical implications of communication problems in daily life living. There are several instances of (pre)vocational preparation of the learners with hearing impairment in the school leaving stage. However, they rarely take into account the personal interests and preferences of the learners, or pay attention to their preparation for independent and community living.

In this background, it is essential in the first instance to develop a teacher-administrable screening checklist for assessing readiness for post-school transition in

adolescents with hearing impairment. Development and regular use of such a tool by teachers managing differently-able adolescents will help them in understanding the needs for post-school preparations in their wards, as well as induce them to capacitate themselves to provide necessary counselling and guidance.

1.3 Statement of the Problem

This study proposes to develop a checklist for screening the preparedness among adolescents with hearing impairment for post-school transition as well as decipher their vocational choices and inclinations. The information thus garnered may provide useful directions in planning and implementing rehabilitative measures towards empowering them for transition into adulthood. With the developed checklist it was further proposed to carry out a comparative survey of developmental levels of adolescents with hearing impairment and their peers with hearing impairment.

1.4 Objectives of the Study

In the process of accomplishing the above task, the following targets had been set up for the current study:

- Identifying areas of preparation for post-school transition in adolescents with hearing impairment following thorough review of related literature and existing tools available.

- Compilation and/or development of the comprehensive screening checklist for appraising preparedness for post-school transition in adolescents with hearing impairment.
- Validating the developed checklist through expert review.
- Field testing the developed checklist with typically developing adolescents so as to verify its reliability, validity; as well as determining normal/ typical patterns of development.
- Field testing the checklist with adolescents with hearing impairment in order to compare their development with their typically developing peers in the Indian context.

1.5 Operational Definitions

The following operational definitions are pertinent to the current study:

- *Screening Checklist* in this study implies a list of attributes, awareness, behaviours and preferences related to independent living, community living, academic skills, employability and vocations that are to be checked for their presence in adolescents.
- *Post-School Transition* in this study implies physical, psychological and other transformations that commence during early adolescence at the time of school leaving stage and continue into late adolescence so as to prepare individuals in facing responsibilities of adulthood.

- *Early Adolescence* in this study refers to the chronological age range of 14+ to 17 years.
- *Late Adolescence* in this study refers to the chronological age range of 17+ to 21 years.
- *Adolescents* in this study refers to individuals in the chronological age range of 14+ to 21 years.
- *Adolescents with Hearing Impairment* in this study implies individuals with ages ranging from 14+ to 21 years and with hearing loss of 60dB or more in the better ear.
- *Typically Developing Adolescents* in this study implies individuals with ages ranging from 14+ to 21 years and having no significant disabilities.
- *Life Skill Development* in this study implies development of basic skills essential for survival and enhancement of quality of life like independent living skills, community living skills, study skills and employability.

1.6 Research Design

The initial stage of the study involved a multistep design for tool development. This was followed by a cross-sectional, comparative research design involving individuals in early and late adolescents with and without hearing loss. The presence

of hearing impairment was considered as independent variable and the consequent level of development was taken to be the dependent variable.

1.7 Research Hypotheses

The following hypotheses served as premises for the study, and the research design was developed based on them:

1. Typically developing adolescents will be better prepared to face adulthood responsibilities than their peers with hearing impairment in terms of –
 - (i) Independent living skills
 - (ii) Community living skills
 - (iii) Academic skills
 - (iv) Employability
 - (v) Awareness about vocations

2. The vocational inclinations of adolescents with hearing impairment will differ from that of their typically developing peers in terms of –
 - (i) Personal attributes
 - (ii) Curricular choices
 - (iii) Co-curricular preferences

CHAPTER II

REVIEW OF LITERATURE

Chapter 2

Literature Review

At the onset of the research, a wide data base on the typical development of adolescents, as well significant problems faced by adolescents with special needs like hearing impairment were reviewed. As this research involves development of a screening tool, literature related to the processes involved in development of tools and test materials were also reviewed. They have been briefly reported in this chapter.

2.1 Typical Human Development

Human development is a continuous, ongoing process that spans the entire life of an individual from womb to tomb. Development of humans begins right from the stage of conception and becomes visible from the moment of birth. Children start exploring the new world around them by touching, smelling, tasting, listening, observing, and playing, while simultaneously undergoing rapid development in the domains of physical and mental abilities. The development in human beings is generally considered to involve certain major domains that have been described in here after (Teach Preschool, 2012).

2.1.1 Primary Domains of Human Development

The first and foremost aspect of development that distinguishes man from other living beings is the development in the *cognitive domain*. As part of cognitive

development there are two things happening – learning and processing of information, as well thinking and interpreting on one’s own. The domain of cognition involves, or is associated with a wide range of other abilities like language, imagination, thinking, reasoning, problem solving and memory. Ultimately proper development of cognitive skills helps individuals organize what they know and generalize that knowledge into other areas (Teach Preschool, 2012).

Another major domain of development is *language* which is very essential to communicate with others in order fulfil basic necessities, as well as satisfy higher needs of sharing emotions, ideas and information. Language development goes through the process of learning sounds, combining those sounds into meaningful words, and putting words together into sentences to communicate thoughts. And it also involves ability to interpret sounds uttered by others. The third important domain of development is *social skills*, that is, learning to get along with others. It involves surviving in an active social environment by sharing, taking turns, accepting the differences in others, and living a mutually contributing life as social animals. Unfortunately, some individuals may develop serious emotional or personality problems like symptoms of extreme anxiety, withdrawal, and fearfulness; or, on the other hand, disobedience, aggression, and tendencies for destruction of property, etc. than may interrupt their efforts to lead a profitable social life (Teach Preschool, 2012).

Another primary domain of human development is *physical growth and motor development*. This comprises both anthropometric growth, as well as development of fine and gross motor skills. Fine motor skills are tasks carried out through finger

activity coordinating with eyes. Skills to control and coordinate these small muscle movements develop with perseverant practice over time, and are very vital for daily living activities such as dressing, eating, toileting and washing, as well as several other major occupations in any individual's life. Gross motor development on the other hand involves the larger muscles in the arms, legs, and torso and manifests in activities including walking, running, throwing, lifting, kicking, etc. (Teach Preschool, 2012).

2.1.2 Domains of Adolescent/Youth Well-Being

Technically speaking the developmental stage of adolescence could occur between the ages of 10 to 19 years and may extend up to age of 24 years (UNICEF, 2009). Thus it becomes a crucial, transitional stage in the development of human beings that occurs between childhood and adulthood of individuals which is characterised by drastic changes in the biological, psycho-emotional and social domains. The well being of individuals during this phase and after is characterised by their ability to develop knowledge, skills, values and relationships through experience. And the nature and extent of development will determine their accomplishments in the various indispensable domains of life like intra and interpersonal adjustments, productivity and income generation, and participation in family, social and civic affairs, among others. Hence human development experts recommend paying due attention to certain key contributing factors, which are as follows (UNICEF, 2009):

- *Promoting Health Status and General Well-being* which includes reduction of morbidity and mortality by prevention of infectious diseases, enhancing

nutrition, avoidance of violence, injuries and other health risk behaviours. It also comprises of improving health knowledge and skills in the individual, as well as the quality of health and sanitation in the environment.

- *Establishing Identity and Equity* which in turn suggests protection of legal rights, national and cultural identity, spiritual beliefs; while improving equality, equity and along, with positive recognition and freedom.
- *Providing Protection* implies extending psychological, physical and legal protection while ensuring their social security.
- *Ensuring Education* implies providing opportunities for developing literacy, knowledge and productive skills, as well as enhancing the competency necessary to lead quality lives.
- *Access to Support Services and Relationships in the Environment* which suggests availability of all necessary community services that is essential for survival as well as enhancing the quality of life.
- *Socio-Economic Opportunities* including those of economic activity and/ or employment that lead to economically and socially satiating lives.
- *Promoting Participation* to the optimal possible levels in the family, educational, social and civic environments.

2.2 Development in Differently-able Adolescents

It is estimated that up to 40-50% of children and adolescents have special needs and health care risks including differential energy and nutritional needs, delayed or impaired development in different domains, erratic anthropometric development, metabolic dysfunctions, acute or chronic diseases, and/or specific disabilities; thus requiring specialist health care and rehabilitation intervention (Willis, 2005). Such conditions of special need may need to delay, deprivation, and/or deviation in the normal cause of development. Ascertaining physical and psychological health is crucial for any adolescent and more so for adolescents with specific disabilities. Sensory, cognitive, physical-motor, emotional-behavioural and social impairments in adolescents lead to innumerable hazards like poor survival and high mortality rates, reduced life expectancy, haphazard biological functioning, deficient or divergent psychological functioning, personal dysfunctions and social dependencies among others (Sajith & Clarke, 2007; Shattuck et al., 2007; Spector & Volkmar, 2006; Bittles, 2002).

2.2.1 Self – Perception in differently – able adolescents

Thus, it is essential to develop specially designed rehabilitation packages for adolescents with disabilities that focus on development of sense of self, positive self-concept, implied sensory-information perception and cognition, as well as competency for gainful social engagement (Erikson, 1950). In short, it implies that they need focused help to develop positive perceptions about themselves and their

environment, which in turn leads to optimal functioning on individual as well as social levels.

Davies and Jenkins (1997) conducted interviews with 53 young differentially-able adults and their caregivers. They reported that only 15% of them had a realistic perception of their differential nature and in many instances the caregivers were given to misconceptions and distorted approaches to rehabilitation. Such construed perceptions and processes may not limit the individual adolescent's actual growth and development, but definitely plays spoilsport with his/her application of the same for survival and progress in life.

Very rarely we come across of differently-able adolescents rating themselves positively. But it mostly happens with adolescents with developmental disabilities like autism, Down's syndrome and other intellectual disabilities. However, researches further explain that this positive perception of self among these groups of adolescents is due to immature level of cognitive processing rather than realistic appraisal of self (Glenn & Cunningham, 2001; Mincham et al., 1995).

Like in typically developing adolescents, among differently able adolescents also, physical appearance and social acceptance are key determinants of self acceptance (Harter, 1986; Selman, 1980). Consequently adolescents with visible handicaps like cerebral palsy and spina bifida are found to have lower self-concept in the area of physical, scholastic and social attributes (Shields et al., 2006; Mincham et al., 1995).

2.2.2 Family and Social Relationship in Differently-able Adolescents

Next to self – perception, the next major developmental area affected due to presence of disabilities is social networking. Adolescence is a period when individuals develop traits like trust, loyalty as well as ability to reciprocate appropriately and resolve conflicts. And these in turn lead to widening and deepening of their friendship circle (Hartup, 1993). Differently-able adolescents, especially those with intellectual disabilities were poor in developing these attributes and consequently had fewer friends and less intimate relationships (Zetlin & Murtaugh, 1988).

According to researchers, irrespective of type of disabilities, individuals with disabilities frequently undergo sense of loneliness (Heiman, 2000); do not have longstanding relationship (Orsmond, Krauss, & Seltzer 2004); or had relationships that lacked mutual trust and reciprocity (Bottroff et al., 2002); and characterised by more conflicts (Zetlin & Murtaugh, 1988). Differently-able adolescents face difficulty not only in making and keeping relationships outside in the larger society, but also in reorganising relationships within home. They find it difficult to change the perspectives of their roles and responsibilities towards parents and other significant members of the families (Moore et al., 2004). They are also found to vent out frustrations due to problems in peer and other social relationships at parents and other family members (Collins & Laursen, 2004).

Parents were also found reciprocating differently towards them with increasing tendencies for over protection (Dixon & Reddacliff, 2001), and continuing shelter and support well into adolescence and adulthood (Arnett, 2004; Kraemer & Blacher, 2001; Seltzer et al., 2001; DaVanzo & Goldscheider, 1990; Scuccimarra & Speece, 1990). However parents are also found to be potential emotional supports, substituting for lack of friends and inadequate social networking (McGrew, Johnson & Bruininks, 1994).

2.2.3 Independence in Differently-able Adolescents

Another crucial area affected in differently-able individuals is the capacity for self-agency. According to Wehmeyer and Garner (2003) the problem begins with lack of ability for self determination. And this in turn snowballs into plethora of problems in major survival domains like employment and income generation (Wehmeyer & Schwartz, 1998).

