

PSYCHOSOCIAL EFFECT OF THE USE OF AMPLIFICATIONS AMONG INDIVIDUALS WITH HEARING IMPAIRMENT: COMMUNICATION IMPLICATIONS FOR CREATIVITY IN INCLUSIVE EDUCATION PRACTICES IN UNIVERSITY OF CALABAR, NIGERIA

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ABSTRACT: *The main thrust of this study was to determine psychosocial effect of the use of amplifications among individuals with hearing impairment: communication implications for creativity in inclusive education practices in University of Calabar, Nigeria. To achieve the purpose of this study, two hypotheses were formulated to guide the study. Ex-post facto research design was adopted for the study. A sample of 35 hearing impaired students in University of Calabar during 2014/2015 academic session of both regular and sandwich students with hearing impairment in Special Education Department were used for the study. The selection was done through the census technique. The instrument used for data collection was questionnaire. It was validated by experts in educational tests and measurements in the Faculty of Education. The reliability estimate of the instrument was established using Cronbach Alpha with a coefficient of .79. The data was analysed using Pearson Moment Correlation Coefficient and Anova. The result of the analysis revealed that there is a significant relationship between students with congenital hearing loss and their benefit in an inclusive environment with the aid of amplifications. The result also revealed that University activities significantly influence students with hearing impairment who use amplifications psychologically. Based on the findings of the study it was recommended among others that students with congenital hearing loss should be discouraged from using hearing aid since the sounds heard by them makes no meaning but noise.*

KEYWORDS: Communication Implications, Inclusive Education, Psychosocial Effect, Amplifications, Students with Hearing Impairment

INTRODUCTION

Learning is a process that happens under observable and ideal conditions to the extent that situations in which students are placed deliberately or otherwise had great effects on them (Gudyanga, Wadesango, Eliphanos, Gudyanga, 2014). The noisier the environment is, the more likely it is that the undesired noises will be amplified to the detriment of more important sounds, such as the teachers voice (Booth and Ainscow, 2003).

Students with hearing loss whether deaf or hard of hearing have limitations in an inclusive education setting. The effect of amplification on these persons help to hinder learning and lack of concentration. Psychologically, students with hearing loss who use amplification are noticed to withdraw themselves after a period of time from utilizing amplification with serious struggling to cope with hearing without an aid. They employed the use of lip reading, communication skills, total concentration during lectures. This helps to ease the stress of

trying to cope with headache, distractions, fatigue, lack of concentrations in an inclusive environment where sound is generated by generators, vehicles, hearing students discussions, theater art students performance and so forth, causing so much distractions to students with hearing loss utilizing hearing aid.

Psychosocial effect could be explained to mean how hearing impaired individuals minds work to allow social adjustment and acceptance in ones given environment. According to the Wikipedia, Encyclopedia (2008) psychosocial effects relates to one's psychological development in an interaction with a social environment. This term was first used by a psychologist called Erik Erikson in his stages of social development. Psychosocial effects usually point toward solutions for individual challenges in interacting with an element of the social environment. The problem that occur in one's psychosocial dysfunction or psychosocial morbidity.

According to Maimuna (2013) inclusive education means giving students with disability, the opportunity to participate as members in all school activities and affirming their right to such opportunity. Inclusive education also provides that every child should be included in a regular classroom to the optimum extent of appropriateness to the needs of that child while preserving the placements and services that special education provide (Smith, 2013). The Canadian Association for Community Living, 2015 conference and AGM explicitly expatiated on inclusive education to mean that all students attend and are welcomed by their neighbourhood schools in age appropriate, regular class and are supported to learn to contribute and participate in all aspects of the life of the school. They further explain that inclusive education is about how we develop and design our schools, classrooms, programs and activities so that all students learn and participate together. Farrell (2000) in Ademokoya (2014) put it that inclusion reflects the extent to which a school or a community welcomes individuals with disabilities as full members of the regular schools or the community and values them as inseparable and respected members or citizens.

For the purpose of promoting creativity among individuals with hearing impairment for effective inclusive education practices in the university of Calabar, there should be development of love and interest in total communication in order to improve proficiency in the use of total communication between teachers and hearing classmates to enable theme engage in meaningful communication with these individuals and they also need to constantly practice it with the student with hearing impairment. Special teachers, interpreters and others, members of the Unical community need to promote joy in communication, by acquiring improve skills in sign language which will facilitate greater social, emotional attachment and mutual relations between the hearing and non-hearing members in an inclusive setting.

