

Educational Challenges Facing Deaf and Hearing Loss Students in Secondary School

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Abstract: The study addresses the educational challenges in terms of deaf and hearing loss students' perceptions of educational and psychosocial challenges, availability of educational environment support, and cooperation of educational administration. The study is applied to (128 deaf and hearing loss students) all of them attending classes 11th grade in 2013 in ALRafi'e Higher School in Gaza City. A descriptive analytical approach has been used in the study, using the Statistical Package for the Social Sciences (SPSS). Challenges revealed that the students are in need for support services (interpreters for comprehensive accurate communication, services, academic advisors - psychologists -social workers), assistive technology, written precise instructions of materials, and suitable formulation of written exams. The curriculum is unfit for deaf students, it needs to be updated and teachers need capacity building. There is a necessity to use appropriate methods of teaching and educational aids. Students are unable to read, write, and master the mathematical skills, in addition to the difficulty in self-expression, relations building, interaction with colleagues and self verification.

التحديات التعليمية التي يواجهها الطلبة الصم وفاقدو السمع في التعليم الثانوي

ملخص: الدراسة تبحث في طبيعة التحديات التعليمية من خلال فهم الطلبة الصم وفاقدو السمع في مدرسة الرافعي الثانوية للتحديات التربوية والنفسية والاجتماعية، وتوافر الدعم والتعاون من البيئة التعليمية. تم تطبيق الدراسة على (128 من الطلبة الصم وفاقدو السمع) ذكوراً وإناثاً في الصف الحادي عشر في العام الدراسي 2012-2013 في مدرسة الرافعي الثانوية في مدينة غزة. اتبع الباحث المنهج الوصفي التحليلي في الدراسة، وذلك باستخدام الحزمة الإحصائية للعلوم الاجتماعية (SPSS). وتضمنت النتائج وحسب وجهة نظر الطلبة التحديات التعليمية التي تركزت في حاجة الطلبة لخدمات الدعم من خلال ضرورة توفير مترجمين لغة تواصل شامل، مرشد أكاديمي-أخصائي نفس اجتماعي، توفير التكنولوجيا المساعدة، تعليمات مختصرة مكتوبة للمواد الدراسية، وبناء وصياغة مناسبة للاختبارات والاختبارات. المناهج الدراسية بحاجة إلى تكييف، المعلمون بحاجة إلى تحسين وتطوير لقدراتهم، وهناك ضرورة لاستخدام الأساليب والوسائل التعليمية المناسبة لتدريس الطلبة، بالإضافة لضعف في قدرة الطلبة على القراءة والكتابة ولتقان المهارات الحاسوبية، وصعوبة في التعبير عن الذات، وبناء علاقة، والتفاعل مع الزملاء، وتحقيق الذات.

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Introduction:

The number of deaf people in the Gaza strip is considered to be one of the highest in the neighboring countries. Recent results of pilot studies and projects indicated that the number of newborns with hearing problems is 7 out of 1000 newborn (Atfaluna Society for Deaf Children and Al Amal Society for Deaf Children, 2010). In addition, the number of school age children who have hearing difficulties reaches 1.7 out of each 100 students (Atfaluna Society for Deaf Children and Al Amal Society for Deaf Children, 2010), ranging from mild to borderline severe hearing loss. For the last couple of years, the Ministry of Education stepped forward to establish a high school for deaf. It is worth mentioning that deaf children in Gaza learn till the 9th grade only.

AL Rafi'e School is the first higher school for deaf in Gaza. Male and female deaf students come to the school in a daily basis to attend classes. This year the group will finish the 11th grade and will be ready to finish the 12th grade.

Education for (DHL) students at the high school for deaf is meant to provide them with the needed academic skills to prepare them for higher education. However, the students receiving academic skills still have a great challenge of language. The (DHL) students use sign language, which is very different from the verbal language. Also, they find it difficult to express themselves, and/or be able to perceive and understand some important educational concepts. As a result, the curriculum that is given to them depends on simple concepts and more of putting them into tangible picture like form. The number of the deaf students at AL Rafi'e, is 151 girls and 61 boys. 84 students are at the 10th and 128 students are at 11th grade.

This study offers the opportunity to examine educational challenges facing (DHL) students in Gaza. The researcher administers an instrument that describes and examines the responses of students in AL Rafi'e School settings in terms of their perceptions of educational and psychosocial challenges, availability of educational environment support, cooperation of educational administration and teachers in addition to other studying skills and preferences.

Taken together, this information should provide a better understanding of the education of DHL students and, with other recent findings, provide direction for enhancing their achievement across academic settings.

Reviewing the related literature maintains that students who are deaf and hard-of-hearing are exceptional learners (Hallahan & Kauffman), (Smith & Tyler, 2010), (Beveridge, 1999), (Moore, 2001).

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These students require special services which must be offered by qualified and skilled teachers in order to respond to their unique needs (Moore, 2001). In addition, hearing loss significantly influences the language and speech development of students who are deaf and hard-of-hearing that negatively affects their academic achievement, social and emotional interaction, and cognitive milestones (Moore, 2001). According to a study carried out in Jordan, (I. El-Zraigat, 2007) students who are deaf and hard-of-hearing had poor expressive writing skills. Another study carried out by (I. El-Zraigat, 2010) indicates that the students who are deaf and hard-of-hearing lack adequate reading skills in general. A study conducted by (I. A.-E. El-Zraigat, M., 2005) about problems faced by students who are deaf and hard-of-hearing revealed that students with hearing loss suffer from communication, academic, social, emotional, and family problems. The study recommended providing those students with services needed in order to enable them to achieve an optimal life. In this context, (Syverud, Guardino, & Selznick, 2009), emphasizes the effectiveness of teaching phonological skills to a child who is deaf, like wise.

On the other hand, Hintermair (2006) reflects the crucial role of the empowerment of parents of deaf and hard-of-hearing children to manage their stress and resources. Educating those of special needs including students who are deaf and hard-of-hearing is considered a process that consists of determining eligibility, delivering special education services, and finally evaluating (Ysseldyke & Algozzine, 1995). Eccarius (1997) describes the education of students who are deaf and hard-of-hearing as a complex process which requires appropriate placement, identifying the mode of students learning, modified curricula, using audiological technology, schools and family services, and identifying strengths and needs of targeted students through psycho-educational and audiological assessment.