Wagner et al. (2006) following a longitudinal study reported that post- school employment rate of differently-able adolescents is just 2/3rd of that of their typically developing peers in the United States of America. And the conditions are more prone among differently-able adolescents from socially disadvantage groups like African Americans and Native Americans. They (Wagner et al., 2006) further added that though openings to post secondary educational opportunities have increased in the last decade for differently-able adolescents, it was still 10% lower than their typically developing peers.

2.3 Impact of Presence of Hearing Impairment on Development in Adolescents

Like physically visible as well as intellectual disabilities, hidden sensory disabilities like hearing impairment were also found to affect developments and well-being in adolescents.

2.3.1 Physical Well Being in Adolescents with Hearing Impairment

As mentioned herein before, hearing impairment is a physically invisible disability, consequently it had the least impact on physical developments and well being as Keilmann, Limberger and Mann (2007) had reported following survey of individuals in their pubescence and early adolescents.

2.3.2 Psychological Processing in Adolescents with Hearing Impairment

Myklebust (1996) expressed that individuals with hearing impairment are concrete thinkers, and face difficulty in pursuing abstract concepts and thought processes. He further suggests that deviances or deprivations in their way of thinking also affect how they behave. Monzani et al., (2008) reported that adolescents with hearing impairment are more prone to depression, anxiety, interpersonal sensitivity and hostility. Though these traits are common among other adolescents, they are reported to be substantially high in these adolescents with sensory impairments. Monzani et al. (2008) added further that these problems lead to social isolation and

feelings of inferiority. Tidball (1990) also found presence of hearing impairment leading to a lot of problem in intra and interpersonal adjustments. However, Keilmann et al. (2007) report that early opportunities for social integration like through educational mainstreaming, help in minimising the problems.

2.3.3 Communicational Abilities and Social Interaction in Adolescents with Hearing Impairment

Adams (1987) reported that deprivation in the hearing sense lead to delayed or deviant development of speech language skills thus impeding communicational abilities. This in turn led to problems in interaction and adjustment with the world around, ultimately resulting in psychological imbalances.

There are similar reports from India also. Dharitri and Murthy (1990) reported that individuals with hearing impairments are generally found to be low on self concept, are shy and also lacking in confidence. They were self conscious, restless in the social milieu which is exhibited through behaviours like nail biting, and also easily distractible. They were also hypersensitive and thus easily irritable. In extreme conditions they also displayed temper bursts and turned aggressive.

2.4 Development of Assessment Tools and Test Materials

As the reported study involved developing a screening checklist, that is, a tool for assessing life skill development in individuals; literature related to development of

assessment tools and test materials were also surveyed. The first step in systematic tool development was to identify the purpose of the tool or test material, whether it was to be used for formative, summative, diagnostic, or evaluation of other nature (Linn, 1990).

2.4.1 Composing the Structure and Content of the Test Material

The next step in the process of development of an assessment tool was to identify the test specifications like the domains to be addressed, the coverage of areas within a domain, pertinent number of items and the relative weightage to be provided, and so on. Following this the actual test items are to be compiled and/ or constructed (Cohen, Manion & Morrison, 2011).

Before the final composition of the tool is decided, the items are further analysed to determine their difficulty and discriminatory indices. Item difficulty is calculated as a percentage value and indicates the percentage of the sample population who were able to answer the particular test items correctly. Item analysis is also carried out to determine the discriminatory level of test items, that is the probability of differentiating between samples who score low and high in the entire test.

However, these two measures do not apply to tools such as rating scales, checklists, inventories and opinionnaires (Pandya, 2011). After finalisation of test structure and individual item, the next step in development of an assessment test or tool, the next step is to determine the validity and the reliability of the test materials.

2.4.2 Determining the Validity of the Tool / Test Material

Validity is an indicator that the test material really tests the attributes that it is supposed to test. There are different types of validity, and some of the major types have been briefly described herein after (Cohen, Manion & Morrison, 2011).

- *Construct Validity* indicates the extent to which the test measures the component traits or constituent attributes that are mentioned in the purpose of the test material.
- *Convergent and Discriminant Validity* are both facets of construct validity and are considered as two sides of the same coin. Convergent validity demonstrates that two component factors or elements of a particular construct are related or similar to each other. In contrast, discriminant validity demonstrates that two or more unrelated items, attributes, elements or factors are different from each other
- *Content Validity* indicates adequate representative coverage of all the domains of attributes or areas of knowledge or skills to be covered in the test.
- *Concurrent Validity* indicates the extent to which the test corresponds to other tests in the similar field.
- *Predictive Validity* implies its ability to accurately predict final or future scores.
- *Criterion-related Validity* indicates the extent to which the test results enable inferences related to actual performances or conditions related to the testing field.

- *Cultural Validity* indicates the fairness of test items to the language and culture of the individual test taker.
- *Consequential Validity* relates to using of the test results ethically and fairly.

Following review about the above prerequisites about validity influenced efforts to determine the content, convergent and criterion-related validity in the current study.

2.4.3 Determining the Reliability of the Tool / Test Material

Reliability is a factor indicating the extent of confidence that can be placed on the results of the test and findings of the assessment process. Reliability in its various dimensions has been described herein after (Cohen, Manion & Morrison, 2011).

- *Stability* which explicates the dependability of the test over time and varied samples. Measures like test-retest reliability help in determining stability.
- *Equivalence* between different forms of the test, if there are parallel forms of the test, as well as equivalence between scoring/ rating on the same test by two different evaluators.
- *Internal Consistency* that assumes that the entire test material can be split into two equivalent halves that are matched on gradient of difficulty, and/or different items of content; and may also imply that result on each item of the test is correlated positively with the sum total of the results.

Review of the above measures for reliability led to efforts to verify the stability of the checklist developed through test-retest measure, its equivalence through inter-rater reliability, and its internal consistency through split-half method. Thus, the pre-requisite review of literature carried out in this study provided insights about the domains of development to be provided in the checklist, as well the systematic process through which the development of the screening checklist has to be carried out.

CHAPTER III

METHOD

Chapter 3

Method

This chapter provides details about the participants, tools and materials and the process involved in carrying out the current study.

3.1 Participants

A total of 85 adolescents with and without hearing impairment from 13 states across the country and one neighbouring country participated in the study. The 85 participants included both adolescents with hearing loss and their typically developing peers. The sample population was gathered through purposive sampling employing the selection criteria mentioned in Table 3.1:

Table 3.1: *Criteria for selecting samples*

Inclusion Criteria	Exclusion Criteria
<i>Typically Developing Adolescents</i> <ul style="list-style-type: none">• Chronological age within the specified age-range• Participation in formal education and/or training programmes	<ul style="list-style-type: none">• Presence any disability
<i>Adolescents with Hearing Impairment</i> <ul style="list-style-type: none">• Chronological age within the specified age-range• Participation in formal education and/or training programmes• Hearing loss of 60 dB or more in the better ear	<ul style="list-style-type: none">• Presence any other additional disability

Of the total eighty-two participants, 49 were typically adolescents and 36 were

adolescents with hearing impairment. The group of typically developing adolescents again comprised of 20 individuals in the early stage of adolescence, that is, aged between 14+ to 17 years; and 29 of them in the late stage of adolescence, that is, aged between 17+ to 21 years. Similarly, the group of adolescents with hearing impairment were comprised of 16 in the stage of early adolescence and 20 from the stage of late adolescence. Three of the samples from later adolescence with hearing impairment were part of the pilot study and were not considered in the later data analysis. These and other demographic details of the participants have been presented in Figures 3.1 to 3.3.

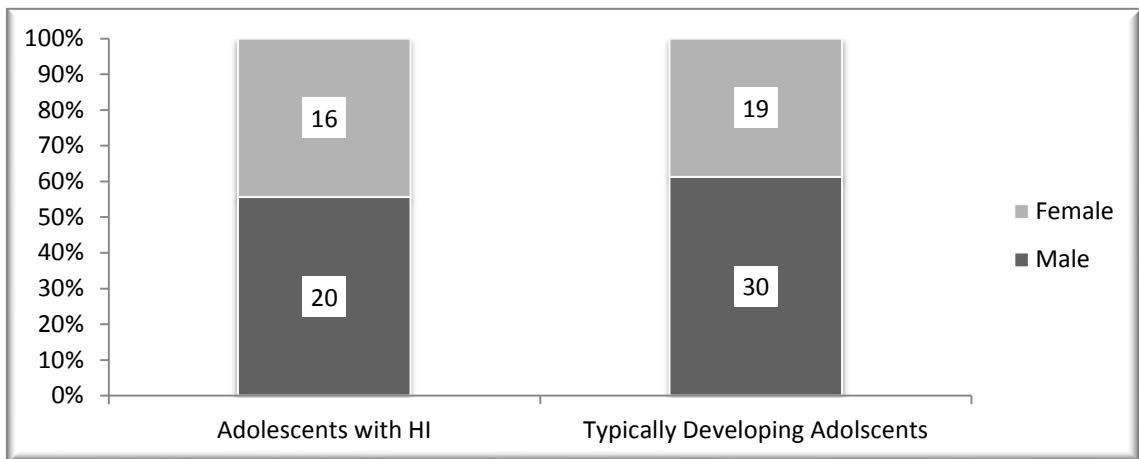


Figure 3.1: Age composition of the participants.

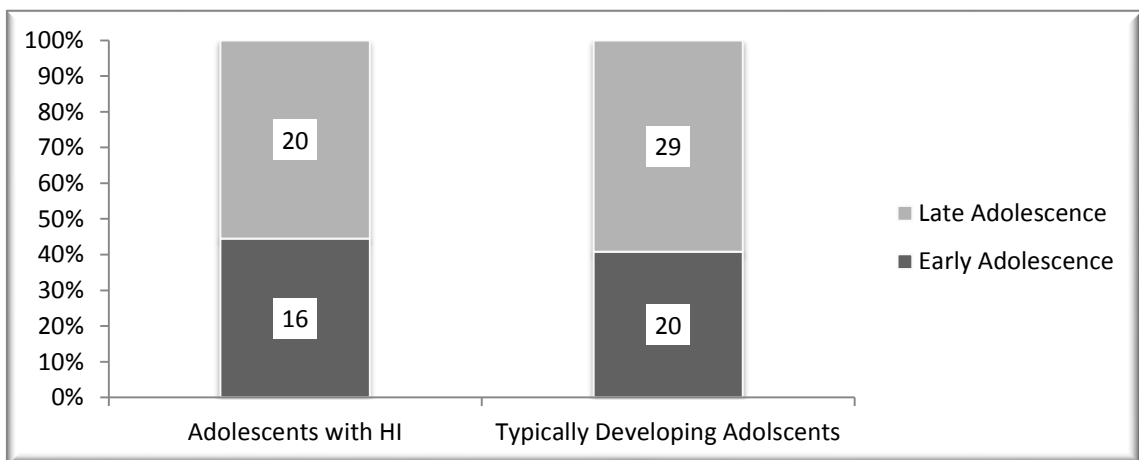


Figure 3.2: Gender composition of the participants.