Parents must be encouraged to learn and use total communication. Parents are indeed an indispensable component of inclusive education. Their involvement is very vital to the success of an inclusive education practice (Okeke, 2003). Parents of both hearing and non-hearing school children are expected to actively complement their children in the learning and use of total communication.

All children benefit from inclusive education. It allows them to:

1. Develop individual strengths and gifts with high and appropriate expectations for each child.

2. Work on individual goals while participating in the life of the classroom with other students and their age.
3. Involve their parents in their education and in the activities of their local schools
4. Foster a school culture of respect and belonging. Inclusive education provides opportunities to learn about and accept individual differences, lessening the impact of harassment and bullying.
5. Develop friendship with a wide variety of other children, each with their own individual needs and abilities.
6. Positively affect both their school and community to appreciate diversity and inclusion on a broader level (The Canadian Association for Communication Living, 2015 conference).

An article in Wikipedia encyclopedia, (2008), amplifications are simply referred to as, electronic devices that increase the power of a signal. It does this by taking energy from a power supply and controlling the output to match the input signal shape but with a larger amplitude. In this sense, an amplifier modulates the output of the power supply to make the output signal stronger than the input signal.

However, amplifiers are descriptive, according to their input and output properties. They exhibit the property of gain, or multiplication factor that relates the magnitude of the output signal to the input signal. The gain may be specified as the ratio of output voltage (voltage gain), output power to input power (power gain), or some combination of current, voltage and power. In many cases the gain is unitless (though often expressed in decibels [dB])

Basic types of an amplifier are:

- i. Voltage amplifier: This is the most common type of amplifier. An input voltage is amplified to a larger output voltage. The amplifier's input impedance is low.
- i. Current amplifier: This amplifier changes an input current to a larger output current. The amplifiers input impedance is low and the output impedance is high
- ii. Transconductance amplifier: This amplifier responds to a changing input voltage by delivering a related changing output.
- iii. Transresistance amplifier: This amplifier responds to a changing input current by delivering a related changing output voltage. Other names for the device are transimpedance amplifier and current-to-voltage converter.

Other types of electronic amplifiers include the following: power amplifier, vacuum-tube (valve) amplifiers, transistor amplifiers, operational amplifiers, video amplifiers, oscilloscope vertical amplifiers, distributed amplifiers, switch mode amplifiers, negative resistance devices, micro-wave amplifier.

The National Institute on Deafness and other Communication Disorder (NIDCD, 2014), emphasized on the use of assistive and adaptive technologies which was further defined as any device that helps a person with hearing loss or a voice, speech or language disorder to communicate. These terms often refers to devices that help a person to hear and understand what is been said more clearly or to express thoughts more easily. With the development of

digital and wireless technologies, more and more devices are becoming available to help people with hearing, voice, speech and language disorders communicate more meaningfully and participate more fully in their daily lives. When persons with hearing impairment understand their thoughts, they will be able to contribute also creatively to national development. Hence their intellectual ability will not be wasted.

Types of available assistive devices (amplification)

- i. Assistive Listening Devices (ALDs): These devices help to amplify the sound you want to hear, it filters the noise around the background. "Background noise" (ALDs) can be used with a hearing aid or cochlear implant to help a wearer hear certain sounds better. Filtering out the noise from the sound you need, will help persons with hearing impairment to concentrate appropriately.
- ii. Augmentative and Alternative Communication (AAC) persons with hearing impairment are very irrational because they cannot express themselves properly. These devices help these persons to reduce aggression and irrational behaviour for psychosocial behaviour.

Augmentative and alternative communication devices help people with communication disorders to express themselves. These devices can range from a simple picture board to a computer program that synthesizes speech from text.

- iii. Alerting devices: Connect to a doorbell, telephone or alarm that emits a loud sound or blinking light to let someone with hearing loss know that an event is taking place.

Psychologically, when an event is taking place, a person with hearing impairment will know or be alert of the programme of the event and will not be taken unaware of the happening at the door.