Deaf and hard-of-hearing education is challenging in other countries. For instance, in Greece, Nikolarazi (2000) found that deaf teachers have a lack of appropriate in-service training needed for working with deaf students; furthermore, he indicated that those teachers face problems in their work with deaf pupils like feeling insecure and unsupported, and making an extra effort in communicating deaf pupils. On the other hand, Rietveld-van Wingerden (2003) views pupils who are deaf as a minority groups and that they should be taught by an ethnically deaf person and that it is up to the deaf themselves to determine their extent of participation. Johnson (2004) suggests that deaf and hard-of-hearing teachers should receive extra course work in regular education curricula and teaching methods as well as better

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preparing of pre-service training for working effectively with diverse deaf and hard-of-hearing students.

The process of educating students who are deaf and hard-of-hearing are affected by different factors like qualified and skilled teachers, quality of services offered to schools and families, acoustic environment, family environment, type and degree of hearing loss, language and speech abilities, and the existence of additional disabilities (I. El-Zraigat, 2009).

It is worth mentioning that a review of researches on deaf students in higher education reveals a significant body of knowledge about the barriers these students face in gaining access to information in the classroom. Much less is known about the potential solutions to these problems. In addition, there is a dearth of researches on the effectiveness of such support services as interpreting, note taking, real-time captioning, and tutoring, particularly with regard to their impact on academic achievement.

So that the importance of the present study is to specify the types of educational challenges facing secondary school students who are deaf or hearing- loss in Gaza. It is hoped that the study results will provide knowledge that help in the development of special educational programs offered at schools for students with a hearing loss. On the other hand, The Directorate of Special Education and curriculum planners will find in this study a source of improving the process of educating this group of students in Gaza.

The Significance of the study:

It is the first study in Gaza that will weigh up the barriers DHL students face in gaining access to information in secondary school. So, it may help in the development of special educational programs offered at schools for deaf and hearing loss students.

There is a bad need for potential solutions, to cope with instant problems facing hearing loss students in addition to any needed supported services. The study may draw researchers' attention to improve deaf education services.

Limitations of the study:

The study is applied to male and female deaf students who go to school in a daily basis to attend classes and will finish the 11th grade in the year 2013 in AL Rafi'e School that is located in Gaza city.

The study aims to specify the types of educational challenges facing deaf and hearing loss students in AL Rafi'e secondary school.

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Research question :

1. What is the type of academic challenges facing deaf and hearing loss students in the secondary school?
2. How does the supported services affect the education of deaf and hearing loss students?.
3. Does the cooperation of the educational administration and teachers affect the education of deaf and hearing loss students?
4. What are the kinds of academic challenges facing deaf and hearing loss students in the secondary school?
5. Are deaf and hearing loss students in secondary schools facing psycho-social challenges?

Definitions:

Deaf (D) means “a hearing impairment that is so severe that the child is impaired in processing linguistic information through hearing, with or without amplification, that adversely affects the child’s educational performance.

Hearing loss(HL):

Persons with hearing loss may communicate via signed, spoken, or written languages or other methods or combinations of methods (e.g., cued speech, finger spelling) depending on communication contexts, partners, and use of amplification and/or other assistive technology. Persons with hearing loss may use a variety of terms to describe themselves with consideration of their degree of hearing loss, communication preference(s), and use of technology (Association, 1998).

Educational Challenges:

The researcher sees that Educational Challenges is a shortage of professionals with skills and expertise in hearing loss, including, deaf educators, speech-language pathologists, consistent and stable state of funding, funding for hearing aids, loaner programs, FM systems, and lack of specialized services for hearing loss, shared information, and in-service education for professionals when compared with services provided for others.

Secondary School Student: student's age is 16 years or more, males and females, level of studying is 10th, 11th, or 12th grade.

Literature review :

Today, approximately 66% of all community college students will not complete a degree in the eight years after completing high school. Reasons for non-degree completion point specifically to incoming students being underprepared for college level math and English (Rosenbaum, Redline, & Stephan, 2007). Furthermore, Choy, Horn, Chun, and Nouri (2000) suggest

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that a large population of these students will also not have passed the California High School Exit Exam (CHSEE). California community college students are finding themselves underprepared for college level coursework and too often are caught in a cycle of remediation classes.

The data collected and analyzed determined that the average cost per term of serving a student with a prelingual hearing disability far exceeded the cost of serving a student in any other category (\$1,356 versus \$73–\$221 for the others). This is largely because of the high level and high cost of interpreting services they require (Choy et al., 2000).

It is important to understand the conceptual framework as it specifically relates to the personal or academic success for individuals with hearing impairments in order to ensure that higher education institutions are providing the support needed to assist these individuals with meeting their personal, professional, and academic goals(Choy et al., 2000).

Too often, (D/HOH) students face academic and personal obstacles which can prevent degree completion. According to the Gallaudet University Research Institute, 50% of deaf or hard of hearing students ages 17 and 18 had a fourth grade reading level(Gallaudet Research Institute, 1996). Consequently, English reading and writing at the postsecondary level can present a barrier, thus preventing this population of students from reaching their academic goals.

O’Connell (2007) reported that the California Department of Education (CDE)found that only eight percent of deaf students and 15% of hard of hearing students scored proficient or advanced on the California Standards Test for English-language arts. In math, only ten percent of deaf students and 18 percent of hard of hearing students scored proficient or advanced. As a result, deaf or hard of hearing students entering postsecondary institutions are underprepared to meet the academic rigor they will encounter these educational settings. O’Connell noted that CDE further suggested that a hearing loss in and of itself does not pre-determine a deaf or hard of hearing child's academic success but rather it is the lack of early access to language in the environment that the child is exposed to during infancy. Consequently, CDE highlighted the benefits of early exposure to language for children who are deaf or hard of hearing as it relates to not only successful language acquisition, but also the sustainment of literacy development.

Consequently, deaf or hard of hearing students often face language barriers that prevent them from succeeding in postsecondary education, which in turn may limit their personal or academic opportunities.

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Remediation in higher education institutions has become a complex issue which has uncertain solutions and critical repercussions for the colleges, students, and society as a whole (Oudenhoven, 2002). The Basic Skills Initiative (BSI) was designed in an attempt to address and effectively bridge the gap between levels of adequate preparation and the actual academic performance of California community college students. The BSI includes deaf or hard of hearing students in the overall community college student count.

