

Evaluating the Effectiveness of the Enrichment Program in English using Sign Language of Deaf Students

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Abstract: Deaf and hard of hearing students are at disadvantage in standard learning environment resultantly their academic performance is poor as compared to normal peers. The current study evaluated a newly designed English Language Enrichment Program with the help of American Sign Language as the medium of instruction at Community College of the University of Tabuk. In this quantitative experimental study 20 female deaf students were divided randomly, 10 in experimental and 10 in control group. The Enrichment Program was administered to the students in experimental group, however, no Enrichment Program was delivered to the control group. After the program both groups took an assessment test to demonstrate efficiency of ELEP. The results revealed that the academic performance of experimental group significantly improved as compared to that of the control group. The current study provided a framework for future studies to design and implement Enrichment Programs to uplift the learning process among deaf and hard of hearing students.

Keywords: Enrichment Program, Sign Language, Deaf Students.

تقييم فعالية برنامج إثرائي باللغة الإنجليزية باستخدام لغة الإشارة للطلاب الصم

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كلية التربية والآداب || جامعة تبوك || المملكة العربية السعودية

المخلص: يعاني الطلاب الصم وضعاف السمع من مشكلات تعليمية مقارنة بأداء أقرانهم العاديين. الهدف من هذه الدراسة، فاعلية برنامج إثرائي لتحسين اللغة الإنجليزية مقدماً للطلاب الصم وضعاف السمع مستخدماً اللغة الإنجليزية الإشارية. وأثره على التحصيل الدراسي بكلية المجتمع بجامعة تبوك، وتكونت عينة الدراسة من (20) طالبة صماء، وتم تقسيمهن إلى مجموعتين: المجموعة التجريبية (10) طالبات، وهي عينة التطبيق، والمجموعة الثانية الضابطة (10) طالبات. وقد أظهرت النتائج عدم وجود فروق ذات دلالة إحصائية بين المجموعة التجريبية والضابطة قبل تدخل البرنامج، كما أسفرت النتائج عن وجود فروق ذات دلالة إحصائية للاختبار التحصيلي لصالح المجموعة التجريبية، وظهور تحسن في الأداء الأكاديمي لدى الطالبات الصم وضعاف السمع، ويمكن للدراسة أن تقدم حلولاً مستقبلية لعينات أكبر لتحسين الأداء الأكاديمي لفئة الصم وضعاف السمع.

الكلمات المفتاحية: البرنامج الإثرائي، لغة الإشارة، الطلاب الصم.

Introduction

The World Health Organization statistics revealed that there are around 250 million people with hearing problems across the world, and out of these, the number of deaf people is 30 million (Singh, 2015). Furthermore, out of these 30 million only 1% of deaf children are studying in schools (Ahmadi, Abbasi & Bahaadinbeigy, 2015). The figures of the World Federation of the Deaf show that more than 80% of the deaf population across the world is illiterate or have low education (Ahmadi et al., 2015).

Deaf students face myriads of challenges in the educational learning environment. Majority of schools for deaf and hard of hearing students are devoid of essential tools to assist active learning in deaf students (Ferrari, 2016). Deaf and hard of hearing students are those who are unable to hear and lack the primary language skills (English and reading) (Magee, 2014). These students require a specially designed learning environment to enable effective learning. In high stakes accountability learning systems, deaf students are at a disadvantage, yet they are expected to learn and progress in their educational levels alongside normal students who do not have any disability (Zane, 2012). It has been a challenge for educators to formulate an educational program and utilize the tools to mitigate the challenges faced by deaf students and improve their learning skills.

According to a study, deaf children lack prior knowledge, linguistic, and cognitive skills to read properly (Luckner & Handley, 2008). These innate disadvantages act as an obstacle for deaf students to comprehend the content that is provided to them at high schools and colleges. It has been argued that the ability of a student to access academic information and actively participate in learning activities depends on reading fluency and comprehension skills (Gentry, Chinn & Moulton, 2004). However, research has revealed that despite efforts to improve the learning skills of deaf students, there is a consistent gap in the academic performance of deaf students as compared to the normal peers in the same age group (Marschark, Shaver, Nagle & Newman, 2015). It must be noted that the language potential of deaf students and their peers are equal, but the deaf students are slow learners of English language vocabulary that hinders their learning performance (Musyarofa, 2015). A recent study has demonstrated that literacy is the major obstacle for deaf students to make progress in their academic careers (Szymanski, Lutz, Shahan & Gala, 2013).