Assistive listening devices: These devices have been classified into two categories which include (a) Large class and (b) personal used devices. The large class include classrooms, theaters, places of worship and airports. While personal used devices are as follows: hearing loop systems, frequency-modulated (FM) systems and infrared systems. Specialized hearing technologies may reduce the impact of barrier that deaf and hard of hearing students experience in schools, such as classroom noise, rapid rate of discussion, rapid change of topics and large number of people engaged in conversation, all of which can prevent deaf and hard of hearing students from participating in teacher-student and student communication. According to the Food and Drug Administration (FDA) in 2009 issued a guidance that attempt a clarity on the distinctions between hearing aids and its devices, which are termed Personal Sound Amplification Products (PSAPs). The FDA defines a hearing aid as a wearable sound-amplifying device intended to compensate for impaired hearing. As such, hearing aids are subject to different types of premarket review requirements. Adedayo (2013) also added that assistive technology for hearing and speech disorders refers to any device that helps a person with hearing loss, voice or speech, or impaired language disorder to communicate, hear, and understand what is being said more clearly and/or to express himself easily.

Rekkeda (2012), conducted a study on the use of assistive hearing technologies among students with hearing impairment. The study focused on the Factors that promote satisfaction. In this studies, 153 deaf and hard of hearing students and all other students

communicated orally and were in inclusive schools from grades 5-10. The findings revealed that amplifications are sometimes used irregularly because of the stigma associated with it; and public's attitudes toward hearing technologies which affect the degree of usage and accordingly, the level of participation in school. It was concluded that a comprehensive understanding of the factors affecting the utilization of hearing aid can improve rehabilitation interventions provided by health personnel and itinerant educators both at school and at home.

In another study, Rekkeda cited Cameron (2008) using a sample of 57 young adults with severe to profound hearing loss, revealed that the degree of contentment with the sound quality of hearing aid was significantly related to the utilization of hearing aid. Approximately 50% of the non-wearers were dissatisfied with the sound quality, whereas only 13.8% of regular hearing and wearers felt the same.

In audiological assessment/amplification technology, the students with hearing impairment should be periodically screened in an inclusive education setting to revalidate their hearing status, which is very vital for enhancing their development of effective creative communication skills (Ekwama, 2003). Amplification systems combined with the oral rehabilitation programmes should be provided and utilized. Amplification systems gain emphasize, intensification and upgrading of useable hearing levels in school children with hearing loss. Hearing is appropriately enhanced by amplification technology involving full and fixable hearing aids such as FM systems.

Hearing technologies are defined as any devices utilized for improving the level of sound available to a listener. There are two general sub-categories: Assistive Listening Devices (ALD/and personal amplification). It can be utilized by individuals or large groups of people and can typically be accessed without the support of specific person.

The psychosocial effect of the use of amplification on their education are as follows;

- i. The amplification system actually have an adverse effect on individuals with hearing impairment as it has been complained by persons with mild and moderate hearing loss.
- ii. This amplification sometimes causes: headache, drowsiness, lack of concentration distractions and lack of coordination for persons who are prelingually or congenitally deaf. When they use amplification they cannot distinguish between sound and useful noise while in the classroom.
- iii. In an inclusive setting, persons with hearing impairment tern to be more distracted by the activities of other students without hearing problems. They live more on suspicion in an inclusive setting and they are attracted to a few that can understand their language.
- iv. Though amplification have negative effect they also have positive effect which enhances their academic performance. The amplifications help this students not only to lip read but to hear instructions from the teachers in an inclusive setting. It also help them to engage in group assignment with others in the classroom.

The term hearing impairment based on the definition by the conference of executive of American schools for the deaf at its meeting in Greensboro in 1975 defined a deaf or hearing

impaired person to mean “one whose hearing disability precludes successful processing of linguistic information through audition with or without a hearing aid. Also, Rafi (2002) states that hearing impairment is a broad term referring to hearing losses of varying degrees, ranging from hard of hearing to total deafness hearing loss could be classified into three broad categories such as: conductive hearing loss, sensorineural hearing loss and mixed hearing loss which has to do with both conductive and sensorineural hearing loss, based on the anatomic location of the problem (site of lesion, i.e. middle or inner ear).

It's frustrating to be unable to hear well enough to enjoy talking with friends or family. Hearing impairment makes it hard, but not impossible to hear. They can often be helped. Deafness can keep you from hearing sound of all (U.S. National Library of Medicine, last updated 2015)

A person with hearing loss is unable to hear spoken language or is unable to hear very loud sounds. Obi (2010), cited the conference of the executives of American schools for the Deaf definitions as reflecting the most accepted educational orientation definitions to mean.