These students may struggle with remedial coursework due to their limited English reading and writing skills. Allen (2001) indicated that between 1983 and 1990 there were minimal gains in the achievement levels of deaf or hard of hearing students aged 17 and 18. Additionally, during the seven year time span, approximately half of the deaf or hard of hearing students leaving special education programs read below the fourth grade level (Allen, 2001). Teachers are encouraged to monitor educational progress closely in students who have hearing loss. Research suggests that one-third to 40 percent of students who are deaf or hard of hearing have an additional disability (Paul & Quigley, 1990; Schildroth & Hotto, 1996) which may impact cognitive functioning.

A review of the research reveals a significant body of knowledge about the barriers these students face in gaining access to information in the classroom. Much less is known about the potential solutions to these problems. In addition, there is a dearth of research on the effectiveness of such support services as interpreting, note taking, real-time captioning, and tutoring, particularly with regard to their impact on academic achievement in order to enhance academic success and the retention of deaf students in higher education programs (Lang, 2002).

Divergent but consistent finding was that despite significant differences between deaf and hearing students in their prior knowledge (pretest scores), no significant differences were found in their gain scores. This result, which since has been replicated with other deaf and hearing instructors, suggests that skilled teachers of the deaf are able to motivate DHH students or utilize methods adapted to their strengths and needs such that those students can learn just as much as their hearing peers. Relatively little is known about the relation between teaching methods and academic outcomes for DHH students, however, even if some best practices have been identified (Spencer & Marschark, 2010).

Stinson and Walter (1997) interviewed DHH students in mainstream programs and obtained student ratings on the Classroom Communication Ease Scale (Long, Stinson, & Braeges, 1991). Results indicated that students who

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reported being more comfortable using spoken language in the classroom also thought they were more effective in their classroom communication, but they also had less severe hearing losses and higher reading achievement scores. Students who depended on mixed communication methods (sign and speech) generally utilized sign language interpreters in the classroom—although both groups thought that having interpreters was important—and reported frustration and difficulty in communicating with their instructors and in following classroom discussion. Students who signed reported being better able to communicate with their deaf peers than did students who relied solely on speech.

Long and colleagues (1991) found that deaf adolescents' perceptions of their ease of communication in the classroom were a significant predictor of both achievement test scores and grades. Students' reports of engagement in the classroom significantly predicted grades but not test scores.

(Holt, Allen, & Traxler, 1997) found no differences in mathematics computation scores between deaf students who relied on spoken language and those who relied on sign language interpreters in mainstream classrooms. Both groups scored higher than students in nonintegrated classrooms in which teachers signed for themselves. More recent investigations, however, have indicated that experienced teachers of the deaf signing for themselves do not facilitate learning to any greater extent than when they utilize sign language interpreters, regardless of whether the teachers are hearing or deaf (Richardson, Marschark, Sarchet, & Sapere, 2010).

(Stinson & Walter, 1997) argued that, beyond communication, DHH students' academic success is strongly influenced by less tangible variables, such as self-efficacy, study habits, program satisfaction, and enrollment in academically rigorous courses (Powers, 2003). If academic preparation trumps communication and audiological factors in predicting learning (Convertino, Marschark, Sapere, Sarchet, & Zupan, 2009), perhaps researchers and educational administrators should look to the investigation of those intangibles in order to better understand and predict academic outcomes for DHH students. One idea is that subgroups of students adopt different approaches or orientations to studying (Richardson, MacLeod-Gallinger, McKee, & Long, 2000).

(Richardson et al., 2000) administered the Revised Approaches to Studying Inventory (RASI) to deaf and hearing students enrolled in the same mainstream university programs. Overall, deaf students not only were slightly more likely than hearing students to be oriented to the meaning of their course materials (a "meaning" orientation) but also were more likely to

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adopt a surface approach and be oriented simply to reproducing those materials for the purposes of assessment (a “reproducing” orientation). More detailed examination of their responses showed that deaf students were higher in academic anxiety and less likely than hearing students to be able to relate various ideas within a course, a finding consistent with a variety of studies in several cognitive domains (see (Hauser, Lukomski, & Hillman, 2008)(Marschark & Wauters, 2008)(Ottem, 1980) for reviews). They were likely to adopt a more critical approach to studying than their hearing peers and more likely to try to analyze the internal structure of the topics being studied.

(Richardson et al., 2000) cautioned that their findings might not apply to deaf students in separate educational settings, and the research evidence suggests that the same students (whether deaf or hearing) can exhibit different approaches to studying in different situations.

In general, the choice of one approach rather than another depends on students’ perceptions of the content, the context, and the demands of their program. Students who have more positive perceptions of their programs, for example, are more likely to adopt a deep approach to studying and less likely to adopt a surface approach to studying (Richardson, 2007).

Richardson, Barnes, and Fleming (2004) repeated the study by (Richardson et al., 2000) with DHH and hearing students enrolled in mainstream university programs in the United Kingdom. They found that DHH and hearing students did not differ in their likelihood of adopting a meaning orientation to studying, although the deaf students—and especially those who relied on sign language—showed a greater likelihood of adopting a reproducing orientation.

Methodology:

The study examines educational challenges in terms of deaf and hearing loss students' perceptions of academic, and psychosocial challenges, availability of educational environment support, and cooperation of educational administration. A descriptive analytical approach is used in the study, using Statistical Package for the Social Sciences (SPSS).

The Researcher sent an official letter to AL Rafi’e school that is located in Gaza city, to facilitate data collection process, for those DHL individuals who are enrolled in the 11th class within the year 2012- 2013 (that there is no 12th class till now). The study is applied to (128 deaf and hearing loss students) all of them attending classes 11th grade in 2013. The students read an informed letter about the purpose and the objectives of the questionnaire, and the client's name will be anonymous and confidential.

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Studying sample: All DHL students (128 deaf students) in 11th class in AL Rafi'e school –Gaza 2013.

Participants:

Participation in the study was open to all DHL students who are enrolled in the 11th class in AL Rafi'e School (128students). A practical means of enabling the data collection and processing the components of the research is to be carried out with ensuring that the sample provide a good representation of the population. The calculated sample size was all the target population. The targeted population are (99DHL students). To ensure good representation of each stratum, the percent of valid respondents to No. of distributed questionnaires was 99.