Deaf community has lower literacy rate. It is attributed to number of factors such as curriculum, learning environment and lower motivation to learn. The major challenge for deaf students is their poor reading comprehension. According to Nikolarazi, Vekiri & Easterbrooks (2013), the lack of comprehension among deaf students makes it harder for the educators to design effective learning program.

England Mental Health Institute reveals that deaf children had 40% more chances of psychological problems as compared to other children (Margaret & Cornes, 2014). Likewise, results from recent research have indicated a significant association between psychological disorder and deafness

among people (Department of Health, 2005). The stunning fact is that only 5% of deaf people with psychological disorders receive mental health care (Ahmadi et al., 2015). Research by Emami (2002) has reported that if hearing disabilities occur during the learning age, it adversely affects the process of learning and cause failure in communication coupled with emotional and psychological distress.

The success in an academic career depends on the reading skills of a student. It also helps in ensuring success in professional life. Unfortunately, deaf students face difficulties in reading (Qi & Mitchell, 2011). In recent years, policymakers and educators have done extensive research to identify the strategies for improving reading outcomes in deaf students. According to the National Early Literacy Panel (NELP), policymakers need to ensure the foundational literacy skills in deaf children before entry into elementary school (Shanahan & Lonigan, 2010).

Marschark et al (2017) demonstrated that deaf students are good at visual learning, but in schools, most of the learning material is delivered through word of mouth. The characteristics of language and structures used for deaf students are different from normal students. Therefore, it is a daunting task for educators to deliver lectures and improve learning outcomes among deaf students effectively.

It has been reported that the use of sign language substantially improves the learning among deaf students as compared to deaf students who do not receive learning instructions in sign language (Allen, Letteri, Choi & Dang, 2014; Allen, 2015; Andrews, Liu, Liu, Gentry & Smith, 2017). It was found that the use of American Sign Language and fingerspelling act as a meaning-making system that facilitates learning in deaf students (Andrews et al., 2017; Stone, Kartheiser, Hauser, Petitto & Allen, 2015). Similarly, sign language could be effectively used by deaf children to communicate with others (Allen, 2015; Andrews, Liu, Gentry, & Smith, 2017). Thus, there is an ample opportunity for educators to formulate a learning strategy with the help of sign language to improve learning outcomes.

Research Problem

In the postsecondary education system, deaf students struggle to achieve the desired academic results. In contemporary educational system, the gap is widened between the academic outcomes of deaf and hard of hearing students and normal students. Employing standardized assessment to evaluate the difference in the academic achievement of hard of hearing students and normal students, Qi & Mitchell (2011) concluded that deaf students failed to make it through the graduation level and their graduation level was lower than other students. There are a number of factors associated with the academic success of deaf students. The most important factor is the provision of learning environment that can improve learning outcomes of the students. In existing educational environment, strategies adopted by educators to teach deaf students are insufficient and lengthy and do not produce any significant progress in the academic achievement of the deaf students.

In schools, deaf students have to learn about various concepts regarding life, environment, and other scientific methods. This requires teachers with efficient skills in American Sign Language who can effectively communicate with students in the classroom (Berge & Thomassen, 2015). Moreover, teachers need to ensure textbooks and learning materials are easily accessible to deaf students. To summarize, there are several challenges that cripple the learning process of deaf and hard of hearing students and, consequently, affecting their academic performance leading to poor literacy.

Research Question

The current study is aimed to address the following research questions:

- 1- Does the average scores of experimental and control group students differ in the pre- Enrichment Program stage?
- 2- Is there any improvement in the scores of experimental group after the Enrichment program?
- 3- Are there any statistically significant differences between the average scores of the achievement test of the experimental group in the pretest and post-test measurements one month after the end of the English Language Enrichment Program (ELEP)?

Aim of the Study

The aim of this study is to evaluate the effectiveness of the (ELEP) using American Sign Language on the academic performance of deaf students. In general, the study aims at investigating the process of learning among deaf students and ways to improve their reading and writing skills in English.