A generic term indicating, a hearing disability that may range in severity from mild to profound; it includes the subsets of deaf and hard of hearing. A deaf person is one whose hearing disability precludes successful processing of linguistic information through audition with or without a hearing aid. The hard of hearing person is one who generally with the use of hearing aid has residual hearing sufficient to enable successful processing of linguistic information through audition (Hallahan and Kauffman in Obi, 2010).

The degree of hearing loss ranges from mild to profound with different numerical designations.

Degree of hearing impairment	Description	Label
0-26dB of hearing loss	Normal	Normal hearing
27-40dB	Slight	Hard of hearing
41-55dB	Mild	Hard of hearing
56-70dB	Moderate	Hard of hearing
71-90dB	Severe	Hard of hearing or deaf
91dB and above	Profound (extreme)	Deaf

Source: Obi, 2010

Ikpaya, (2001) also added that, the deaf as a group comprises:

- a) The congenitally deaf: Those who were born deaf
- b) The adventitiously (acquired deaf):

Congenital hearing loss: The term congenital hearing loss means the hearing loss is occurred at birth. The congenital hearing loss can be caused by genetic or non-genetic factors (American Speech Language Hearing Association).

The adventitious or acquired hearing loss are those who were born with normal hearing but in whom the sense of hearing became non-functional later through illness or accident.

The congenital hearing loss is also known as prelingual hearing loss and post lingual referring to the adventitiously or acquired hearing loss. Ademokoya (2014) further analysed the deaf school child among other special needs school children considered for placement in an inclusive classes. Their major disability is the inability to perceive or hear speech or sounds through his or her sense of hearing (Mba, 1995). Therefore a student with hearing impairment goes through the ordeal of coping with challenges that may come in such an environment like the inclusive setting. Additional effort will be required for their academic achievement and self adjustment with their hearing classmates in other to achieve cordial relationship and a friendly, peaceable environment that can harness proper learning. Communication approaches were refined to respond appropriately to meeting all needs of members of an inclusive class. Communication skills such as total communication was enhanced for engaging the deaf school child in an inclusive education setting. The regular teachers, hearing students, school administrators, school workers and other specialists involved in the inclusive education should endeavour to develop love and interest in the use of total communication and all of it components such as sign language, finger spelling and pantomime.

Eriks-Brophy, Durieux-Smith, olds, Fitzpatrick, Duquette and Whittingham (2007) postulated that inclusion is seen as having overall beneficial effects and has been reported as a desirable option by parents, educators and integrated students with a variety of disabilities. The degree of hearing loss as well as any delay in fitting the child with appropriate amplification are two important factors that impact directly on spoken language acquisition. The resulting language delay often found in children with hearing loss has been seen as an underlying cause of reduced academic performance. Due to this significant language delay, the placement of students with hearing loss into inclusive setting has been a controversial and highly debated educational alternative.

The congenitally deaf child does not find it easy wearing an amplification in an inclusive setting, as explained by a hearing impaired individual who wears an amplification though he hears sounds and so many sounds at the same time which now become noise since he cannot read meaning to the sound and would rather suffer headache, much distraction and lack of concentration (reported by individual with hearing impaired).

Mba in Obani (2006), highlighted that defective hearing creates barriers to the general development of the hearing-impaired, bringing about retardation and personality problems. He went further to enumerate these problems which are encountered by individuals with hearing impairment to include: emotional instability, lack of self confidence, a negative self image, immature behaviour, impulsiveness and depression.

Looking at the personality traits of hearing-impaired adults, points out that personality characteristics attributed to hard-of-hearing and deaf adults include despondency, sense of inferiority introversion, hopelessness, fear, supersensitivity, bitterness, cruelty, egocentrism, selfishness and lack of sympathy.

A child who suffer from fear, keeps to himself or feels inferior among other children, will definitely have problems associating with and learning from his peers. This is the case with hearing-impaired children in regular schools (Obani, 2006)..