The researcher gathered information through visiting the AL Rafi'e school then distributed questionnaires (to students) with an informed letter about the purpose and the objectives of the questionnaire. Four sign language interpreters facilitated gathering information process, and it was cleared that the student's name will be anonymous and confidential. By using the SPSS program it showed the following results in the table:

Table (1)
distribution of the study sample

Group		N
Gender	Male	29
	Female	99
Degree of hearing loss	simple	22
	average	44
	hard	31
	Extremely hard	31
Preferred language of communication	manual method	37
	spoken language	9
	comprehensive communication	47
	bilingual	35
Use the headset	Use	92
	do not use	36
Educational level of the father	Primary	47
	Secondary	40
	University	41
Educational level of the	Primary	60

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mother	Secondary	44
	University	24
The level of family income in NIS	2000 and less	86
	(2000 - 3000)	32
	3000 and more	10
Total	Total	128

Tool of the study:

The researcher believes that the most suitable tool for achieving the purposes of the study is conducting a content analysis card for collecting, describing and analyzing data for examining DHL educational challenges. It is worth mentioning that a modified content analysis card instrument developed by the researcher and refereed by a panel of experts for use to carry out the study. The researcher modified his model benefiting from the previous studies, literature review, theoretical framework and the international standard models. To gain consensus from the panel of experts (working in the field). The Questionnaire has been constructed based on two resources the first after reviewed Brant and Liversidge's Questionnaires, Liversidge (2003), and Brant et al. (2007) modified by the researcher, and the second the feedback from other respondents working with DHL students in Gaza.

To achieve the goals of the study, a questionnaire was used and contained (5) fields in (25) items show the degree of approval of the paragraphs, according to measure five staging determines the degree of influence (great, medium ,and small educational challenges), and so given grades (3, 2, 1), respectively, making sure of the validity and reliability of the tool.

The researcher used two types of validity:

1. The referee validity:

The questionnaire was introduced to a committee of (9) specialized persons, then the items of the questionnaire were modified according to their recommendations.

2. The internal consistency validity:

The researchers used (Pearson Correlation Coefficient), as shown in the following table:

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Table (2) Pearson Correlation Coefficient for the total questionnaire

	Pearson Correlation Coefficient for the total questionnaire
Total questionnaire	0.847

The above table (2), shows Correlation Coefficient for the total questionnaire, and it can be noted that Correlation Coefficient are significant at 0.01, so this confirms that the questionnaire is consistent and valid to measure what it was set for.

The researcher used two types of Reliability:

1. The Alpha-Cronbach Method:

The researchers use Alpha-Cronbach Method to measure the Correlation Coefficient for the total questionnaire, as shown in the following table:

**Table (3) Correlation Coefficient for the total questionnaire
By the Alpha-Cronbach Method**

	Correlation Coefficient By the Alpha-Cronbach Method
Total questionnaire	0.830

The above table (3), shows Correlation Coefficient for the total questionnaire, by Alpha-Cronbach Method. It can be noted that Correlation Coefficient are high values, so this confirms that the questionnaire is reliable.

2. The Split-Half Method:

The researchers use Split-Half Method to measure the Correlation Coefficient for the total questionnaire, as shown in the following table:

**Table (4) Correlation Coefficient for the total questionnaire
By the Spilt-Half Method**

	Correlation Coefficient By the Spilt-Half Method	
Total questionnaire	Before Modification	After Modification
	0.725	0.841

The above table (4), shows Correlation Coefficient for the total questionnaire, by Split-Half Method. It can be noted that Correlation Coefficient are high values, so this confirms that the questionnaire is reliable.

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The researchers used applications from the Statistical Package for the Social Sciences (SPSS) to treat the data. The following statistical treatments were used:

To find the internal consistency validity:

- Pearson correlation coefficient was used.
To find the reliability correlation coefficient:
- Alpha Cronbach correlation coefficient was used.
- Correlation coefficient by Split Half was used.

To find significant differences:

- T-Test was used.
- One-Way ANOVA was used.
- Scheffe test was used.

Types and sources of data:

Researchers attempts the two types of data:

1. Primary data: through the (questionnaire), to determine the average of educational challenges faced by the deaf students in secondary schools.
2. Secondary data: through access to previous studies that provided in this area, which are related to the subject of the study.

The results of the study were statistically treated in addition to the analysis of the results in light of the questions of the study.

The results of the first question:

What is the average of educational challenges faced by the deaf students in secondary schools?

To answer this question, the means and standard deviations and the relative weight have been used, as shown in the following table:

Table (5) Means and standard deviations and the relative weight of the Fields of the questionnaire

n	Field	Means	standard deviations	relative weight	Ranking
1	Academic challenges	2.676	0.400	89.193	3
2	Psycho- social Challenges	2.332	0.544	77.734	4
3	The availability of support services	2.918	0.257	97.266	1
4	Cooperation of educational administration and teachers	2.871	0.253	95.703	2
		2.773	0.214	92.448	

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The results show that:

- The average of educational challenges faced by the deaf students in secondary schools came with relative weight (92.448), and the degree of (great challenges).
- Field (the availability of support services) came with relative weight (97.266), and the degree of (great challenges).
- Field (psycho- social Challenges), came with relative weight (77.734), and the degree of (great challenges).

The above results agree with a result titled “Challenges of Educating Students who are Deaf and Hard-Of-Hearing in Jordan “ done by El-Zraigat, and Smadi (2012), and with a study done by (Wareham, Clark, & Turner, 2006), regarding the development of an inclusive curriculum for students with hearing impairments. They also agree with other results from more than two dozen experiments have been highly consistent and can be easily summarized: (a) DHH college students generally come into and leave the mainstream classroom with less content knowledge than their hearing peers; (b) indicate that DHH students learn less in that setting than their hearing peers; (c) instruction via sign language generally does not lead to better performance than the same information communicated via text, and, when there are differences, it is text that shows an advantage(Richardson et al., 2010). More recent experiments have yielded different results when the instructors were experienced teachers of DHL college students rather than mainstream teachers who normally teach hearing students(Richardson et al., 2010).