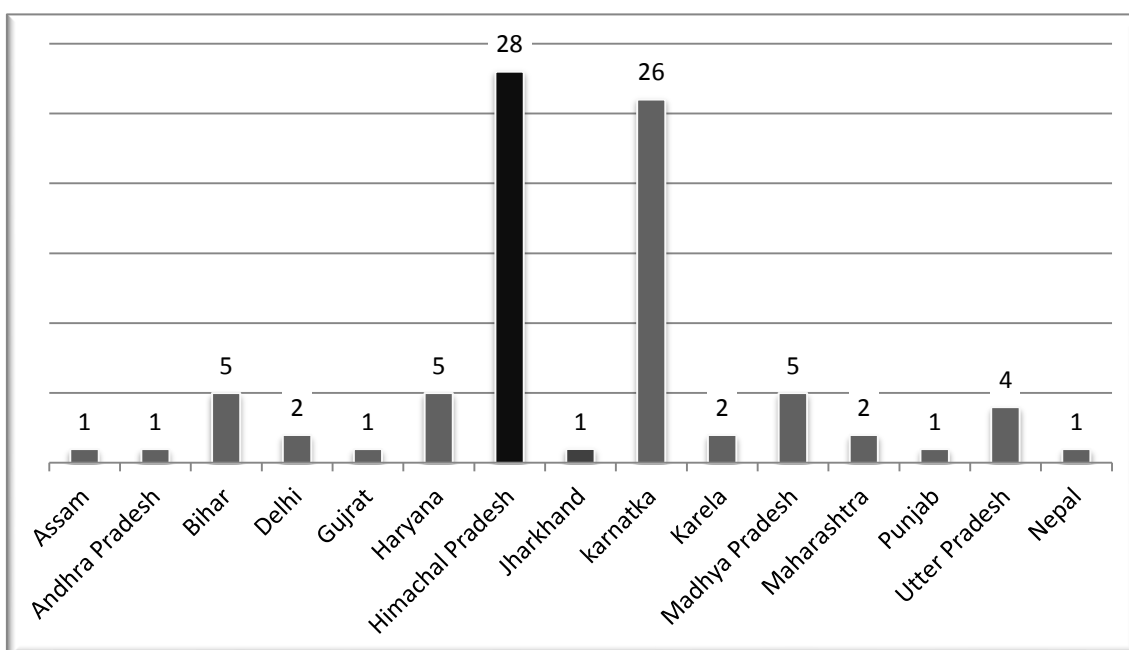


Figure 3.3: *Regional background of the participants.*

Apart from the focus group of adolescents, 13 typically developing children in their late childhood were included in the study for the purpose of comparing in order to determine the criterion validity of the checklist. The late childhood participants included 7 girls and 6 boys.

3.2 Tools and Materials

A comprehensive screening checklist was developed in the process of this study compiled to appraise the preparedness in adolescents with hearing impairment and their typically developing peers covering the following areas:

- Skills for independent living
- Skills for community living

- Academic attainment and study skills
- Employability or vocational preparedness
- Tests for vocational awareness
- Vocational preferences and inclinations

The development of skills for independent living, community living, academic attainment and study, and employability were rated on a 3-point rating scale of – 2 marks for independent, 1 mark for functioning with prompts or supports, and 0 marks for being totally dependent or non-functional. The summary ratings on these areas of development provided information about the developmental level of the adolescents.

The tests for vocational awareness included two tests – a 25-item test objective type test with knowledge questions and an illustrated matching activity on 12 different types of occupational groups. The twelve occupation groups were – agriculture & animal husbandry, artistic and creative, construction and manufacturing, education and training, health sciences and medical, hospitality and tourism, human services, management and marketing, office work, public safety and security, science and technology, and transport and logistics.

In order to test the vocational preferences and inclinations there were three different sections, which are as follows:

- The first one was a list of 54 personal characteristics of which approximately 6 characteristics were associated with each of the 12 occupational groups. A

caregiver or significant other of the adolescent under scrutiny was to mark five most appropriate characteristics of the individual.

- The second one was a list of 25 core curricular areas of which approximately three were associated with each of the 12 occupational groups. The adolescents themselves were to select three of their most favourite subjects.
- The third one was a list of 27 co-curricular activities of which approximately 3 are associated to with each of the 12 occupational groups. The adolescents themselves were to select three of their most favourite subjects.
- From the results on the tests for vocational awareness, personal characteristics assigned by the caregivers, and curricular and co-curricular choices made by their adolescents; their vocational preferences and inclinations could be judged.

The test material has been annexed in Appendix – A. Its items were constructed after review of 20 tests, checklists and/or inventories for typical human development as well as development in differently-able; job awareness, interests, preference and aptitudes; learning styles; and personality types among others (see Appendix – B for the list).

3.3 Procedure

The process of the study involved 2 distinct stages with their component steps which have been detailed herein after and the protocol of the study is represented in Figure 3.4:

- Stage I: Preparation of the Tool
 - Determination of major developmental domains to be covered in the tool
 - Compilation and/or development of items under each domain
 - Content validation of the checklist items by expert evaluators
 - Pilot study on three students

- Stage II: Field Testing the Tool
 - Field testing the tool with normative population of typically developing adolescents.
 - Field testing the tool with population of adolescents with hearing impairment.
 - Determining the norms, validity and reliability of the tool.

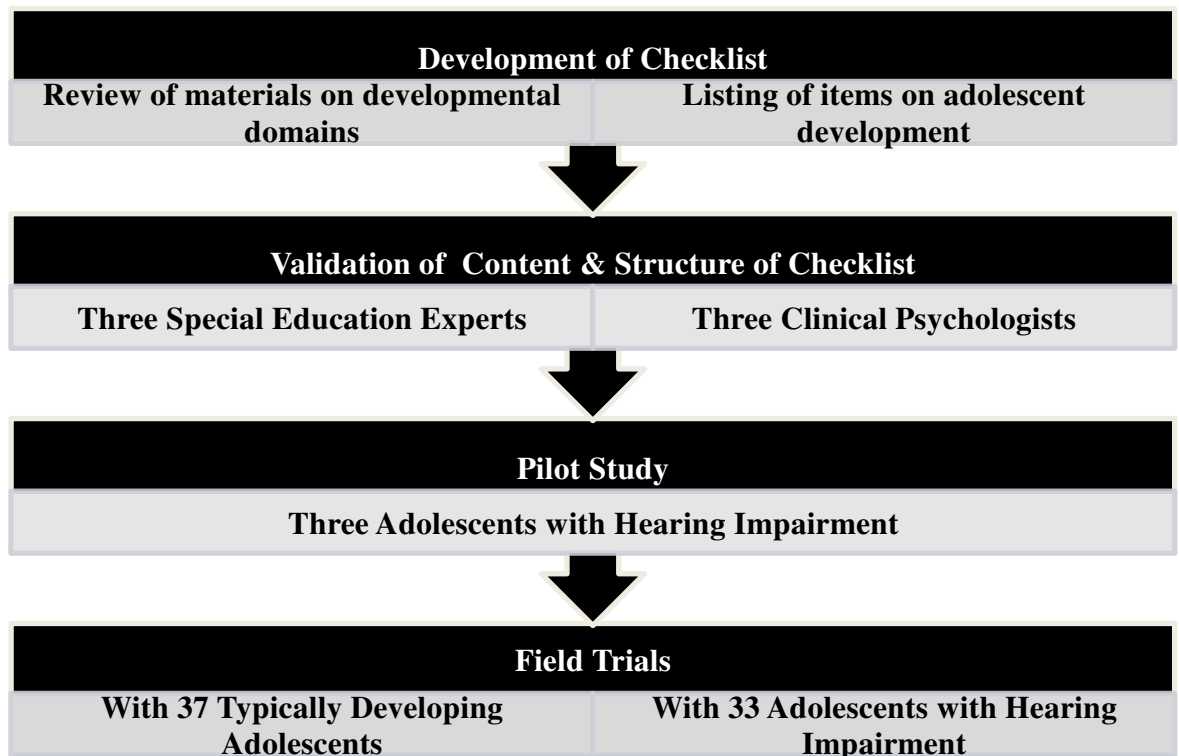


Figure 3.4: *Protocol of the study.*

3.4 Data Collection

The data from both the normative and special samples were collected through self-administration by late adolescents, and administration with help of caregivers or teachers of early adolescents. The parallel rating scale for typically developing adolescents was filled in by teachers of the adolescents. For determining test-retest reliability, the test was re-administered to 10 typically developing adolescents after a period of one month. And for determining inter-rater reliability, the late adolescents who had self-administered the tools were again appraised by a close observer.

3.5 Data Analysis

Statistical measures like those for central tendencies, deviances, correlation and variances were made use of in the process of data analyses. Necessary statistical analyses were carried out with *Statistical Package for Social Sciences (SPSS) versions 17 & 21*. Following field trials with typically developing adolescents for the purpose of determining norms, validity and reliability; the checklist was field tested with adolescents with hearing impairment. The patterns of development between the typically developing adolescents and adolescents with hearing impairment were compared. In the ensuing analysis, the presence of hearing impairment was considered as the independent variable, and its effect on the dependent variable of life skill development was investigated.

CHAPTER IV

RESULTS & DISCUSSION

Chapter 4

Results

The major purpose of the current study was to develop screening checklist to test adequacy of development in life skills, academic and study skills, as well as employability in adolescents with hearing impairment. The tool, developed for the purpose after extensive review of literature, was field tested with typically developing adolescents to determine its norm's, reliability and validity; and the outcomes of the efforts have been elucidated in this chapter. Later the attainments of adolescents with hearing impairment as elicited by the checklist were compared with their typically developing peers, in order to find out if there were any differences in the pattern of development.

The analyses were focused on scrutinising the following null hypotheses:

1. Typically developing adolescents will not be better prepared to face adulthood responsibilities than their peers with hearing impairment in terms of –
 - (i) Independent living skills
 - (ii) Community living skills
 - (iii) Academic skills
 - (iv) Employability
 - (v) Awareness about vocations

2. The vocational inclinations of adolescents with hearing impairment will not differ from that of their typically developing peers in terms of –
 - (i) Personal attributes

(ii) Curricular choices

(iii) Co-curricular preferences

4.1. Norms for the Screening Checklist

In order to determine norms of typical development, the tool was field tested with 20 typically developing adolescents age between 14-17 year and 17 typically adolescents the age range between 17-21. The normal patterns of development were conceived by determining the 95% confidence interval.

Developmental scores between the upper and lower bounds were considered to indicate normal range of development and thus considered within the satisfactory range of development. Scores above the upper bounds were considered as highly satisfactory; while scores below the lower bounds were taken to suggest less than satisfactory development, thus indicating need for improvement through rehabilitation. The norms thus developed following the analysis the data have been presented in the Table 4.1.

Table 4.1: Norms for independent levels of functioning in early & late adolescence

S. No.	Area of Competency	Early Adolescence Scores indicating –		Late Adolescence Scores indicating –	
		Satisfactory functioning*	Need for improvement	Satisfactory functioning*	Need for improvement
• Independent Living Skills					
01.	Self Care	12 to 14	<12 [^]	13 to 14	<13 [^]
02.	Safety	09 to 13 [^]	<09 [^]	13 to 14	<13 [^]
03.	Maintenance of Home Environment	09 to 11 [^]	<09 [^]	11 to 12	<11 [^]
04.	Time Management	07 to 08	<07 [^]	07 to 08	<07 [^]
	Overall Section	38 to 45 [^]	<38 [^]	46 to 48	<46 [^]
• Community Living skills					
01.	Communication	13 to 14	<13 [^]	14	<14 [^]
02.	Mobility (total of a & b)	18 to 20 [^]	<18 [^]	23 to 24	<23 [^]
03.	Adaptive & Social Behaviour	20 to 23 [^]	<20 [^]	23 to 24	<23 [^]
04.	Monetary Transactions	08 to 09 [^]	<08 [^]	08 to 10	<07 [^]
	Overall Section	61 to 67 [^]	<61 [^]	69 to 71 [^]	<68 [^]
• Academic Performance & Study Skills					
01.	Study Skills	28 to 31 [^]	<28 [^]	32	<32 [^]
02.	Functional Literacy	05 to 06	<05 [^]	06	<06 [^]
03.	Computer Literacy	09 to 11 [^]	<09 [^]	10 to 12	<10 [^]
	Overall Section	44 to 48 [^]	<44 [^]	48 to 50	<48 [^]
• Employability					
01.	Readiness for Work	09 to 11 [^]	<09 [^]	11 to 12	<11 [^]
02.	Work Place Behaviours	38 to 42 [^]	<38 [^]	42 to 44	<42 [^]
	Overall Section	47 to 53 [^]	<47 [^]	54 to 56	<54 [^]
Overall Performance		191 to 212 [^]	<191 [^]	218 to 225 [^]	<218 [^]

* Based on the upper and lower bounds of 95% confidence interval

[^] Scores above the upper bounds could be considered as highly satisfactory

[^] Scores below the lower bounds could be considered as less than satisfactory

4.2. Determination of Validity of the Tool

In order to determine the validity of the screening checklist three measures were under taken, namely, verification of content validity by experts, as well as determination construct and criterion validity.