Literature Review

Overview

It has been reported that the provision of education of children with disabilities with the help of specially design educational programs is a daunting task (Ware, Butler, Robertson, O'Donnell & Gould, 2011). The issue of delivering quality education to deaf students is more challenging due to their complex needs (Farooq, 2012). Integration of interpreter services at the schools that utilize sign language can cover up the hearing loss of deaf students and deliver quality education (Kuenburg, Fellingner & Fellingner, 2016). In the contemporary environment, special schools are generally viewed as a restrictive educational setting (Powers, Bierman & Coffman, 2016). However, at special schools for deaf children, most of communication takes place with the help of visually accessible tools, for instance, sign language. Therefore, sign language is an effective tool to deliver quality education to deaf students.

Prevalence of Deaf and Hard of Hearing Students in Saudi Arabia

Current data on school-age disabled students in Saudi Arabia is limited. It is estimated that the number of students with special needs in Saudi Arabia is around 665000 students (Battal, 2016). There has been a significant progress in the educational services of special students in Saudi Arabia and the number of students admitted to special schools has been increasing. Despite the fact that special education is growing at an unprecedented pace in Saudi Arabia, more effort is required to bridge the gap between the academic achievement of deaf and normal students. One way to achieve this is to expand networks of special education schools to all the geographic areas of the country (Battal, 2016). Moreover, there is still a need to improve the content of teaching and to modify teaching methodologies to cater for the needs of deaf and hard of hearing students. In 2015, the Saudi Ministry of Education launched an initiative of Comprehensive learning to streamline education of all the students in schools (Battal, 2016). This initiative entailed the inclusion of disabled students in regular schools. However, teaching Deaf and hard of hearing students at regular schools proved to be a daunting task due to the challenges these students face. Deaf and hard of hearing students still lag behind normal students in academic achievement. This raises the need to bridge the academic achievement gap among deaf students and normal students. Thus, improvement can only be minimized by adopting unique teaching practices to improve the learning experience and enhance the participation of deaf and hard of hearing students in learning activities (Marshall, Carrano & Dannels, 2016). Besides that, the attitude of the teacher to deliver a specially designed intervention to the deaf students is also critical to improve their learning process at the regular schools.

American Sign Language

Sign Language is not only limited to specific hand movements, but it involves numerous gestures as well as non-spoken words to convey ideas and thoughts (Jantzen, 2011). Studies have revealed a strong association between the use of sign language with the help of gesturing and improvement in language development (Behne, Carpenter, & Tomasello, 2014; Stanfield, Williamson & Özçalışkan, 2014). One another study has reported that gesturing is a vital component of language learning (Foraker et al., 2011). It has been defined as the movement of hands that conveys the ideas of the speaker to the audience (Behne et al., 2014). Therefore, it can be argued sign language is an effective way to communicate and deliver learning instructions to the deaf and hard of hearing students in the classrooms. In the United States, American Sign Language is most commonly used (Mejia-Menendez, 2016). It has distinct features as compared to other sign languages. In American Sign Language, various signs are used with the help of hands movements (Goldin-Meadow & Brentari, 2017). These signs are a way of communication with the deaf and hard of hearing students (Goldin-Meadow & Brentari, 2017). Besides that, this language also

uses various gestures to deliver grammatical expressions, morphological, phonological and syntactical structures.

Sign Language and Classroom Culture

Several studies have reported the beneficial impact of using sign language to establish a supportive classroom culture in deaf schools (Brereton, 2010; Daniels, 2004). Daniels (2004) investigated the impact of sign language on improving English vocabulary in Kindergarten students. It was found that the learning experience of students who received an English vocabulary course using sign language was significantly improved, and signing was regarded as an important classroom management strategy (Ibid). Similarly, Rudner et al. (2015) concluded that the use of sign language in the classroom substantially improved the communication between the teachers and the students.

Sign language can also be utilized as an effective strategy to develop a positive classroom culture. In a study conducted by Brereton (2010), it was demonstrated that the use of sign language in inclusive classrooms for deaf and hard of hearing students of 4 to 12 years of age have shown positive impacts. Sign language helped create an inclusive environment in the classrooms and promoted diversity in the lecture to the students (Brereton, 2010). Research findings by Kushalnagar et al (2010) supported the argument that integration of sign language in special education schools for deaf and hard of hearing students improved their learning process. Sign language can also be used as an effective management technique to manage the classes for deaf students. A study by Van Staden (2013) evaluated the effectiveness of sign language as a technique of redirection. It was found that who utilized sign language are more able to redirect students while delivering learning instructions to another student. Moreover, the use of sign language can enable both the teachers and the students to effectively communicate in a positive environment without disrupting the learning process (Brereton, 2010).