Table (6)Means and standard deviations and the relative weight of the first field of the questionnaire

n	Field	Means	standard deviations	relative weight	Ranking
1	The deaf inability in reading proficiency.	2.758	0.465	91.927	1
2	The deaf inability in writing proficiency.	2.641	0.543	88.021	2
3	Lack of mastering the mathematical skills.	2.320	0.742	77.344	5
4	Lack of proficiency in sign language.	2.227	0.898	74.219	6
5	Inability in reading lips	2.336	0.643	77.865	4
6	The impact of hearing loss in education success	2.594	0.524	86.458	3
		2.676	0.400	89.193	

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The results show that:

- The average of educational challenges faced by the deaf students in secondary schools in the first field came with relative weight (89.193) and the degree of (great challenges).

Top paragraph:

- Paragraph (The deaf inability in reading proficiency), came with relative weight (91.927), and the degree of (great challenges).

Minimum paragraph:

- Paragraph (Lack of proficiency in sign language), came with relative weight (74.219), and the degree of (medium challenge).

It is worth mentioning that (Goldin-Meadow & Mayberry, 2001) in their paper about how do profoundly deaf learn to read, mentioned that reading requires two related, but separable capabilities (1) familiarity with a language, and(2) understanding the mapping between language and printed word (Goldin-Meadow & Mayberry, 2001).

It means that in both count the profound deaf are disadvantaged. But regarding the minimum paragraph “proficiency in sign language” as I know all deaf and hard of hearing students are familiar and proficiency in sign language since they were 10 years old.

Table (7) Means and standard deviations and the relative weight of the second field of the questionnaire

n	paragraph	Means	standard deviations	relative weight	Ranking
1	Weakness in the interaction with colleagues.	2.320	0.720	77.344	4
2	Lack of participation in educational activities.	1.914	0.699	63.802	5
3	Difficulty in self-expression.	2.422	0.583	80.729	1
4	Difficulty in self actualization	2.391	0.806	79.688	3
5	Difficulty in building relation with others	2.344	0.692	78.125	2
		2.332	0.544	77.734	

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The results show that:

- The average of educational challenges faced by the deaf students in secondary schools in the second field came with relative weight (77.734), and the degree of (great challenges)

Top paragraph:

- Paragraph (Difficulty in self-expression), came with relative weight (80.729), and the degree of (great challenges).

Minimum paragraph:

- Paragraph (Lack of participation in educational activities), came with relative weight (63.802), and the degree of (medium challenge).
- These findings are similar to others reported in studies on social participation and quality of life for adolescents who use hearing aids, social skills and participation. Parents indicated relatively positive outcomes for their children. However, the qualitative findings revealed that the area of their children's social skills and participation remained a concern for most parents, who were aware of their children's difficulties in groups and how those difficulties affected their social inclusion. In addition, findings from both the quantitative and qualitative teacher data indicate less than optimal social outcomes. Social participation and emotional wellbeing became more problematic for some children as they reached adolescence and appeared to struggle with issues around being deaf, feeling self-conscious (Punch & Hyde, 2010).

Table (8) Means and standard deviations and the relative weight of the third field of the questionnaire

n	paragraph	Means	standard deviations	relative weight	Ranking
1	Inadequate attention to provide a sign language interpreter to translate the lectures.	2.914	0.356	97.135	5
2	Inadequate attention to provide services suppliers (academic advisor - a psychologist - a social worker)	2.750	0.502	91.667	6
3	Inadequate attention to provide assistive technology (computer or sound amplification equipment)	2.945	0.260	98.177	3
4	Inadequate attention to provide adapted curriculum	2.984	0.125	99.479	1

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5	Inadequate attention to provide written instructions for each subject and teachers' instructions for exams	2.969	0.215	98.958	2
6	Inadequate construction of written exams	2.922	0.297	97.396	4
		2.918	0.257	97.266	

The results show that:

- The average of educational challenges faced by the deaf students in secondary schools in the third field came with relative weight (97.266) and the degree of (great challenges).

Top paragraph:

- Paragraph (Inadequate attention to provide adapted curriculum), came with relative weight (99.479), and the degree of (great challenges).

Minimum paragraph:

- Paragraph (Inadequate attention to provide services suppliers (academic advisor - a psychologist - a social worker)), came with relative weight (91.667), and the degree of (great challenges).

The result agrees with a research result titled "Challenges of Educating Students Who are Deaf and Hard-Of-Hearing in Jordan" done by (I El-Zraigat & Smadi, 2012)., and it clear that we need to adopt, and adapt regular curricula for deaf students.

Table (9) Means and standard deviations and the relative weight of the fourth field of the questionnaire

n	paragraph	Means	standard deviations	relative weight	Ranking
1	Teachers' Failure to understand the special needs of the deaf	2.891	0.338	96.354	2
2	Low teachers' expectations about the abilities of the deaf	2.742	0.474	91.406	7
3	Lack of Teacher's cooperation with the deaf	2.805	0.487	93.490	5
4	Deficiencies in the appropriate	2.945	0.260	98.177	1

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	curriculum for the deaf				
5	Low teachers' use to the appropriate methods of teaching	2.781	0.468	92.708	6
6	Low teacher use of the appropriate educational aids	2.578	0.780	85.938	8
7	Deficiencies in improve capacity building for teachers	2.883	0.389	96.094	3
8	Inadequate communication between educational administration and students	2.852	0.378	95.052	4
		2.871	0.253	95.703	

The results show that:

- The average of educational challenges faced by the deaf students in secondary schools in the fourth field came with relative weight (95.703), and the degree of (great challenges).

Top paragraph:

- Paragraph (Deficiencies in the appropriate curriculum for the deaf), came with relative weight (98.177), and the degree of (great challenges).

Minimum paragraph:

- Paragraph (Low teacher use of the appropriate educational aids), came with relative weight (85.938), and the degree of (great challenges).

The result agrees with a research result titled "Challenges of Educating Students who are Deaf and Hard-Of-Hearing in Jordan " done by (I El-Zraigat & Smadi, 2012). I see we need to gap the lack of appropriate in-service training needed for working with deaf students.

The results of the second question:

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The second question is stated as follows:

Are there statistically significant different at the level of significance ($\alpha \leq 0.05$) in the average of educational challenges faced by the deaf students in secondary schools due to the variable gender (Male, Female)?

This question was formulated as the following hypothesis:

There are statistically significant different at the level of significance ($\alpha \leq 0.05$) in the average of educational challenges faced by the deaf students in secondary schools due to the variable gender (Male, Female).