4.2.1. Determination of Content Validity

In order to verify whether the structure and content of the screening checklist was valid it was provided to six experts, of whom three were from the field of special education and three from the field clinical psychology. Items that received consent from 80% or more of the evaluators, that is, five or more evaluators was consider as valid and included in the final checklist. The suggestions of the evaluators for further improvisation of the structure and content of the test and constituent items were duly incorporated.

4.2.2. Determination of Convergent Validity

Convergent validity is a facet of construct validity. It is useful to determine whether the component attributes or facets of a particular test are related or similar to each other. In the screening checklist developed as part of this study, an adolescent's age-appropriate development is appraised in terms of his/her independent living, community living, academic performance and study skills, and employability. Therefore to test with the convergent validity of the tool, the rating scores of the

typically developing adolescents in these individual sections were correlated with each other as well as with the overall rating scores. The results have been presented in Table 4.2.

Table 4.2: *Correlation between component-attributes of the screening checklist*

r	Independent Living Skills	Community Living Skills	Academic & Study Skills	Employability
Independent Living Skills				
Community Living Skills	0.583***			
Academic & Study Skills	0.523***	0.904***		
Employability	0.591***	0.790***	0.814***	
Overall Development	0.718***	0.951***	0.939***	0.909***

Note: *** p<0.001; ** p<0.01, * p<0.05

The positive and significant correlation seen between all the attributes presented in Table 4.2 makes it evident that there is similarity and positive relationship between them. This proves the convergent validity of the test in that the ratings across the different categories of attributes that constitute the test have been similar for any given sample, even though the intensity of similarity has been to a moderate extent for independent living skills with other aspects as well as the overall performance.

4.2.3. Determination of Criterion-related Validity

The criteria in using the screening checklist developed in this study was to determine whether the adolescents on whom it was administered had age-appropriate development in life skills and other major domains of development essential for independent adult life. In other words, the purpose was to verify their stage of development. In actual practice the study should be able to differentiate individual in the adolescent stage of development from individuals in higher or lower stages of development, In order to check the criterion validity, the checklist was administered to on 13 samples in the stage of late childhood and their rating were compared with samples in late adolescence the results have been presented have be Table 4.3.

Table 4.3: *Differences between late childhood and adolescent developmental patterns*

Stage of Development	N	Mean	SD	Mean Difference	Z	Significance
(i) Independent Living Skills						
Adolescence	17	98.28	3.91	32.10	4.83	0.000
Childhood	13	66.1859	16.05			
(ii) Community Living Skills						
Adolescence	17	97.71	2.82	36.17	4.69	0.000
Childhood	13	61.54	14.35			
(iii) Academic & Study Skills						
Adolescence	17	98.12	4.21	23.92	4.56	0.000
Childhood	13	74.20	18.80			
(iv) Employability						
Adolescence	17	97.90	3.95	54.36	4.783	0.000
Childhood	13	43.54	11.10			
Overall Development						
Adolescence	17	98.00	3.06	36.64	4.67	0.000
Childhood	13	61.37	11.78			

As evident from the results, the difference between independent levels of functioning in samples from late childhood and late adolescence is substantially different with high statistical significance. Samples from late adolescence have a mean advantage of 32% in independent living skills, 36% in communication living skills, 24% academic performance & study skills and 54% employability. The overall advantage of late adolescents over individual from late childhood 37%. Thus checklist is able to differentiate between individuals of two different developmental stages. Serving its purpose and fulfilling its crucial criterion.

4.3. Determination of Reliability

There are three types of reliability in terms of stability, equivalence and internal consistency; which are in turn verified through various measures. The reliability of the screening checklist developed in this study was also verified for these aspects, and the results have been discussed herein after.

4.3.1. *Reliability in terms of Stability*

The stability of developed checklist was verified in terms of reliability over test retest condition. For the purpose, after the first round of administration, it was re-administered to 10 randomly selected typically developing participants after duration of two weeks. The rating of the 10 participants on in independent living, community living, academic and study and employability, as well as the knowledge score in written and illustrate tests about different occupations were correlated with Pearson's

product – moment correlation. The results have been presented in Table 4.4. The results on the table draw out the perfect positive correlation between test and retest outcomes, thus indicating the stability of the developed test material.

Table 4.4: *Test – re-test correlation*

r	Test Score	Significance
Independent Living Skills	1.00	0.000
Community Living Skills	1.00	0.000
Academic & Study Skills	1.00	0.000
Employability	1.00	0.000
Overall Development	1.00	0.000

Re-Test Score

4.3.2. *Reliability in terms of Equivalence*

Reliability in terms of equivalence was verified through inter-rater reliability. As mentioned in the chapter on methodology, the checklist was self administered by typically developing adolescents. Apart from that, it was also administered by a significant other (who was very familiar with the adolescents) on 10 randomly selected typically developing adolescents. The dual ratings were correlated and the score have been presented in Table 4.5.

Table 4.5: *Inter-rater correlation*

r	Rater 1	Significance
Independent living skill	1.00	0.000
Community living skill	0.51	0.133
Academic & study skill	1.00	0.000
Employability	1.00	0.000
Overall Development	0.95	0.000

Rater 2

The result on the above table elicits highly significant positive correlation on all domains except community living skills, where it is a moderate 51% but still positive. This might be because adolescents are supposed to be self-conscious and might lack an objective perspective of their own social behaviour (Manning, 2007). However, the overall positive inter-rater correlation of 95% estimated the reliability of the test in terms of equivalence. Nevertheless for practical purposes, it is advisable that the checklist be administered by an objective significant other who is familiar with the adolescents under scrutiny.

4.3.3. Reliability in terms of Internal Consistency

The third measure of reliability that was verified was internal consistency. It was done through the split-half method. The alternate odd and even items on the checklist were split, their ratings were summed and the summary rating of all odd items were correlated with all even items. The results have been presented in Table 4.6

Table 4.6: *Split – half correlation*

r	Odd Items	Significance
Even Items	0.88	0.000

A high positive correlation establishes the internal consistency of the screening checklist indicating, that all its component items are unidirectional in their purpose.

4.4. Comparison of Life Skill Development Typically Developing Adolescents and Adolescents with Hearing Impairment

The development of adolescents with hearing impairment were compared with their typically developing peers in order to find out if there was difference in their pattern of development. Before analyses, the developmental ratings of both the groups were subjected to Kolmogorov-Smirnov's test of normality and it was evident from the test that the data failed to meet the assumption of normality. Therefore, they were compared using the non-parametric Mann – Whitney U test. The results have been presented in Table. 4.7. Eagle's view of the result a positive impression about the development of life skills in typically developing adolescents with advantage in all most all areas of development, except life skill development. The advance is statistically significant in the areas of community living, study and employability, and with an overall advantage of 25.85 in terms of raw scores.

Table 4.7: Comparison of typically developing adolescents with adolescents with HI

Developmental Domains	Aspects	Typically Developing Adolescents			Adolescents with Hearing Impairment			Z
		Mean	SD	Median	Mean	SD	Median	
Independent Living Skills	Self-Care	13.15	2.01	14	13.56	0.72	14	0.22
	Safety	10.80	4.01	14	11.19	1.60	12	0.70
	Home Maintenance	10.30	2.34	12	11.06	1.18	11	0.54
	Time Management	7.20	1.47	8	7.25	1.00	7	0.38
	<i>Section Total</i>	<i>41.45</i>	<i>7.89</i>	<i>48</i>	<i>43.00</i>	<i>2.34</i>	<i>44</i>	<i>0.65</i>
Community Living Skills	Communication	13.55	0.89	14	6.56	1.75	6	5.40***
	Mobility & Transport	20.30	3.84	24	17.69	3.00	18	2.45**
	Adaptive & Social Behaviours	21.45	3.42	24	20.94	2.35	21	1.38
	Monetary Transaction	8.35	1.72	9	6.69	1.40	7	2.66**
	<i>Section Total</i>	<i>63.65</i>	<i>6.59</i>	<i>69</i>	<i>51.94</i>	<i>6.13</i>	<i>54</i>	<i>4.28***</i>
Academic Performance & Study Skills	Study Skills	29.90	3.31	32	22.44	3.08	23	4.57***
	Functional Literacy	5.900	0.45	6	4.62	0.81	5	4.41***
	Computer Literacy	9.95	2.62	12	7.75	1.84	8	2.28**
	<i>Section Total</i>	<i>45.75</i>	<i>4.77</i>	<i>50</i>	<i>34.81</i>	<i>4.50</i>	<i>36</i>	<i>4.50***</i>
Employability	Readiness for Work	10.05	1.99	12	7.75	2.17	9	2.81**
	Work Place Behaviour	40.20	4.63	44	37.75	5.66	39	1.50
	<i>Section Total</i>	<i>50.25</i>	<i>6.15</i>	<i>54</i>	<i>45.50</i>	<i>7.28</i>	<i>48</i>	<i>2.31*</i>
Overall Performance	201.10	22.49	218	175.25	17.38	184	3.26	

Note: *** p<0.001; ** p<0.01, * p<0.05, No* - no statistical significance

As mentioned afore adolescents with hearing impairment do not have much problem in personal care, maintenance and security. In fact the results from this study prove them be better than their typically development peers, even though the advantage is minimal and statistically insignificant. Researchers like Butterfield (1986) have also reported similarly that there is no significant difference between

typically developing children and children with hearing impairment in physical growth and personal maintenance.

However when it comes to community living skills, adolescents with hearing impairment are below par than their typically developing peers. The primary cause of their problem seems to arise from their deprivation in communication skills, for which the mean difference and statistical significance is the highest ($|z|=5.40$, $p>0.001$). Problems in communication seem to be leading to problems in independent mobility in unfamiliar places ($|z|=2.45$, $p>0.01$), and conducting monetary transactions in the social environment ($|z|=2.66$, $p>0.01$). Skills for behavioural adaptations among adolescents with hearing impairment in the social environment are also not favourable; however the differences are not significant. Ultimately, all these have resulted in overall, significant deficit in the domain of community living skill ($|z|=4.28$, $p>0.001$). Researchers like White and White (1987) have also highlighted the adverse impact of early deprivation in receptive and expressive communication skill on all domains of human functioning.

The adverse effects of hearing impairment are found to reflect maximum in the area of academic performance and study skills ($|z|=4.50$, $p>0.001$) with substantial deficits in all areas – study skills ($|z|=4.57$, $p>0.001$), functional literacy ($|z|=4.41$, $p>0.001$) and computer literacy ($|z|=2.28$, $p>0.01$). It is a long-standing fact proved beyond doubt that language deficiencies in children with hearing impairment lead to severe deficits in reading and writing (Quigley & Kretschmer, 1982; Bloom & Lahey, 1978; Gibson & Levin, 1975). Literacy and numeracy are

fundamental academic skills which form the core of all other academic learning. Severe deprivations in these areas naturally reflect in inadequacies in style of learning and learning outcomes of any learner. Thus, the academic performances and study skills of adolescents with hearing impairment are also found to be affected.

Next to community living skills and study skills, the employability of adolescents with hearing impairment are also considerably affected, especially they seem to be trailing significantly behind their typically developing peers in their readiness for work ($|z|=2.81$, $p>0.01$). The problem persists even in developed countries like the United States of America. Their National Longitudinal Transition Study (Wagner et al., 2005) reported that less than 20% of adolescents with hearing impairment pursued with further training or higher education after leaving school. As a result many of them remain unemployed in their adulthood. Evidences from India (Rangasayee, 2007) point to similar revelations with less than 5% of the population with hearing impairment in the country being endowed with constructive post-school opportunities.

Reichman and Jacoby (n.d.) of Laurent Clerc National Deaf Education Centre of Gallaudet suggest that work place exposure and development of life skills creates a positive impact on employment opportunities and quality of life. From the educational context, this implies need for incorporation of constructive, life-oriented training measures in the school-leaving stages.