Sign Language and Learning Memory

Sign language has a vital tool to improve the learning process among students. Downing et al (2007) found that sign language substantially improves the short-term memory of students. In this study, the researchers divided students into control and experimental group. In the control group, the researchers read a story without using any kind of sign language to the students. In the experimental group, the same story was repeated with the help of sign language in addition to the use of adjectives. It was found that the experimental group was able to remember adjectives and story as compared to the control group (Downing et al., 2007). It was shown that sign language has improved the short-term memory of the students. Furthermore, it was also found that the use of intonation and dramatic signs could also improve the short-term memory of preschool children (Downing et al., 2007). Thus the use of sign language can uplift the learning process of deaf and hard of hearing students.

Another study evaluated the association of gestures and memory (Stanfield et al., 2014). It was argued that the use of gestures facilitated the acquisition of new vocabulary. Furthermore, the use of iconic gestures is associated with the meaning of objects (Stanfield, 2014). These findings supported the assumption that children produce iconic gestures at the time of showing their comprehension of speech (Stanfield, 2014). In a study by Besson et al (2011), it was shown that there is a connection between sign language and muscle memory of children that help improve the learning process. These studies suggest that the use of sign language improves the learning process among deaf and hard of hearing students.

Methodology

Study Design

The current study adopted a quantitative experimental study design. Two groups were selected, one control group and the other was an experimental group. In this study, the independent variable was manipulated; for instance, the experimental group was offered an English Language Enrichment Program using American Sign Language. The control group was not offered the Enrichment Program. In this way, this study compared the effectiveness of ELEP on the academic performance of the study participants.

Study Participants

The current study included 20 deaf female students from the Computer Science Department at the Community College of Tabuk University. Students were divided into control groups and experimental groups (10 in the control group and 10 in the experimental group). Participants were randomized in the control and experimental group. There was no bias in selecting any particular participant in either the control or experimental group.

Student Duration

The study was conducted over a period of one month and one week. During this time, the English Language Enrichment Program using American Sign Language was delivered to the experimental group in 25 sessions. Besides that, in one week, five special sessions were conducted in a sequence of "opening-closing – sequential." Each session of the first week lasted for one and a half hour in which the participants' were given tasks with the aim to enhance their sign language. The participants were continuously reinforced to uplift their motivation during the sessions. In this way, the study ensured that all the participants remained motivated and actively participated in the sessions.

Data Collection

After successful completion of the Enrichment Program, the participants of both the experimental and control group were directed to take an assessment test. This was done to measure the effect of the

Enrichment Program on deaf students. The assessment test is provided in Appendix (A). After completion of the assessment test, researchers started marking of students' answers to reveal the learning pattern among deaf students after the Enrichment Program.

Data Analysis

The result of the assessment of all the participants included in the control and experimental group was evaluated on SPSS. The assessment results were entered into SPSS (version 20), and different statistical tests were applied. The marks of participants in the control group were compared to the marks of participants in the experimental group. The statistical tests such as the Mann-Whitney test and Wilcoxon test were applied to review any significant differences in the average scores of two groups. Mann-Whitney U test compares the outcomes of different interventions in the same population keeping the dependent variable as ordinal (KunhiMohammed & Binti, 2012). In this test, the scores of the two samples are compared and ranked. The Wilcoxon Sign Test is also a non-parametric test that shows the rank of two dependent samples is zero. The findings of these tests are presented in the results section below.

Results

Initially, the scores of the control group and experimental group were compared prior to administering the English Language Enrichment Program with the help of American Sign Language. The scores are presented in Table (1) below:

Table (1) Results of Mann-Whitney Test for the differences between experimental and control groups prior to Enrichment Program

| Groups | Number of Participants | Degrees Average Score | Total of Degrees | U | Z | Level of Indicator |
|--------------------|------------------------|-----------------------|------------------|----|--------|--------------------|
| Experimental Group | 10 | 12.5 | 100 | 33 | -2.368 | Not Significant |
| Control Group | 10 | 8.8 | 88 | | | |

The findings show no statistical difference (0.01) in the scores of the two groups, which shows that the academic achievement level of both the control and experimental group is the same prior to delivering the ELEP with the help of American Sign Language.