To answer this question and examine this hypothesis, independent samples (T-Test) were used to measure the significant differences, as shown in the following table:

Table (10) Means, Standard Deviations, value of "T", value of "Sig.", significance level, due to the variable Gender

N	Field	Gender	N	Means	Standard Deviation	T	Sig.	Significance Level
1	Academic challenges	Male	29	2.966	0.129	4.809	0.000	Significant At ($\alpha \leq 0.05$)
		Female	99	2.591	0.413			
2	psycho- social Challenges	Male	29	1.862	0.399	-5.962	0.000	Significant At ($\alpha \leq 0.05$)
		Female	99	2.470	0.504			
3	the availability of support services	Male	29	2.948	0.205	0.721	0.472	No Significant At ($\alpha \leq 0.05$)
		Female	99	2.909	0.271			
4	Cooperation of educational administration and teachers	Male	29	2.638	0.324	-6.497	0.000	Significant At ($\alpha \leq 0.05$)
		Female	99	2.939	0.179			
		Male	29	2.802	0.169	0.809	0.420	No Significant At ($\alpha \leq 0.05$)
		Female	99	2.765	0.225			

Table "T" value at (127) degrees of freedom at (0.05) at significant level = (1.980)

Table "T" value at (127) degrees of freedom at (0.01) at significant level = (2.617)

The previous results showed that the calculated "T" value is smaller than the table "T" value, and the value (sig.) = 0.000 which is more than the level of significance ($\alpha \leq 0.05$).

So these results indicate that there are no statistical significant differences at the level of significance ($\alpha \leq 0.05$) in the average of educational challenges faced by the deaf students in secondary schools due to the variable Gender.

But in the fields number (One, Two): there are statistical significant differences at the level of significance ($\alpha \leq 0.05$) in the average of educational challenges faced by the deaf students in secondary schools due to the variable Gender, (in favor of Female).

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And in the field number (Four): there are statistical significant differences at the level of significance ($\alpha \leq 0.05$) in the average of educational challenges faced by the deaf students in secondary schools due to the variable Gender, (in favor of Male).

The results of the third question:

Are there statistically significant different at the level of significance ($\alpha \leq 0.05$) in the average of educational challenges faced by the deaf students in secondary schools due to the variable degree of hearing loss (simple, average, hard, Extremely hard)?

This question was formulated as the following hypothesis:

There are statistically significant different at the level of significance ($\alpha \leq 0.05$) in the average of educational challenges faced by the deaf students in secondary schools due to the variable degree of hearing loss (simple, average, hard, Extremely hard).

To answer this question and examine this hypothesis, (One-Way ANOVA) was used to measure the significant differences, as shown in the following table:

Table (11) Sum of Square, D. of Freedom, Av. Of Square, value of "F", value of "Sig.", significance level, due to the variable degree of hearing loss

n	Field	Group	Sum of Square	D. of Freedom	Av. Of Square	F	Sig.	Significance Level
1	Academic challenges	Between group	2.592	3	0.864	6.052	0.001	Significant at ($\alpha \leq 0.05$)
		Out group	17.703	124	0.143			
		Total	20.295	127				
2	Psycho- social Challenges	Between group	3.147	3	1.049	3.772	0.012	Significant at ($\alpha \leq 0.05$)
		Out group	34.491	124	0.278			
		Total	37.639	127				
3	The availability of support services	Between group	0.269	3	0.090	1.368	0.256	No significant at ($\alpha \leq 0.05$)
		Out group	8.120	124	0.065			
		Total	8.389	127				
4	Cooperation of educational administration and teachers	Between group	1.309	3	0.436	7.940	0.000	Significant at ($\alpha \leq 0.05$)
		Out group	6.814	124	0.055			
		Total	8.123	127				
		Between group	0.067	3	0.022	0.485	0.693	No significant at ($\alpha \leq 0.05$)
		Out group	5.737	124	0.046			
		Total	5.805	127				

Table "F" value at (3, 124) degrees of freedom at (0.05) at significant level = (2.680)

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Table "F" value at (3, 124) degrees of freedom at (0.01) at significant level = (3.950)

The previous results showed that the calculated "F" value is smaller than the table "F" value, and the value (sig.) = 0.000 which is more than the level of significance ($\alpha \leq 0.05$).

So these results indicate that there is no statistical significant differences at the level of significance ($\alpha \leq 0.05$) in the average of educational challenges faced by the deaf students in secondary schools due to the variable degree of hearing loss.

But in the fields number (One, Tow, Four) there are statistical significant differences at the level of significance ($\alpha \leq 0.05$) in the average of educational challenges faced by the deaf students in secondary schools due to the variable Degree of hearing loss.

To calculate the significant differences we used (Scheffe test), as shown in the following tables:

Table (12) significant differences by Scheffe test, in the field number one

Degree of hearing loss	simple	average	hard	extremely hard
simple	1			
average	0.193	1		
hard	0.027	-0.166	1	
extremely hard	-0.183	-0.376*	-0.230	1

The previous results showed that there are significant differences between the group (average) and the group (extremely hard) in favor of the group (extremely hard).

The above result matches a study done by (I. El-Zraigat, 2009). He said that, the process of educating students who are deaf and hard-of-hearing are affected by different factors like attitudes, qualified and skilled teachers, quality of services offered to schools and families, acoustic environment, family environment, type and degree of hearing loss, language and speech abilities, and the existence of additional disabilities (I. El-Zraigat, 2009).

The results of the fourth question:

Are there statistically significant different at the level of significance ($\alpha \leq 0.05$) in the average of educational challenges faced by the deaf students in secondary schools due to the variable Preferred language of communication (manual method, spoken language, comprehensive communication, bilingual)?