4.5 Comparison between Vocational Awareness among Adolescents with & without Hearing Impairment

Efforts were made to compare the trends among adolescents with and without hearing impairment with regards to their awareness about different types of occupations and inclinations towards them. To begin with, awareness about different types of jobs was assessed through the performances of the adolescents in the written test with objective type items and illustrated test for checking their knowledge and awareness. The results have been presented in terms of mean scores in Figure 4.1.

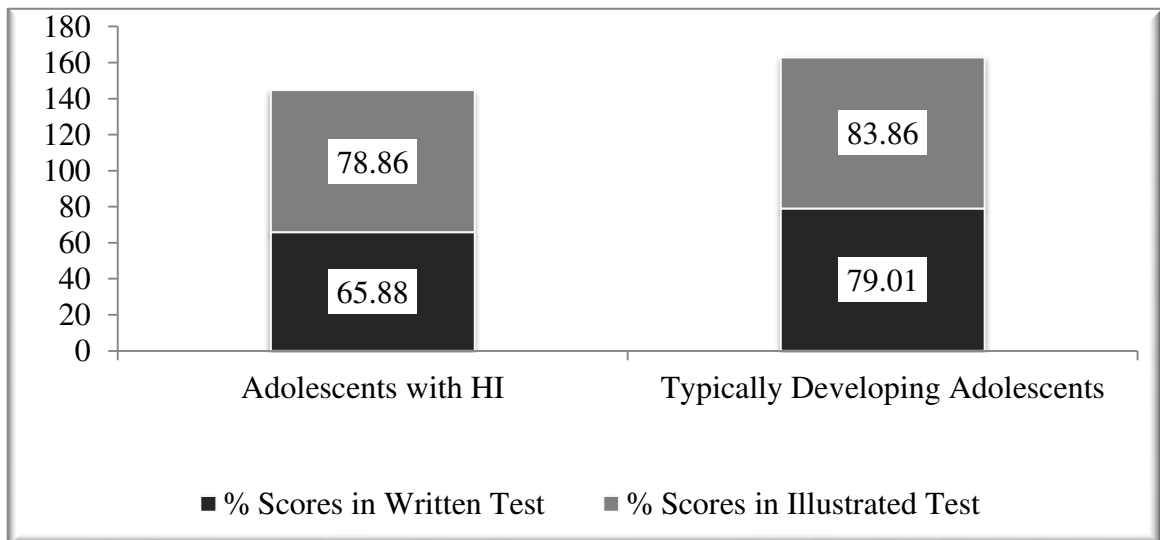


Figure 4.1: Comparison of Vocational Awareness among Adolescents with Hearing Impairment & Typically Developing Adolescents

The results on Figure 4.1 bring to notice, prevalence of better awareness among typically developing adolescents with a gross advantage of 18.13. Adolescents of both groups have performed better on the illustrated test compared to the written objective-type test, especially those with hearing impairment. This might have been because the illustrated test was readily comprehensible to them. Moreover, it

consisted only of knowledge-based items on different occupational settings, while the written test also included comprehension items related to the work processes involved in different types of occupations.

Further analysis were carried out to find out whether there were any differences in levels of vocational awareness among individuals from early and late phases of adolescence in both the groups of typical development and hearing impairment. The results have been depicted in Figure 4.2.

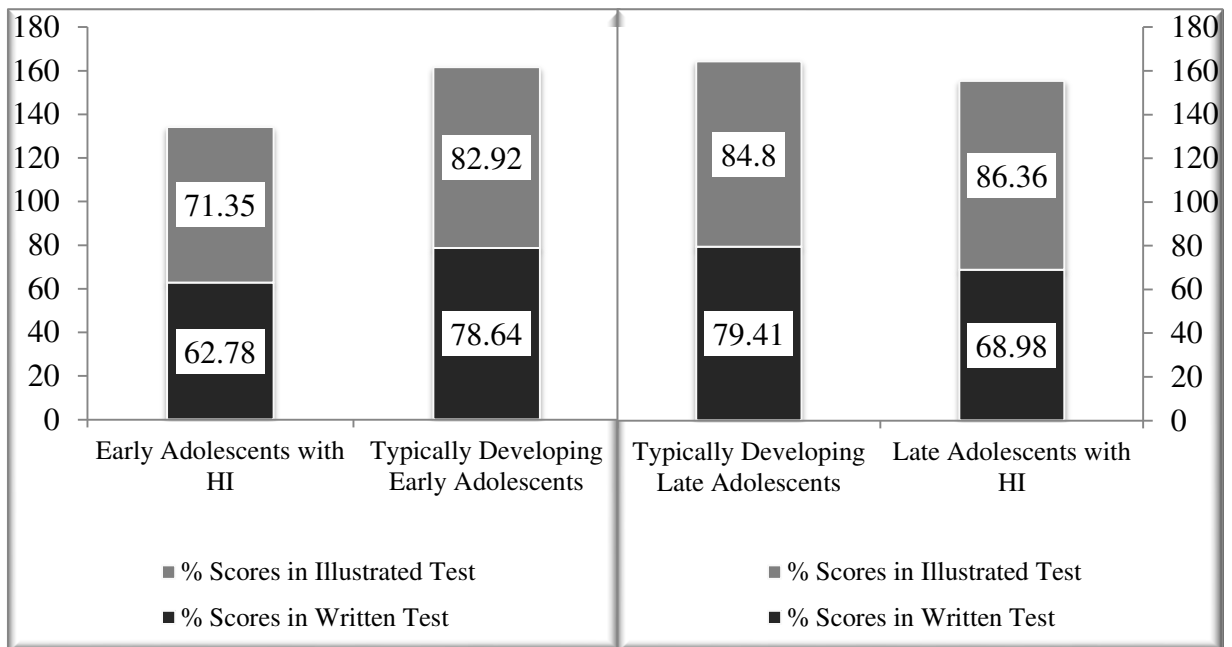


Figure 4.2: Comparison of Vocational Awareness of Adolescents in Early and Late Phase of Adolescence

In Figure 4.2, it is noticeable that typically developing adolescents' gross advantage of 27.43 in the early phase reduces to 8.87 in the later phase. This might be because most of adolescents with hearing impairment are in sheltered residential set-ups in the early phase and move out to mainstream set-ups in their late adolescence

which might have led to wider exposure and increased awareness. Also the transition between secondary to post-secondary education marks the beginning of making choices related to later vocations, and having undergone this process during their transition from early to late adolescence would have led to added knowledge. This advantageous trend over the ages is noticed in both the groups of adolescents with and without hearing loss.

4.5 Comparison between Vocational Inclinations among Adolescents with & without Hearing Impairment

Next in consideration were the inclinations of the participant adolescents towards different types of occupations. These were considered to manifest in their personal qualities, choice of core-curricular subjects and co-curricular activities. For the purpose of gauging these manifestations, the mode for each of the occupation groups were computed in terms of frequency of association of personal characteristics, core-curricular subjects or co-curricular activities related to specific vocations; and the top recurrent choices for typically developing adolescents, as well as adolescents with hearing impairment have been presented in Table 4.8.

Table 4.8: *Vocational inclinations of typically developing adolescents & adolescents with hearing impairment*

Bases of Vocational Inclinations	Adolescents with Hearing Impairment	Typically Developing Adolescents
Personal Characteristics	Human Services	Management & Marketing
Core-Curricular Choices	Science & Technology	Science & Technology
Co-Curricular Preferences	Public Services & Security	Transport & Logistics

Results on Table 4.8 reveal dissimilar vocational inclinations among typically developing adolescents and adolescents with hearing impairment. Typically developing adolescents seem to be inclined towards jobs associated with fiscal and social implications, while their peers with hearing impairment show inclinations towards rudimentary jobs in the field of human and public services.

In terms of core-curricular choices, both the groups seem to have chosen conventional subjects like mathematics and sciences that point to inclinations towards jobs in the field of science and technology. One another noticeable fact is the delineation of personal qualities and co-curricular preferences distinctly apart from core-curricular choices. Such divergent choices might have been influenced either by immaturity leading to lack of realistically integrated choices, or on the other hand maturity to distinguish between professional and leisure time occupations. Further deliberations might lead to useful insights.

4.7 Inferences

From the results discussed above, the following tentative conclusions could be arrived at:

- Null hypothesis (1-i) was accepted as the mean development of adolescents with hearing impairment was better than their typically developing peers in the area of independent living skills.

- Null hypothesis (1-ii) was rejected as the mean development of typically developing adolescents were better than their peers with hearing impairment in the area of community living skills.
- Null hypothesis (1-iii) was rejected as the mean development of typically developing adolescents were better than their peers with hearing impairment in the area of academic and study skills.
- Null hypothesis (1-iv) was rejected as the mean development of typically developing adolescents was better than their peers with hearing impairment in the area of employability.
- Null hypothesis (1-v) was rejected as the mean awareness about different types of vocations among typically developing adolescents were better than their peers with hearing impairment.
- Null hypothesis (2-i) was rejected as the vocational inclinations based on personal attributes differed between typically developing adolescents and adolescents with hearing impairment.
- Null hypothesis (2-ii) was accepted as the vocational inclinations based on choice of core curricular subjects among typically developing adolescents was same as that of adolescents with hearing impairment.
- Null hypothesis (2-iii) was rejected as the vocational inclinations based on co-curricular choices differed between typically developing adolescents and adolescents with hearing impairment.

CHAPTER V

SUMMARY & CONCLUSIONS

Chapter 5

Summary and Conclusions

In India and world around the focus of educational rehabilitation is towards mainstreaming children with special needs, with the ultimate purpose of helping them to successfully integrate in the society. The realisation of this objective does not materialise from just physically placing children with special needs in mainstream schools, but by providing them an education that prepares them for harmonious life in the society. In other words, education of children with special needs, or for that matter any child should not solely focus on academic learning and achievement but also cater to life skill development in the children. All said and done, life skill development is not found to be a priority of the current educational systems and processes.

However, this should form the crux of the educational rehabilitation of individuals with special needs, especially in the school leaving stage when they get ready to leave the sheltered childhood life in school and face the rigours of adulthood in life outside school. There have been some efforts in this front for individuals with developmental disabilities, but not much work seems to have been done for individuals with hidden disabilities like hearing impairment apart from preparation for or training as part of vocational rehabilitation.

The first step of such comprehensive educational rehabilitation preparing for academic learning in school, as well as life outside school would be to assess the level

of life skill development in the individual learners in order to identify areas of lacunae and then plan and implement necessary remedial measures. Hence, the reported research endeavoured to develop a screening checklist for appraising the readiness of adolescents with hearing impairment for post-school transition in the school leaving stage and after.

The checklist thus developed comprised of rating scales covering four areas of life skill development, namely – independent living skills, community living skills, academic performance and study skills, and employability. These apart it also included three sections to test inclinations of individuals for different vocations based on their personal attributes, as well as choice of core-curricular subjects and co-curricular activities. Finally, there were two sections to test the level of vocational awareness in the individuals under scrutiny through objective, written and illustrated test items.

The screening checklist thus developed was validated for its structure and content with experts from the fields of clinical psychology and educational rehabilitation for hearing impairment and subjected to pilot study with three adolescents with hearing impairment. Following which it was field tested with 49 typically developing adolescents to determine its norms, validity and reliability. The next phase of the study involved field trials with 33 adolescents with hearing impairment in order to compare their patterns of development with their typically developing peers. The field of study included 14 states across the Indian nation and one neighbouring country.

5.1 Major Findings

The major findings of the study were as follows:

- The post school screening checklist developed as part of the reported study was found to –
 - Possess content, criterion and convergent validity.
 - Be reliable in terms of stability, equivalence and internal consistency.
- Comparison of developmental levels of adolescents with hearing impairment with their typically developing peers using the checklist revealed that –
 - Adolescents with hearing impairment were found to fare marginally better than typically developing adolescents in all areas of independent living skills including self care, safety, home maintenance and time management.
 - Adolescents with hearing impairment were found to have significant ($p<0.001$) deficiencies in development of overall community living skills ($p<0.001$), as well as component skills like independent mobility in unfamiliar places and monetary transactions ($p<0.01$).
 - Adolescents with hearing impairment were also found to have severe deficits ($p<0.001$) in all areas of academic performance and study skills.
 - Adolescents with hearing impairment lagged much behind ($p<0.05$) their typically developing peers in competencies for employment, especially in readiness for work ($p<0.01$).