The Mann-Whitney Test was also performed to examine the differences in Pre-test and Post-test results of the experimental group immediately after the delivery of the ELEP to demonstrate any change in the scores of the group participants. The findings of the Mann-Whitney test are represented in Table 2 below:

Table (2) Results of Mann-Whitney Test for the differences in Pre-test and Post-test of the experimental group

| Groups | Number of Participants | Degrees Average Score | Total of Degrees | U | Z | Level of Indicator |
|--------------------------------|------------------------|-----------------------|------------------|---|-------|--------------------|
| Experimental Group (Pre-test) | 10 | 12.5 | 100 | 0 | 3.368 | Significant |
| Experimental Group (Post-test) | 10 | 4.8 | 35 | | | |

Then one month after the delivery of the ELEP using American Sign Language, an assessment was conducted to review any significant difference in the academic scores of the experimental group. The findings of Wilcoxon Sign Test of the assessment after Enrichment Program are given below in Table 3:

Table (3) Results of Wilcoxon Sign Test Prior to Enrichment Program

| Groups | Number of Participants | Degrees Average Score | Total of Degrees | Z | Level of Indicator |
|-----------------------------------|------------------------|-----------------------|------------------|-------|--------------------|
| Experimental Group (post-test) | 10 | 2.76 | 5.6 | 0.642 | Not Significant |
| Experimental Group (tracing test) | 10 | 3.27 | 9.6 | | |

It is clear from the previous table that there is no statistical difference between the post-test and tracing measures of the scores of experimental group in the achievement test and this suggests a continued effect of the ELEP.

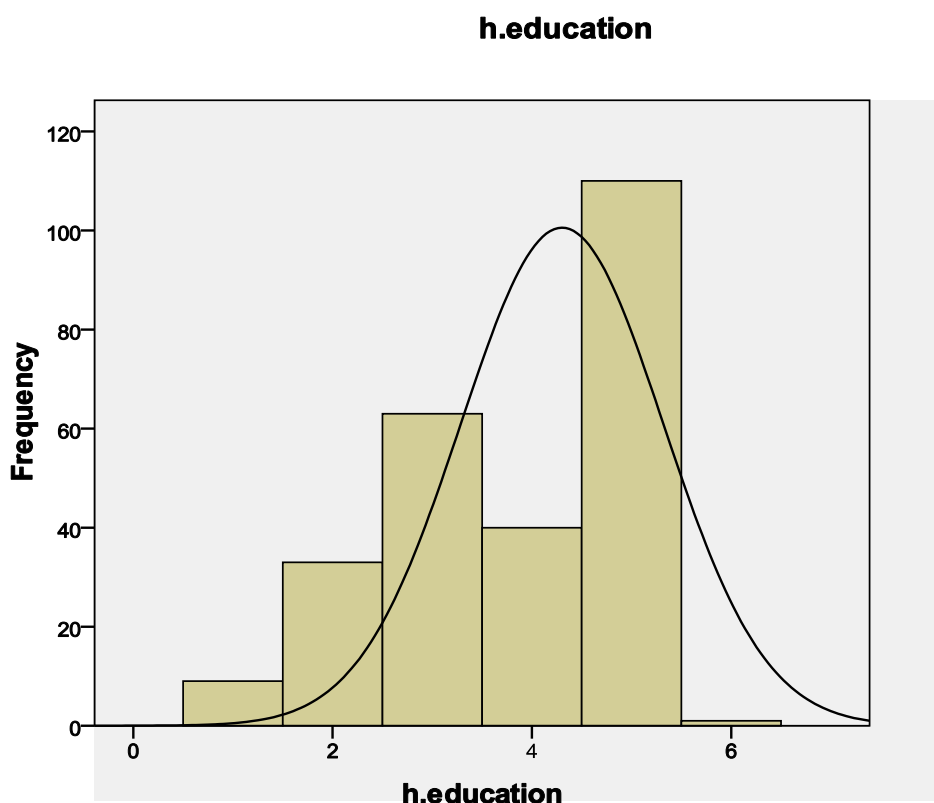


Figure (1) Improvement in the Scores of Experimental Group after Enrichment Program

Discussion

There is a wide-ranging debate for the last few years on the education of deaf students. There are numerous strategies and evaluation methods to evaluate the improvement in the learning process of deaf and hard of hearing students. However, the strategies that were developed earlier to improve the learning outcomes in deaf students were insufficient. The current study aimed to evaluate the effectiveness of the English Language Enrichment Program with the help of American Sign Language. The findings of the current study revealed a significant improvement in the average scores of the students in the experimental group as compared to that of the control group. It shows that Enrichment Programs that the use of American Sign Language are effective in delivering the lectures to deaf students. These findings are consistent with the previous findings that show the positive impact of American Sign Language on student learning outcomes (Marschark et al., 2006; Scott & Hoffmeister, 2016).