Amplifications are only won based on the place of impairment and after being examined by an audiologist. Causes of hearing impairment are generally classified into three, based on the

location of the lesion within the hearing mechanism. These are conductive hearing loss which affect the outer and middle hearing mechanisms, this can easily be rectified by medications, hearing aids, surgery (cochlea implant). But sensorineural hearing impairment affect the inner ear mechanism and destroys the cochlea, this leads to deafness but of recent, it can be remedied only through cochlea implant.

Lastly, the mixed hearing impairment, a result from problems occurring in the outer, middle and inner ear, obstructing the conduction of sound waves from entering the auditory *meatus* to the brain for interpretation.

Statement of problem

Students with hearing impairment in the University of Calabar with mild, moderate and severe hearing loss who have undergone audiometric test and have been given amplification (hearing aids) to enable them improve their hearing by an audiologist.

However, this amplification has rather adverse effect on students with (prelingual hearing loss, but has the ability to perceive sound. In an environment like University of Calabar where there are business centres which generate so much noise, the theater art students with their performance, students interactions everywhere with their loud talking and generating noise, generators, vehicles, aeroplane sound and so forth this environment becomes a burden to students with hearing aid.

This hearing aids help to amplify faint sounds and also picks this sounds in every angle to this students with hearing aid and most of them stop using their hearing aids with different complains such as: distraction, loss of concentration, headache, fatigue and so forth. Therefore, the researchers have been inspired into finding out the consequence effect on the use of amplification among students in hearing impairment on their psychological wellbeing as it promote creativity in inclusive education practices in the university of Calabar.

Purpose of the study

The purpose of the study was to investigate the psychosocial effect on the use of amplification among hearing impair individual and implication for enhancing creativity in inclusive education practices in University of Calabar.

Specifically, the study intends to find out if:

1. The student with a congenitally hearing loss can benefit maximally in an inclusive environment with the aid of amplification
2. University activities affect students with hearing impairment who uses amplifications psychologically.

Research hypotheses

1. There is no significant relationship between students with congenital hearing loss and their benefit in an inclusive environment with the aid of amplifications.
2. University activities do not significantly influence students with hearing impairment who use amplifications psychologically.

METHODOLOGY

The study adopted ex-post facto research design. The population of the study was 35 hearing impaired students, the statistics of enrolment in University of Calabar as of 2014/2015 academic session of both regular and sandwich students with hearing impairment in Special Education Department. The sampling technique employed by the researcher is census the sample for the study consist of all the students in the population which is 35. Two research questions and two hypotheses were adopted for the study at .05 level of significance. The instrument for data collection construction was constructed by the research and validated by experts in educational tests and measurements were used for data collection. The instrument named implication for inclusive education practices and psychosocial effect on the use of amplifications among individuals with hearing impairment in University of Calabar (IIEPPEUAAIHI), 20 items on a four point likert scale option questionnaire. The response options were Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). The reliability of the instrument was carried out using Cronbach Alpha with correlation coefficient of .79. The data was analysed using Pearson Moment Correlation Coefficient and Anova.

RESULT AND DISCUSSION

In this section each hypothesis is re-stated in the null form. The variables are identified and the result of the statistical analysis carried out to test the hypotheses are presented and interpreted. The .05 level of significance was used for the statistical testing of each hypothesis.

Hypothesis one

There is no significant relationship between students with congenital hearing loss and their benefit in an inclusive environment with the aid of amplifications.

The independent variable in this hypothesis is congenital hearing loss, while the dependent variable is benefit in an inclusive environment with the aid of amplifications. Pearson product moment correlation analysis was considered the most appropriate statistical technique employed to test this hypothesis. The result of the analysis is presented in Table 1.

TABLE 1: Pearson product moment correlation analysis of the relationship between congenital hearing loss and benefit in an inclusive environment with the aid of amplifications (N=35)

Variable	X	SD	$\sum x$	$\sum x^2$	$\sum xy$	r
			$\sum y$	$\sum y^2$		
Congenital hearing loss	16.03	2.59	561	1342	15120	0.70*
Benefit in an inclusive environment	16.85	2.53	590	1461		

* Significant at .05 level, critical $r=.349$, $df = 33$

The result of analysis as presented in Table 1 reveals that the calculated r-value of 0.70 is greater than the critical r-value of .349 at .05 level of significance with 33 degree of freedom.

The result of the analysis is significant since the calculated value is higher than the critical value. With this result the null hypotheses was rejected. This therefore means that there is a significant relationship between students with congenital hearing loss and their benefit in an inclusive environment with the aid of amplifications.