- Typically developing adolescents were found having better awareness about the various vocational streams available in the community.
- There were also noticeable differences among their vocational inclinations of the two groups. Typically developing adolescents demonstrated inclinations towards exigent vocations associated with considerable fiscal and social standing like in management, marketing, etc. Whereas adolescents with hearing impairment were found to be more inclined towards passive vocations and vocations that relied on physical abilities like human and social services and security.

5.2 Limitations

The study could have yielded more useful results, but for limitations in –

- Time.
- Transactional language.
- Willingness of participants and caregivers

5.3 Implications

The findings of the research provide insight into the hidden implications of presence of hearing impairment on development life skills in individuals with hearing impairment. In turn, this might be able to create awareness among practising educators about the need for focusing on life skill development in learners with special needs like hearing impairment as part of comprehensive educational process.

The screening checklist developed through the study will be handy for special and mainstream teachers, as well as trained caregivers to appraise the levels of readiness among their wards for post school transition. And if essential arrange for necessary remedial action. The study as such could inspire more in-depth researches with relevance to comprehensive educational rehabilitation focusing on academic as well as life skill development in children with special needs like hearing impairment.

5.4 Recommendations

There are further recommendations for prospective action and researches. It is recommended that in future all schools and educational set-ups catering to children with special needs like hearing impairment should have screening for life skill development and consequent remediation as an integral aspect of evaluation procedures, at least at the secondary level. Life skill training and vocational exposure should also be incorporated as an integral aspect of regular training process not only through co-curricular aspects, but core-curricular instruction as well.

Regarding related research and developments, it is suggested that a large scale research is undertaken to standardise the screening checklist developed in this study by covering wider samples of population. It is also necessary to develop checklists for life skill development in younger children at various levels of primary education that will enable early detection of deviances and effective remedy. Efforts could also be undertaken to develop guidance manuals for effective implementation of life skill training and vocational exposure as part of school education for exceptional learners.

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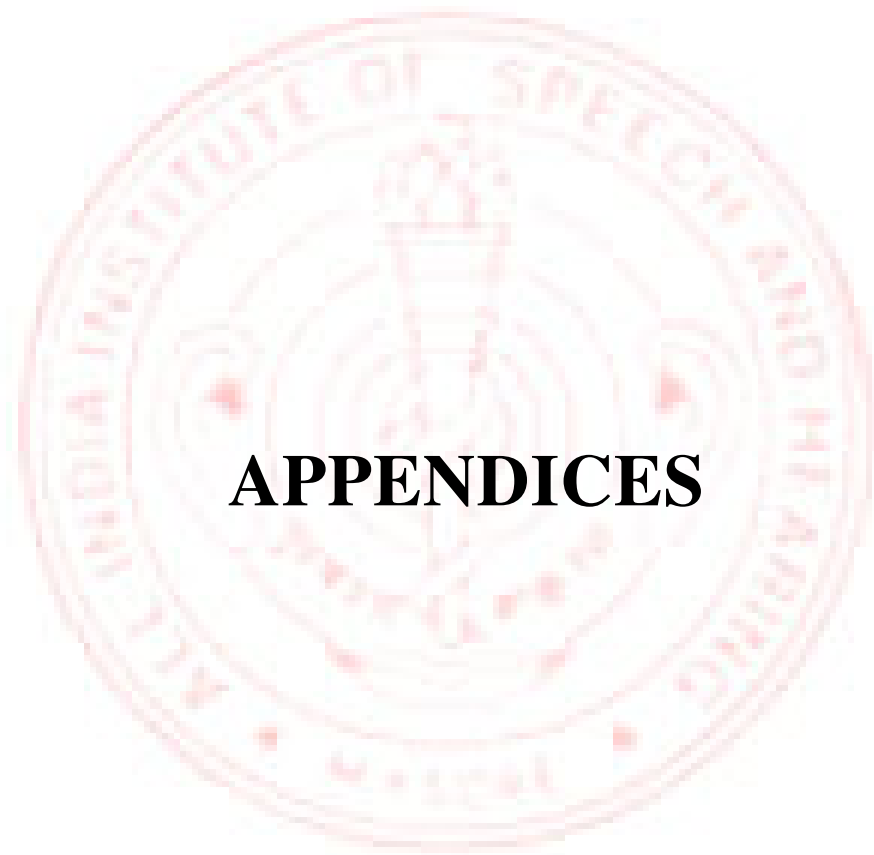
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APPENDICES



Appendix – A

SCREENING CHECKLIST FOR POST SCHOOL TRANSITION OF INDIAN ADOLESCENTS WITH HEARING IMPAIRMENT



Developed as part of M.S.Ed.(HI) 2014-15
dissertation titled ‘Development of Screening
Checklist for Post School Transition of Indian
Adolescents with Hearing Impairment’

Student: Mr. Som Krishan

Guides: Dr. G. Malar & Mr. Freddy Antony

Screening Checklist for Post School Transition of Indian Adolescents with Hearing Impairment

INSTRUCTIONS FOR ADMINISTERING & SCORING KEY

PART I

- **Section B: Independent Living Skills**
- **Section C: Community Living Skills**
- **Section D: Academic Performance & Study Skills**
- **Section E: Employability**

The checklist has two parts, and the development of skills on first 5 sections listed above have to be judged by a caregiver who is well aware of the adolescent and spends considerable time with him/her. The items for rating have been listed in the checklist. Rating of independent functioning is to be awarded – 2 marks, functioning with prompts or supports – 1 mark, and dependent or non-functional – 0 marks. The section-wise total scores have to be entered in the table below:

S. No.	Particulars of Items	Max. Score Allotted	Score Obtained
<i>B. Independent Living Skills</i>			
01.	Self Care	14	
02.	Safety	14	
03.	Maintenance of Home Environment	12	
04.	Time Management	08	
<i>Section Total</i>		48	
<i>C. Community Living skills</i>			
01.	Communication	14	
02.	Mobility & Transport		
	a. Level of Functioning	6	
	b. Checklist of Essential Functions	18	
	Total	24	
03.	Adaptive & Social Behaviour	24	
04.	Monetary Transactions	10	
<i>Section Total</i>		72	
<i>D. Academic Performance & Study Skills</i>			
01.	Study Skills	32	
02.	Functional Literacy	06	
03.	Computer Literacy	12	
<i>Section Total</i>		50	
<i>E. Employability</i>			
01.	Readiness for Work	12	
02.	Work Place Behaviours	44	
<i>Section Total</i>		56	
GRAND TOTAL		226	

The table beneath provides indicators for satisfactory levels of independent functioning in the early adolescents:

S. No.	Area of Competency	Early Adolescence Scores indicating –		Late Adolescence Scores indicating –	
		Satisfactory functioning*	Need for improvement	Satisfactory functioning*	Need for improvement
• Independent Living Skills					
01.	Self Care	12 to 14	<12 [^]	13 to 14	<13 [^]
02.	Safety	09 to 13 [^]	<09 [^]	13 to 14	<13 [^]
03.	Maintenance of Home Environment	09 to 11 [^]	<09 [^]	11 to 12	<11 [^]
04.	Time Management	07 to 08	<07 [^]	07 to 08	<07 [^]
	Overall Section	38 to 45 [^]	<38 [^]	46 to 48	<46 [^]
• Community Living skills					
01.	Communication	13 to 14	<13 [^]	14	<14 [^]
02.	Mobility (total of a & b)	18 to 20 [^]	<18 [^]	23 to 24	<23 [^]
03.	Adaptive & Social Behaviour	20 to 23 [^]	<20 [^]	23 to 24	<23 [^]
04.	Monetary Transactions	08 to 09 [^]	<08 [^]	08 to 10	<07 [^]
	Overall Section	61 to 67 [^]	<61 [^]	69 to 71 [^]	<68 [^]
• Academic Performance & Study Skills					
01.	Study Skills	28 to 31 [^]	<28 [^]	32	<32 [^]
02.	Functional Literacy	05 to 06	<05 [^]	06	<06 [^]
03.	Computer Literacy	09 to 11 [^]	<09 [^]	10 to 12	<10 [^]
	Overall Section	44 to 48 [^]	<44 [^]	48 to 50	<48 [^]
• Employability					
01.	Readiness for Work	09 to 11 [^]	<09 [^]	11 to 12	<11 [^]
02.	Work Place Behaviours	38 to 42 [^]	<38 [^]	42 to 44	<42 [^]
	Overall Section	47 to 53 [^]	<47 [^]	54 to 56	<54 [^]
Overall Performance		191 to 212 [^]	<191 [^]	218 to 225 [^]	<218 [^]

* Based on the upper and lower bounds of 95% confidence interval

[^] Scores above the upper bounds could be considered as highly satisfactory

[^] Scores below the lower bounds could be considered as less than satisfactory

PART I

- **Section F: Personal Characteristics**

In the last section of part one, caregiver who is well aware of the adolescent and spends considerable time with him/her have to mark 5 out of the listed qualities or attributes that describe the person the best.

PART II

- **Section A: Choice of Favourite Subjects & Co-curricular Activities**
- **Section B: Matching Jobs with Images of Suitable Tools & Settings**
- **Section C: Knowledge Questions**

All three sections of part two have to be answered by the adolescent. In Section A, the adolescent has to choose three best core-curricular subjects, as well co-curricular activities that they are keen of. The following page has the key of the personal characteristics, curricular and co-curricular interests, relevant images and serial numbers of the knowledge questions that is associated to each of 12 groups of jobs. Presence of more than 65% of (that is, more than 4 out of 6 / 7) associated characteristics; choice of not less than 2 related curricular subjects and any 1 of co-curricular activities; choice of relevant group of images; and answering questions relevant to the vocation group correctly will indicate more possibilities for the adolescent to consider the stream of vocation as his/her choice of career for the future. And the same could be mentioned in the recommendations along with counselling and guidance for seeking necessary supports. If the adolescent's choices indicate indecisiveness or contradictions they could be referred for further deliberations, or if s/he is in their early adolescence period more time and observation could be spent before making a choice for future. The adolescent's history and/or current details of educational and vocational training should also be considered.

KEY: Personal Traits Indicating Aptness for Different Types of Vocations

Nature of Vocation	Preferable Personal Qualities	Curricular Interests	Co-curricular Interests	Relevant group of Images	Serial Numbers of Pertinent Questions & Answer Key
(1) Agriculture & Animal Husbandry	<ul style="list-style-type: none"> • Conservator of environment • Inventive problem solving • Keen observer for details • Painstaking, hardworking & careful • Physically active • Self-reliant 	<ul style="list-style-type: none"> • Life science • Vocational course – Agriculture • Zoology 	<ul style="list-style-type: none"> • Field trip • Gardening • Nature club 	<ul style="list-style-type: none"> • a 	<ul style="list-style-type: none"> • 3 - (c) • 18 - (a)
(2) Artistic & Creative	<ul style="list-style-type: none"> • Creative & innovative • Culturally interested / inclined • Imaginative • Self-learning • Self-motivated • Sensitive 	<ul style="list-style-type: none"> • Language arts • Social sciences • Vocational course – Carpentry 	<ul style="list-style-type: none"> • Craft activity & creating models • Dance, drama, mime, etc. • Literary activity • Music • Printing, drawing & painting • Tailoring & needle-work 	<ul style="list-style-type: none"> • b 	<ul style="list-style-type: none"> • 22 - (b) • 2 - (b)
(3) Construction & Manufacturing	<ul style="list-style-type: none"> • Curious about new ideas & technology • Detail oriented • Good at visualising objects & products • Physically active • Methodical • Coordinated & good organiser 	<ul style="list-style-type: none"> • Math • Mechanical science • Physical science • Physics • Vocational course-carpentry 	<ul style="list-style-type: none"> • Construction work • Craft activities • Creating models 	<ul style="list-style-type: none"> • c 	<ul style="list-style-type: none"> • 4 - (b) • 14 - (b)