To answer this question and examine this hypothesis, (One-Way ANOVA) was used to measure the significant differences, as shown in table:

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Table (13) Sum of Square, D. of Freedom, Av. Of Square, value of "F", value of "Sig.", significance level, due to the variable Preferred Language of Communication

n	Field	Group	Sum of Square	D. of Freedom	Av. Of Square	F	Sig.	Significance Level
1	Academic challenges	Between group	0.956	3	0.319	2.043	0.111	No significant at ($\alpha \leq 0.05$)
		Out group	19.339	124	0.156			
		Total	20.295	127				
2	Psycho-social Challenges	Between group	2.948	3	0.983	3.513	0.017	Significant at ($\alpha \leq 0.05$)
		Out group	34.690	124	0.280			
		Total	37.639	127				
3	The availability of support services	Between group	0.646	3	0.215	3.446	0.019	Significant at ($\alpha \leq 0.05$)
		Out group	7.743	124	0.062			
		Total	8.389	127				
4	Cooperation of educational administration and teachers	Between group	0.446	3	0.149	2.403	0.071	No Significant at ($\alpha \leq 0.05$)
		Out group	7.677	124	0.062			
		Total	8.123	127				
		Between group	0.486	3	0.162	3.781	0.012	Significant at ($\alpha \leq 0.05$)
		Out group	5.318	124	0.043			
		Total	5.805	127				

Table "F" value at (3, 124) degrees of freedom at (0.05) at significant level = (2.680)

Table "F" value at (3, 124) degrees of freedom at (0.01) at significant level = (3.950)

The previous results showed that the calculated "F" value is more than the table "F" value, and the value (sig.) = 0.000 which is smaller than the level of significance ($\alpha \leq 0.05$).

So these results indicate that there is statistical significant differences at the level of significance ($\alpha \leq 0.05$) in the average of educational challenges faced by the deaf students in secondary schools due to the variable Preferred language of communication.

And in the fields number (Two, Three) there are statistical significant differences at the level of significance ($\alpha \leq 0.05$) in the average of educational challenges faced by the deaf students in secondary schools due to the variable Preferred Language of Communication.

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Table (14) significant differences by Scheffe test.

Preferred language of communication	manual method	spoken language	comprehensive communication	bilingual
manual method	1			
spoken language	0.221	1		
comprehensive communication	-0.010	-0.231	1	
bilingual	0.068	-0.152	0.078	1

The previous results showed that there are significant differences between the group (manual method) and the group (spoken language) in favor of the group (manual method), and there are significant differences between the group (spoken language) and the group (comprehensive communication) in favor of the group (comprehensive communication).

Table (15) significant differences by Scheffe test,

Preferred language of communication	manual method	spoken language	comprehensive communication	bilingual
manual method	1			
spoken language	0.062	1		
comprehensive communication	-0.237	-0.299	1	
bilingual	0.127	-0.065	0.364	1

The previous results showed that there are significant differences between the group (comprehensive communication) and the group (bilingual) in favor of the group (comprehensive communication).

Table (16) significant differences by Scheffe test,

Preferred language of communication	manual method	spoken language	comprehensive communication	bilingual
manual method	1			
spoken language	0.252	1		
comprehensive communication	-0.039	-0.291	1	
bilingual	-0.010	-0.262	0.029	1

The previous results showed that there are significant differences between the group (spoken language) and the group (comprehensive communication) in favor of the group (comprehensive communication).

The results showed in tables (14-15-16) are strongly related to a study done by Long and colleagues (1991) who found that deaf adolescents' perceptions of their ease of communication in the classroom were a significant predictor of both achievement test scores and grades. However,

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the results differ with Holt (1994) who found no differences in Stanford Achievement Test Mathematics Computation scores between deaf students who relied on spoken language and those who relied on sign language interpreters in mainstream classrooms. Both groups scored higher than students in nonintegrated classrooms in which teachers signed for themselves. More recent investigations, however, have indicated that experienced teachers of the deaf signing for themselves do not facilitate learning to any greater extent than when they utilize sign language interpreters, regardless of whether the teachers are hearing or deaf (Richardson et al., 2010).

Discussion, conclusion and recommendations

The researcher will point out the main results of the study and will discuss its implications then display the suggested recommendations.

Findings of the study as shown in Table (5) revealed that the average of educational challenges faced by DHL students in secondary school came with total relative weight (92.448) which is considered a great challenge. The above results agree with research titled "Challenges of Education Students who are Deaf and Hard-Of-Hearing in Jordan" done by (I El-Zraigat & Smadi, 2012), and with a study done by (Wareham et al., 2006), regarding development an inclusive curriculum for students with hearing impairments. They also agree with other results from more than two dozen experiments have been highly consistent and can be easily summarized: (a) DHL college students generally come into and leave the mainstream classroom with less content knowledge than their hearing peers; (b) DHL students learn less in that setting than their hearing peers; (c) instruction via sign language generally does not lead to better performance than the same information communicated via text, and, when there are differences, it is text that shows an advantage (Richardson et al., 2010). More recent experiments have yielded different results when the instructors were experienced teachers of DHL college students rather than mainstream teachers who normally teach hearing students (Richardson et al., 2010).

Findings of the study as shown in Table (5) also show that the relative weight of "availability of support services" is (97.266) which is very great. I think, because the teacher works as a teacher, and as a sign language interpreter at the same time there will be inadequate attention from DHL student to the lecture. Also there are no supporting services like social worker nor psychologist or other technical aids. In addition to the "Inadequate attention to provide adapted curriculum", which came with relative weight (99.479), it is considered the greater challenges. Also the study result agrees with a research result titled "Challenges of Educating

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Students who are Deaf and Hard-Of-Hearing in Jordan “ (I El-Zraigat & Smadi, 2012). I see we need to adopt and adapt regular curricula for deaf student.

Also the Second finding of the study as shown in Table (5) is that the second field of educational challenges faced by the DHL students in the questionnaire "Cooperation of educational administration and teachers " came with relative weight (95.703), with a degree of (great challenges). The Paragraph of "Inadequate attention to provide adapted curriculum" came with relative weight (99.479), it is considered (great challenges). So we need to understand more the special educational need for DHL students, and to develop the capacity building for teachers. Also the result agrees with a research result titled “Challenges of Educating Students who are Deaf and Hard-Of-Hearing in Jordan “ done by (I El-Zraigat & Smadi, 2012). I see we need appropriate in-service training needed for teachers working with DHL students.

The third field of educational challenges faced by the DHL students as shown in Table (5) is:"Academic challenges "with relative weight (89.193) with degree of (great challenges).Where the deaf students inability reading proficiency "came with relative weight (91.927), and is considered (a great challenges).While the (Lack of proficiency in sign language) came with relative weight (74.219), and the degree of (moderate challenge). It is worth mentioning that (Goldin-Meadow & Mayberry, 2001) in their paper about how do profoundly deaf learn to read, mentioned that reading requires two related, but separable capabilities (1) familiarity with a language, and(2) understanding the mapping between language and printed word (Goldin-Meadow & Mayberry, 2001).