The Mann-Whitney test revealed that prior to the administration of Enrichment Program in English, the scores of participants of both the experimental group and that of the control group were almost similar, and there was no significant difference as shown by Z value of -2.368. These findings show that the lack of a specially designed intervention to cater to the educational needs of the deaf students may result in poor academic performance. It also demonstrated the need for developing a new program that meets the need of the deaf student and enables them to learn in a fast-paced environment as compared to their typical peers (Mellon, Ouellette, Greer & Gates-Ulanet, 2009).

However, the administration of the English Language Enrichment Program with the help of sign language shows that experimental group participants performed better in the assessment test as compared to that of control group participants. It shows that the lack of poor performance in the control group can be associated with the lack of provision of a specialized program that delivers need-based learning instructions to the deaf students. The previously conducted studies also argue that the integration of sign language in schools to deliver the lectures would facilitate the deaf students and improve their learning outcomes (Borgna, Convertino, Marschark, Morrison & Rizzolo, 2010). This is supported by findings of the current study which indicated that the use of sign language substantially improved the learning performance of experimental group participants. Hrastinski & Wilbur (2016) evaluated the perspective of deaf students on the use of sign language to deliver educational content. Their research revealed that deaf students had a better experience with sign language as the medium of learning instructions as compared to conventional strategies.

Conclusion and Future Implications

There are multiple challenges for the deaf and hard of hearing students in the learning environment. These challenges render the deaf and hard of hearing students unable to perform optimally in academic achievement tests. In Saudi Arabia, several initiatives were launched to cater the educational needs of deaf students. American Sign Language is introduced to facilitate the learning process. The scores of deaf students in the experimental group improved as compared to the scores of deaf students in the control group. These findings suggest that the integration of specially designed learning programs with the help of American Sign Language is expected to improve the learning outcomes of deaf and hard of hearing students. The findings of the current study can serve as the framework for future studies to determine the impact of Enrichment Programs on the academic performance of large scale deaf students.

References

- Ahmadi, M., Abbasi, M., & Bahaadinbeigy, K. (2015). Design and implementation of software for teaching health related topics to deaf students: The first experience in Iran. *Acta Informatica Medica*, 23(2), 76.
- Allen, T. E. (2015). ASL skills, fingerspelling ability, home communication context, and early alphabetic knowledge of preschool-aged deaf children. *Sign Language Studies*, 15(3), 233-265.
- Allen, T. E., Letteri, A., Choi, S. H., & Dang, D. (2014). Early visual language exposure and emergent literacy in preschool deaf children: Findings from a national longitudinal study. *American Annals of the Deaf*, 159(4), 346-358.