Nature of Vocation	Preferable Personal Qualities	Curricular Interests	Co-curricular Interests	Relevant group of Images	Serial Numbers of Pertinent Questions
(4) Education & Training	<ul style="list-style-type: none"> • Good communicator • Community-minded • Innovative • Methodical • Orderly • Self-learning 	<ul style="list-style-type: none"> • History • Language arts • Psychology 	<ul style="list-style-type: none"> • Adult literacy • Elocution, debate • Literary activities 	<ul style="list-style-type: none"> • d 	<ul style="list-style-type: none"> • 9 - (b) • 16 - (b)
(5) Health Sciences / Medical	<ul style="list-style-type: none"> • Alert • Caring • Dependable • Helping natured • Keen observer for detail • Sensitive 	<ul style="list-style-type: none"> • Biology • Chemistry • Physics 	<ul style="list-style-type: none"> • (Junior) Red Cross • Science club • Scouts & Guides (First aid activities) 	<ul style="list-style-type: none"> • e 	<ul style="list-style-type: none"> • 8 - (a) • 21 - (a)
(6) Hospitality & Tourism	<ul style="list-style-type: none"> • Adjustable • Work well with people • Outgoing • Tactful & practical • Slow to anger • Cooperative 	<ul style="list-style-type: none"> • Accounting • Language arts • Social science 	<ul style="list-style-type: none"> • Culinary • Event management • Field trip 	<ul style="list-style-type: none"> • f 	<ul style="list-style-type: none"> • 1 - (a) • 25 - (b)
(7) Human Services	<ul style="list-style-type: none"> • Caring & helping natured • Community-minded • Dependable & trustworthy • Friendly • Good communicator • Non-materialistic 	<ul style="list-style-type: none"> • Language art • Physical science • Psychology 	<ul style="list-style-type: none"> • (Junior) Red Cross • Civic clubs • NSS 	<ul style="list-style-type: none"> • g 	<ul style="list-style-type: none"> • 6 - (a) • 19 - (c)

Nature of Vocation	Preferable Personal Qualities	Curricular Interests	Co-curricular Interests	Relevant group of Images	Serial Numbers of Pertinent Questions
(8) Management & Marketing	<ul style="list-style-type: none"> • Competitive, but works well with people • Confident & self-motivated • Eager to earn while learning • Persuasive, convincing & compelling • Responsible & trustworthy • Tactful & practical 	<ul style="list-style-type: none"> • Commerce • Computer • Economics 	<ul style="list-style-type: none"> • Civic clubs • Event management • Socially useful productive work 	<ul style="list-style-type: none"> • h 	<ul style="list-style-type: none"> • 11 - (a) • 12 - (a) • 17 - (b)
(9) Office work	<ul style="list-style-type: none"> • Informative • Keen observer for detail • Methodical • Painstaking, hardworking & careful • Orderly • Trustworthy 	<ul style="list-style-type: none"> • Accounting • Computer • Language arts 	<ul style="list-style-type: none"> • Computer-based multimedia • Event management • Literary activities 	<ul style="list-style-type: none"> • i 	<ul style="list-style-type: none"> • 15 - (c) • 23 - (c)
(10) Public Safety & Security	<ul style="list-style-type: none"> • Adventurous & alert • Assertive & authoritative • Assumes charge of situations • Calm under pressure • Follower of rules & regulations • Physically active 	<ul style="list-style-type: none"> • Civics • Psychology • Social Sciences 	<ul style="list-style-type: none"> • NCC • NSS • Scouts & guides • Sports 	<ul style="list-style-type: none"> • j 	<ul style="list-style-type: none"> • 7 - (b) • 13 - (a)
(11) Science & Technology	<ul style="list-style-type: none"> • Detail oriented & • Diligent • Inquisitive & keen observer for detail • Mechanically inclined • Objective • Perseverant 	<ul style="list-style-type: none"> • Computer • Earth science • Science 	<ul style="list-style-type: none"> • Audio visual technology • Nature club • Science club 	<ul style="list-style-type: none"> • k 	<ul style="list-style-type: none"> • 5 - (c) • 24 - (c)

Nature of Vocation	Preferable Personal Qualities	Curricular Interests	Co-curricular Interests	Relevant group of Images	Serial Numbers of Pertinent Questions
(12) Transport & Logistics	<ul style="list-style-type: none"> • Coordinated • Good organiser • Mechanically inclined • Observant • Physically active • Realistic 	<ul style="list-style-type: none"> • Economics • Mathematics • Mechanical science 	<ul style="list-style-type: none"> • Event management • Field trip • Sports 	• 1	<ul style="list-style-type: none"> • 10 - (b) • 20 - (a)



General Impressions:

Recommendations:

Name & Signature of Staff who Administered the Checklist

Date

**SCREENING CHECKLIST FOR POST SCHOOL TRANSITION OF INDIAN
ADOLESCENTS WITH HEARING IMPAIRMENT**

A. DEMOGRAPHIC DETAILS OF THE STUDENT			
1.	Name:		
2.	Age:	DoB:	
3.	Gender:		
4.	Nature & severity of disability:		
5.	Family history related to disability:		
6.	Number of siblings:		
7.	Respondent's ordinal position (birth order):		
8.	Educational & Socio-Economic Status of Caregivers		
		Education	Occupation
	Father:		Income
	Mother:		
	(or)		
	Guardian:		
9.	Area of Residence		
	<input type="checkbox"/> Urban	<input type="checkbox"/> Semi-Urban	<input type="checkbox"/> Rural
	Address:		
10.	Contact Details		
	Telephone/ Mobile:	Email:	
11.	Details of Educational Attainment (pertains to section D)		
	<ul style="list-style-type: none"> • Native language: • Language of intervention/ Medium of instruction: • Brief outline of educational history : 		
	<ul style="list-style-type: none"> • Prior accomplishment (in terms of percentage/marks): 		
12.	Details of Prior Vocational Training (only certificate or diploma programmes pursued after schooling), if any (pertains to section E)		
	<ul style="list-style-type: none"> • Nature of training programme : • Duration of training programme : • Current level of placement (if ongoing) : • Accomplishment/Achievement in the Training (in terms of marks or good achieved): 		
13.	Current Educational / Vocational Placement		
	<ul style="list-style-type: none"> • Nature of educational / vocational programme : • Current level : • Current performance: 		
	Source of Information:		
	Signature:		
	Date:		



PART A

To be filled in with responses
from teachers and/or caregivers



B. INDEPENDENT LIVING SKILLS

DOMAINS	Independent Functioning	Functions with Prompts & Supports	Dependent / Non-functional
SELF CARE			
• Cleaning oneself & grooming-including toileting, bath, brushing & combing			
• Care for menstrual hygiene (for woman) Or			
• Shaving (for man)			
• Dressing appropriately by according to weather conditions & occasion			
• Maintenance of clothing			
• Routine habits of daily activities & rest			
• Regular food habits			
• Preparing/procuring food for one's need			
SAFETY			
• Precaution for use/encounter with the following in the environment			
○ Sharp & dangerous instruments			
○ Electrical appliances & electricity			
○ Fire & heat			
○ Poisonous & toxic elements			
○ Stray animals			
○ Traffic hazards			
○ Water bodies			
MAINTENANCE OF HOME ENVIRONMENT			
• Cleaning			
• Shopping			
• Helping in grooming younger family members			
• Taking care of animals & plants at home			
• Participation in other routine household work			
• Ability to stay alone at home securely			
TIME MANAGEMENT			
• Regularity			
• Punctuality			
• Ability to finish work on given time			
• Ability to adjust time management in emergencies & according changing conditions			

C. COMMUNITY LIVING SKILLS

DOMAINS	Independent Functioning	Functions with Prompts & Supports	Dependent / Non-functional
COMMUNICATION			
a. Level of Functioning			
• Unable to communicate			
• Communicates with gestures, manually, or with other alternate modes with significant other			
• Communicates with gestures, manually, or with other alternate modes with familiar people outside family			
• Communicates verbally assisted by gestures and other alternate modes only with familiar people			
• Communicates verbally assisted by gestures and other alternate modes with anyone			
• Communicates verbally only with familiar people			
• Communicates verbally with anyone			
MOBILITY & TRANSPORT			
a. Level of Functioning			
• Can travel anywhere only with escort			
• Can travel independently in known place/ routine routes			
• Can travel independently even to new, unknown place			
b. Checklist of Essential Functions			
• Ability to seek for directions in new, unknown place			
• Ability for moving by foot			
• Ability for using vehicles - Motorised - Non-motorised			
• Ability to use public transport			
• Ability to follow directions & sign board			
• Ability follow safety requirements while on move			
• Remembering to carry essential things when going outside			
• Ability to introduce self to people outside when necessary			
• Ability to use maps, GPS (Global Positioning System), etc for navigation/ finding direction			

DOMAINS	Independent Functioning	Functions with Prompts & Supports	Dependent / Non-functional
ADAPTIVE & SOCIAL BEHAVIOUR (Checklist of Essential Functions)			
• Not hurtful to self or others			
• Respect for others rights and property			
• Follow rules and instruction			
• Resists peer pressure			
• Manages own emotion			
• Adapts to change in conditions			
• Behaves appropriately in social situations			
• Is familiar with information about significant others			
• Shows affection to significant others			
• Interacts adequately with others			
• Participates in group activities, cooperates & shares with others			
• Seeks attention in appropriate ways			
MONETARY TRANSACTIONS			
• Handling money			
• Shopping for personal & home requirements			
• Saving habits			
• Maintaining bank accounts			
• Earning money			

D. ACADEMIC PERFORMANCE & STUDY SKILLS

DOMAINS	Independent Functioning	Functions with Prompts & Support	Dependent / Non-functional
1. STUDY SKILLS			
• Ability to concentrate on study matter			
• Receptivity to verbal information & instruction			
• Receptivity to visual information			
• Receptivity to textual information			
• Receptivity to instruction through practical demonstrations/ experiences			
• Ability to express idea's & thoughts through verbal mode			
• Ability to express ideas & thoughts through writing			
• Ability to use visual to express oneself			
• Memory for verbal information			
• Memory for visual-spatial information			
• Memory for textual information			
• Ability to seek for information verbally			
• Ability to seek for textual information			
• Ability to involve in collaborative learning			
• Receptivity to corrections & feedback			
• Ability for self evaluation, correction & instruction			
2. FUNCTIONAL LITERACY			
• Functional reading skill necessary in place of study/work place			
• Functional writing skills necessary in place of study			
• Functional number skills necessary in place of study/work place			
3. COMPUTER LITERACY			
• Use of computers for documentation purposes			
• Uses computers for computation & accounting			
• Uses computers for artistic purposes			
• Uses computers for making presentations			
• Uses computers for seeking & transacting information			
• Demonstrates safety & self-restrain in using computers			

E. EMPLOYABILITY

DOMAINS	Independent Functioning	Functions with Prompts & Supports	Dependent / Non-functional
READINESS FORWORK			
• Shows eagerness, interest to work			
• Realisation of personal satisfaction gained from work			
• Appreciation of remuneration			
• Awareness about different jobs			
• Preferences for jobs			
• Awareness about PWD's rights & concessions in seeking jobs			
WORK PLACE BEHAVIOURS			
• Alert & aware on any given task			
• Ability to follow instructions/ directions			
• Ability to concentrate on a task (30 minutes to 1 hour)			
• Sincerity & commitment to work			
• Consistency & dependability in work			
• Ability to work independently			
• Responsibility toward workplace material, tools, etc.			
• Safety habits at work place			
• Regularity & punctuality in work			
• Ability to complete tasks on time			
• Ability to take initiative			
• Ability to seek guidance			
• Receptive to feedback			
• Tolerance to criticism			
• Adaptability to new tasks			
• Cooperativeness in group work			
• Ability to learn new assignment quickly			
• Eagerness to improve on performance			
• Reflective of one's own performance & ability to evaluate self			
• Sense of accomplishment at work			
• Ability to adjust to changes in tasks & conditions			
• Adaptability to problems & emergencies			

F. PERSONAL CHATACTERISTICS OF THE STUDENT

TICK THE TOP 5 QUALITIES THAT DESCRIBE THE STUDENT
(AFTER READING THE ENTIRE LIST):