It means that in both count the profound deaf are disadvantaged. But regarding the minimum paragraph “proficiency in sign language” as I know all deaf and hard of hearing students are familiar and proficient in sign language since they were 6 years old in the handicapped organizations.

The fourth field of educational challenges faced by the DHL students as shown in Table (5) is:"psycho- social Challenges" with relative weight (77.734), is considered great challenges. While the Paragraph of (Lack of participation in educational activities) came with relative weight (63.802), with degree of (moderate challenge). These findings are similar to others reported in studies on social participation and quality of life for adolescents who use hearing aids, social skills and participation. Parents indicated relatively positive outcomes for their children. However, the qualitative findings revealed that the area of their children’s social skills and participation remained a concern for most parents, who were aware of their

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children's difficulties in groups and how those difficulties affected their social inclusion. In addition, findings from both the quantitative and qualitative teacher data indicate less than optimal social outcomes. Social participation and emotional wellbeing became more problematic for some children as they reached adolescence and appeared to struggle with issues around being deaf, feeling self-conscious (Punch & Hyde, 2010).

The results also indicate that there is statistical significant differences at the level of significance ($\alpha \leq 0.05$) in the average of educational challenges faced by the DHL students in secondary schools due to the variable Preferred Language of Communication. The results showed that there are significant differences between the group (spoken language) and the group (comprehensive communication) in favor of the group (comprehensive communication).

The results showed in tables(14-15-16) are strongly related to a study done by Long and colleagues (1991) who found that deaf adolescents' perceptions of their ease of communication in the classroom were a significant predictor of both achievement test scores and grades. However the results differ with Holt (1994) who found no differences in Stanford Achievement. Test Mathematics Computation scores between deaf students who relied on spoken language and those who relied on sign language interpreters in mainstream classrooms. Both groups scored higher than students in nonintegrated classrooms in which teachers signed for themselves. More recent investigations, however, have indicated that experienced teachers of the deaf signing for themselves do not facilitate learning to any greater extent than when they utilize sign language interpreters, regardless of whether the teachers are hearing or deaf (Richardson et al., 2010).

Conclusions:

The educational challenges faced by deaf students revealed that, deaf students are in a bad need for support services (comprehensive communication interpreter, services, suppliers academic advisor - a psychologist - a social worker), assistive technology (computer or sound amplification equipment ...), written instructions for materials, and suitable formulation of written exams.

On the other hand, regarding the cooperation of educational administration and teachers, the study mentions that curriculum is unfit for deaf students, teachers' need to understand more the special needs of the deaf students, in addition to improve capacity building for teachers, and low teachers use the appropriate methods of teaching, and educational aids.

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In case of academic challenges, the result revealed inability of reading and writing proficiency, and mastering the mathematical skills.

Deaf students are facing psycho- social difficulty in self-expression, relation building, interaction with colleagues, self actualization, and participation in educational activities.

The results indicate that there are no statistical significant differences in the average of educational challenges faced by the deaf students in secondary schools due to the variable Gender.

The results indicate that there is statistical significant differences in the average of educational challenges due to the variable Preferred Language of Communication in favor of the group (comprehensive communication). Also, they show that there are no statistical significant differences due to the variable (use the headset).

Consequently, deaf students need modified academic and support services. Furthermore, facilities must offer curricula that meet their development tasks. Thus, these groups of students must be taught by well trained teachers and receive their education at schools fitted with facilities needed. As previously mentioned, we are in a need for special services support like sign language interpreter- social worker- psychologist- assistive technology and, modified educational curricula. There is low use of appropriate methods of teaching and educational aids, and there is a need to improve teachers capacity building, and students' inadequate ability to read and write proficiently. In addition, there is a difficulty in self-expression, and self verification. All of those issues must be taken into consideration through the education process from kindergarten till higher education.

Based on the findings above, the investigator recommends the following strategies to enhance the process of educating students who are deaf and hard-of-hearing in Gaza: provide the Ministry of Education and other related associations the study findings to cope with educational challenges, through evaluating their basic skills in writing, reading; adjust the instructional process and classroom environment; use assistive hearing devices, and other visual clues and demonstrations in teaching process; help students to develop communication skills; supply students with sufficient time and optimal acoustic environment in order to enable them execute their educational activities; train teachers on area of speech production, curricula adaptation, teaching methods, classroom management, and assessment of deaf and hard-of-hearing students; issue regulations that identify the roles and responsibilities of teachers work with hearing loss students; involve the parents of students with hearing loss in the educational decisions, and offer in-service education for key professionals.

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These findings may help higher education institutions, policy makers, and professionals to identify the accommodations and services needed to enhance the inclusion of deaf students successfully in higher education.

Recommendation:

- 1-** Teachers need special workshops in the field of deaf education in order to improve their teaching performance.
- 2-** Since schools are responsible for the availability of skilled teachers and instructional materials, it must exert more effort in training the teachers, specially through providing access to technology, because it help teachers become innovative and use more effective teaching methods; thus, positively impacting the time spent in learning for both teachers and students.
- 3-** Deaf and hearing loss students are in a bad need to evaluate their basic skills in writing and reading.
- 4-** Deaf and hearing loss students need modified curricula reflecting their special needs as exceptional learners.
- 5-** Using visual clues and demonstrations in teaching process; helping students to develop their communication skills; supplying students with sufficient time and optimal acoustic environment.
- 6-** Designing educational core curriculum for primary, secondary, and postsecondary levels that have a role model component.
- 7-** Implementing Community based programs, which assist deaf or hard of hearing individuals to develop their cultural identities, and social clubs to promote positive social and emotional growth specifically self-identification.
- 8-** Developing and implementing college career success courses for deaf and hard of hearing students which target the exploration and identification of goal attainment.
- 9-** Families must expose deaf and hard hearing children to social events, family outings, and extracurricular activities in an effort promote health and wellness.
- 10-** The effectiveness of facilitated communication is a vital factor that directly influences goal attainment.
- 11-** Support services that are inadequate and do not meet the needs of the individual, have negative impact on learning and success.
- 12-** Deaf or hearing loss students learn best when language and communication are accessible without the need for interpretation by a third party.

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