Hypothesis two

University activities does not significantly influence students with hearing impairment who uses amplifications psychologically. The independent variable in this hypothesis is University activities with three dimensions (high, average and low); while the dependent variable is students with hearing impairment who use amplifications psychologically. To test this hypothesis one-way analysis of variance (ANOVA) was employed. The result of the analysis is presented in Table 2.

TABLE 2: One way analysis of variance of influence of University activities on students with hearing impairment who use amplifications psychologically (N=35)

University activities	n	\bar{X}	SD			
Low – 1	9	16.17	3.12			
Average – 2	16	16.96	2.05			
High – 3	10	17.32	2.32			
Total	35	16.85	2.53			
Source of variance	SS	df	Ms	F	Sig of f.	
Between group	6.35	2	3.17	4.70*	.000	
Within group	21.62	32	0.68			
Total	27.97	34				

* Significant at the 0.05 level, critical F=3.00, df=2,34.

The result of Table 2 reveals that the calculated F-value of 4.70 is higher than the critical F-value of 3.32 at .05 level of significance with 2 and 34 degrees of freedom. With this result the null hypothesis that University activities does not significantly influence students with hearing impairment who use amplifications psychologically was rejected. This result therefore implies that, University activities significantly influence students with hearing impairment who use amplifications psychologically. Since University activities significantly influence students with hearing impairment who use amplifications psychologically, a further pattern of influence was employed using Fishers' Least Significant Difference (LSD) multiple comparison analysis. The result of the analysis is presented in Table 3.

TABLE 3: Fishers' Least Significant Difference (LSD) multiple comparison analysis of the influence of University activities on students with hearing impairment who use amplifications psychologically.

Level of University activities	N	Low 9	Average 16	High 10
Low	9	16.17 ^a	-0.79 ^b	-1.12
Average	16	-2.31 ^c	16.96	-0.33
High	10	-2.98	-1.00	17.29
		MSW=0.68		

* Significant at .05 level, critical $t=1.96$, $df=33$.

a = Group means are placed along the diagonal

b = Difference between Group means are placed above diagonal

c = Fishers' t-values are placed below the diagonal

* = Significance at 0.05 level (critical $t=2.04$).

The significant Fishers' t-value of -2.31 indicates that students with hearing impairment who use amplifications psychologically when level of supervision is high (mean =17.29) is significantly different from students with hearing impairment who use amplifications psychologically when their level of University activities is average (mean = 16.96). The significant Fishers' t-value of -2.98 indicates that students with hearing impairment who use amplifications psychologically when their level of University activities is either High (mean = 17.29) or average (mean = 16.96) are significantly different from students with hearing impairment who use amplifications psychologically when their level of University activities is low (mean = 16.17).

DISCUSSION OF FINDINGS

This section is concerned with the discussion of findings of the hypotheses directing the study. The discussion is presented hypothesis by hypothesis.

The result of the first hypothesis revealed that there is a significant relationship between students with congenital hearing loss and their benefit in an inclusive environment with the aid of amplifications. The findings of this hypothesis is in line with the view of Booth and Ainscow, 2003 who observed that the noisier the environment is, the more likely it is that the undesired noises will be amplified to the detriment of more important sounds, such as the teachers voice.

The result of the second hypothesis revealed that University activities significantly influence students with hearing impairment who use amplifications psychologically. The findings of this hypothesis is in line with the view of Ross (2009) who explained that amplifications are burl that turn ordinary hearing into extra-ordinary hearing which helps an individual never to miss a word at any lecture, show, or at church and that with it, one could hear a pin drop

across the room. Cameron (2008) in Rekkeda (2012) also revealed that the degree of contentment with the sound quality of hearing aid was significantly related to the utilization of hearing aid. Approximately 50% of the non-wearers were dissatisfied with the sound quality, whereas only 13.8% of regular hearing aid wearers felt the same.

RECOMMENDATIONS

- i. Students with congenital hearing loss should be discouraged from using hearing aid since the sounds heard by them makes no meaning but noise.
- ii. There should be relocation of lecture rooms of special education students to a least restrictive environment with less sounds and distractions.
- iii. Students with hard of hearing in a very noisy environment should be advised to remove their hearing aids.

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