- | | | |
|---|---|--|
| <input type="checkbox"/> Adjustable | <input type="checkbox"/> Curious about new ideas & technology | <input type="checkbox"/> Mechanically oriented |
| <input type="checkbox"/> Adventurous | <input type="checkbox"/> Dependable | <input type="checkbox"/> Methodical |
| <input type="checkbox"/> Alert | <input type="checkbox"/> Detail-oriented | <input type="checkbox"/> Non-materialistic |
| <input type="checkbox"/> Assertive | <input type="checkbox"/> Diligent | <input type="checkbox"/> Objective |
| <input type="checkbox"/> Assumes charge of situations | <input type="checkbox"/> Eager to learn while learning | <input type="checkbox"/> Orderly |
| <input type="checkbox"/> Authoritative | <input type="checkbox"/> Enthusiastic | <input type="checkbox"/> Outgoing |
| <input type="checkbox"/> Calm under pressure | <input type="checkbox"/> Follower of rules & regulations | <input type="checkbox"/> Painstaking & hardworking |
| <input type="checkbox"/> Caring | <input type="checkbox"/> Friendly | <input type="checkbox"/> Patient |
| <input type="checkbox"/> Careful | <input type="checkbox"/> Good at visualising objects & products | <input type="checkbox"/> Perseverant |
| <input type="checkbox"/> Community-minded | <input type="checkbox"/> Good communicator | <input type="checkbox"/> Physically active |
| <input type="checkbox"/> Competitive | <input type="checkbox"/> Good organizer | <input type="checkbox"/> Realistic |
| <input type="checkbox"/> Confident | <input type="checkbox"/> Helping-natured | <input type="checkbox"/> Self-learning |
| <input type="checkbox"/> Conserver of environment | <input type="checkbox"/> Imaginative | <input type="checkbox"/> Self-motivated |
| <input type="checkbox"/> Convincing & compelling | <input type="checkbox"/> Informative | <input type="checkbox"/> Self-reliant |
| <input type="checkbox"/> Cooperative | <input type="checkbox"/> Innovative | <input type="checkbox"/> Sensitive (to people and events around) |
| <input type="checkbox"/> Creative | <input type="checkbox"/> Inquisitive | <input type="checkbox"/> Tactful & Practical |
| <input type="checkbox"/> Inventive problem solving | <input type="checkbox"/> Keen observer for details | <input type="checkbox"/> Trustworthy |
| <input type="checkbox"/> Culturally interested/
inclined | <input type="checkbox"/> Logical | <input type="checkbox"/> Works well with people |






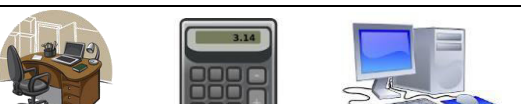


PART II

To be answered by adolescent with
hearing impairment
(Should use pencil for marking
answers)

A. TICK THE TOP 3 MOST FAVOURITE SUBJECTS AND CO-CURRICULAR ACTIVITIES OF THE STUDENTS (AFTER READING THE ENTIRE LIST):

CURRICULAR SUBJECTS	CO-CURRICULAR ACTIVITIES
<input type="checkbox"/> Accounting	<input type="checkbox"/> Adult literacy
<input type="checkbox"/> Biology / Life Sciences	<input type="checkbox"/> Adventure clubs
<input type="checkbox"/> Botany	<input type="checkbox"/> Audio visual technology
<input type="checkbox"/> Chemistry	<input type="checkbox"/> Civic clubs
<input type="checkbox"/> Civics	<input type="checkbox"/> Computer-based multimedia
<input type="checkbox"/> Commerce	<input type="checkbox"/> Construction work
<input type="checkbox"/> Computers	<input type="checkbox"/> Craft activities
<input type="checkbox"/> Earth Sciences	<input type="checkbox"/> Creating models
<input type="checkbox"/> Economics	<input type="checkbox"/> Culinary
<input type="checkbox"/> Environmental Sciences	<input type="checkbox"/> Dance
<input type="checkbox"/> Geography	<input type="checkbox"/> Drama mime etc.
<input type="checkbox"/> History	<input type="checkbox"/> Elocution, debate, etc.
<input type="checkbox"/> Languages Arts (for communication purpose)	<input type="checkbox"/> Event Management
<input type="checkbox"/> Mathematics	<input type="checkbox"/> Field trip
<input type="checkbox"/> Mechanical Sciences	<input type="checkbox"/> Gardening
<input type="checkbox"/> Physical Sciences	<input type="checkbox"/> (Junior) Red cross
<input type="checkbox"/> Physics	<input type="checkbox"/> Literary Activities
<input type="checkbox"/> Psychology	<input type="checkbox"/> Music
<input type="checkbox"/> Science	<input type="checkbox"/> Nature club
<input type="checkbox"/> Social Sciences	<input type="checkbox"/> NCC
<input type="checkbox"/> Vocational Course – Carpentry	<input type="checkbox"/> NSS
<input type="checkbox"/> Vocational Course – Agriculture	<input type="checkbox"/> Printing, drawing & painting
<input type="checkbox"/> Vocational Course – Typewriting/ Office Management	<input type="checkbox"/> Science club
<input type="checkbox"/> Vocational Course – Weaving & Tailoring	<input type="checkbox"/> Scouts & Guides
<input type="checkbox"/> Zoology	<input type="checkbox"/> Socially useful productive work
	<input type="checkbox"/> Sports
	<input type="checkbox"/> Tailoring & Needle-work

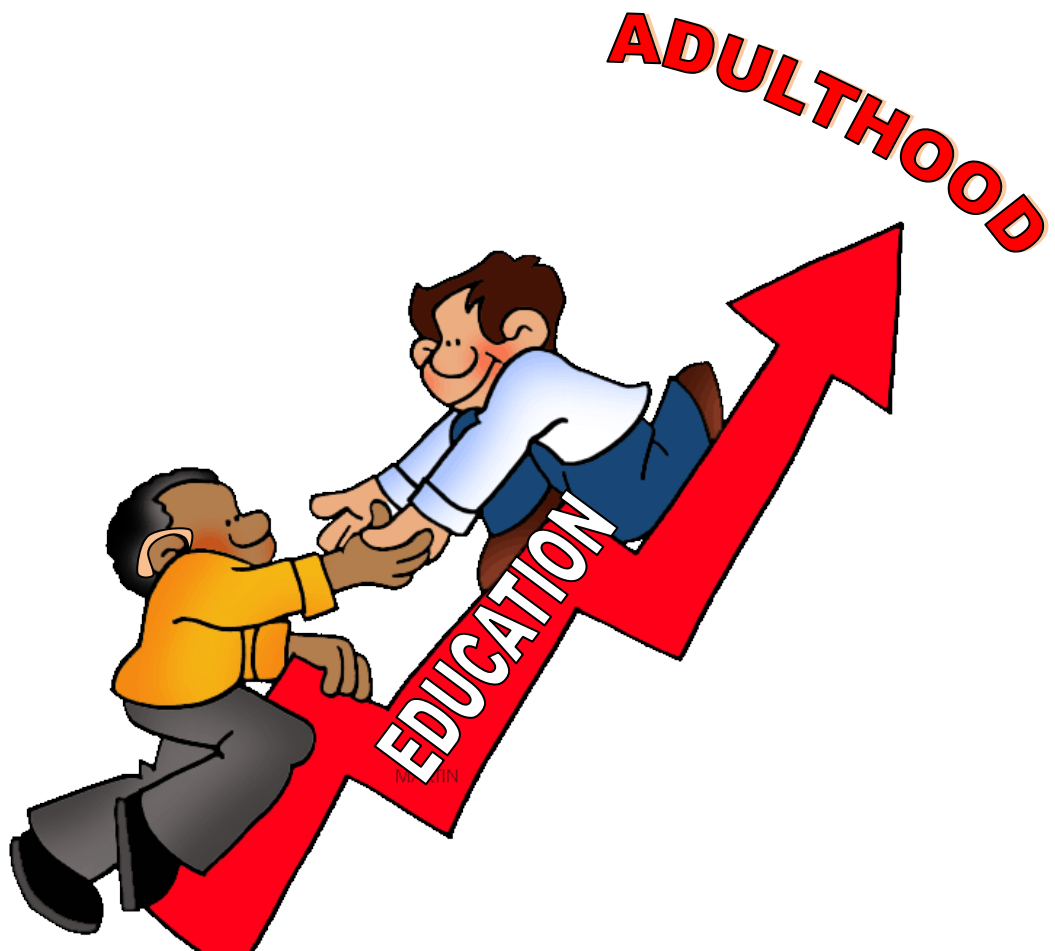
B. MATCH THE JOB WITH THE SUITABLE TOOLS & SETTINGS:

1	Agriculture & Animal Husbandry	(a)	
2	Artistic & Creative	(b)	
3	Construction & Manufacturing	(c)	
4	Education & Training	(d)	
5	Health Sciences/ Medical	(e)	
6	Hospitality & Tourism	(f)	
7	Human Services	(g)	
8	Management & Marketing	(h)	
9	Office Work	(i)	
10	Public safety & security	(j)	
1	Science & Technology	(k)	
1	Transport & Logistic	(l)	

C. ANSWER THE FOLLOWING QUESTIONS:

1. When we go on tour, we stay in _____.
(a) Hotel (b) Hospital (c) Restaurant
2. Photographs are done with _____.
(a) Paints (b) Camera (c) Guitar
3. Pumpkins grow on _____.
(a) Small plants (b) Trees (c) Creepers
4. Concrete buildings are made up of _____.
(a) Wood & iron (b) Cement & iron (c) Glass & iron
5. The branch of science that deals with animals is _____.
(a) Botany (b) Chemistry (c) Zoology
6. The human service that helps us receive letters & messages is _____.
(a) Postal service (b) Social service (c) News service
7. Police services are involved in _____.
(a) Protecting our country (b) Maintaining law & order (c) Transporting goods
8. The immediate, simple treatment given in case of emergencies and accidents is known as _____.
(a) First aid (b) Surgery (c) Theory
9. Primary education covers children up to _____ years of age.
(a) 6 years (b) 14 years (c) 18 years
10. Logistics is the process of _____.
(a) Problem solving (b) Transporting goods & people (c) Selling things
11. The process of selling and buying goods in bulk is known as _____.
(a) Wholesale marketing (b) Retail marketing (c) Online marketing
12. The process of coordinating all office work in an organisation is known as _____.
(a) Management (b) Security (c) Maintenance
13. People who protect us from enemies from outside the country are _____.
(a) Army men (b) Police men (c) Fire men
14. People who fix water supply and drainage pipelines in buildings are known as

- _____.
- (a) Mason (b) Plumber (c) Electrician
15. People who maintain records of money transactions in offices are _____.
- (a) Clerks (b) Engineers (c) Accountants
16. People who teach in colleges are known as _____.
- (a) Vocational trainers (b) Lecturers (c) Teachers
17. People who come selling products at our homes are _____.
- (a) Managers (b) Sales persons (c) Factory workers
18. People who cultivate gardens and grow flowers are _____.
- (a) Horticulturists (b) Interior decorator (c) Florist
19. People who collect and publish news are known as _____.
- (a) Postmen (b) Social workers (c) Journalists
20. A person who manages the passenger in a bus is known as _____.
- (a) Conductor (b) Driver (c) Mechanic
21. People who carry out surgeries in hospitals are _____.
- (a) Doctors/ Surgeons (b) Nurses (c) Pharmacist
22. People who create art work using computers are known as _____.
- (a) Data operators (b) Graphic designers (c) Print maker
23. When a page is set in _____ orientation its height is longer than its width.
- (a) Layout (b) Portrait (c) Landscape
24. It is possible to observe stars and other celestial bodies using _____.
- (a) Microscope (b) Endoscope (c) Telescope
25. Of the following, _____ is observed as world tourism day.
- (b) (a) 5th September (b) 27th September (c) 25th September



THANK YOU

Appendix – B

List Checklists, Inventories & Manuals Referred in Developing the Screening Checklist for Post School Transition of Indian Adolescents with Hearing Impairment

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