- Andrews, J. F., Liu, H. T., Liu, C. J., Gentry, M. A., & Smith, Z. (2017). Increasing early reading skills in young signing deaf children using shared book reading: a feasibility study. *Early child development and care*, 187(3-4), 583-599.
- Battal, Z. M. B. (2016). Special education in Saudi Arabia. *International Journal of Technology and Inclusive Education*, 5(2), 880-886.
- Behne, T., Carpenter, M., & Tomasello, M. (2014). Young children create iconic gestures to inform others. *Developmental psychology*, 50(8), 2049.
- Berge, S. S., & Thomassen, G. (2015). Visual access in interpreter-mediated learning situations for deaf and hard-of-hearing high school students where an artifact is in use. *Journal of deaf studies and deaf education*, 21(2), 187-199.
- Besson, M., Chobert, J., & Marie, C. (2011). Transfer of training between music and speech: common processing, attention, and memory. *Frontiers in psychology*, 2, 94.
- Borgna, G., Convertino, C., Marschark, M., Morrison, C., & Rizzolo, K. (2010). Enhancing deaf students' learning from sign language and text: Metacognition, modality, and the effectiveness of content scaffolding. *Journal of Deaf Studies and Deaf Education*, 16(1), 79-100.
- Brereton, A. E. (2010). Is teaching sign language in early childhood classrooms feasible for busy teachers and beneficial for children?. *YC Young Children*, 65(4), 92.
- Daniels, M. (2004). Happy hands: The effect of ASL on hearing children's literacy. *Literacy Research and Instruction*, 44(1), 86-100.
- Department of Health. (2005). *Mental Health and Deafness. Towards Equity and Access.*
- Downing, J. A., Earles-Vollrath, T., Larson, B. C., & Chang, I. J. (2007). Enhancing hearing children's memory with American Sign Language. *Intervention in School and Clinic*, 42(4), 239-242.
- Emami, F. (2002). The effects of auditory training on speech and language development of deaf children under 7 years. *Scientific Journal of Hamadan University of Medical Science*, 9(3), 48-52.
- Farooq, M. S. (2012). Problems faced by students with special needs in ordinary Pakistani schools. *Journal of Quality and Technology Management*, 8(1), 13-27.
- Ferrari, K. (2016). *Examining the design and implementation of a professional development program on the use of writing software in a school for the deaf (Doctoral dissertation, University of Delaware).*
- Foraker, S., Stam, G., Ishino, M., & Ashley, R. (2011). *Gesture and discourse: how we use our hands to introduce and refer back. Integrating gestures.* New York, NY: John Benjamins.
- Gentry, M. M., Chinn, K. M., & Moulton, R. D. (2004). Effectiveness of multimedia reading materials when used with children who are deaf. *American Annals of the Deaf*, 149(5), 394-403.
- Goldin-Meadow, S., & Brentari, D. (2017). Gesture, sign, and language: The coming of age of sign language and gesture studies. *Behavioral and Brain Sciences*, 40.

- Hrastinski, I., & Wilbur, R. B. (2016). Academic achievement of deaf and hard-of-hearing students in an ASL/English bilingual program. *Journal of Deaf Studies and Deaf Education*, 21(2), 156-170.
- Jantzen, T. M. (2011). The power of sign: Enhancing oral communication with young children with typical hearing.
- Kuenburg, A., Fellingner, P., & Fellingner, J. (2016). Health care access among deaf people. *The Journal of Deaf Studies and Deaf Education*, 21(1), 1-10.
- KunhiMohamed, V., & Binti, B. (2012). Student participation and grade performance in an undergraduate online learning environment (Doctoral dissertation, Colorado State University Libraries).
- Kushalnagar, P., Mathur, G., Moreland, C. J., Napoli, D. J., Osterling, W., Padden, C., & Rathmann, C. (2010). Infants and children with hearing loss need early language access. *The Journal of clinical ethics*, 21(2), 143.
- Luckner, J. L., & Handley, C. M. (2008). A summary of the reading comprehension research undertaken with students who are deaf or hard of hearing. *American Annals of the Deaf*, 153(1), 6-36.
- Magee, P. M. (2014). Challenges with literacy development in children who are deaf or hard of hearing. *Res. Pap*, (509).
- Margaret Brown, P., & Cornes, A. (2014). The mental health of deaf and hard-of-hearing adolescents: What the students say. *Journal of deaf studies and deaf education*, 20(1), 75-81.
- Marschark, M., Leigh, G., Sapere, P., Burnham, D., Convertino, C., Stinson, M., ... & Noble, W. (2006). Benefits of sign language interpreting and text alternatives for deaf students' classroom learning. *Journal of deaf studies and deaf education*, 11(4), 421-437.
- Marschark, M., Paivio, A., Spencer, L. J., Durkin, A., Borgna, G., Convertino, C., & Machmer, E. (2017). Don't assume deaf students are visual learners. *Journal of developmental and physical disabilities*, 29(1), 153-171.
- Marschark, M., Shaver, D. M., Nagle, K. M., & Newman, L. A. (2015). Predicting the academic achievement of deaf and hard-of-hearing students from an individual, household, communication, and educational factors. *Exceptional children*, 81(3), 350-369.
- Marshall, M. M., Carrano, A. L., & Dannels, W. A. (2016). Adapting experiential learning to develop problem-solving skills in deaf and hard-of-hearing engineering students. *Journal of deaf studies and deaf education*, 21(4), 403-415.
- Mejia-Menendez, I. (2016). The Effects of Sign Language on Second Language Acquisition.
- Mellon, N. K., Ouellette, M., Greer, T., & Gates-Ulanet, P. (2009). Achieving developmental synchrony in young children with hearing loss. *Trends in Amplification*, 13(4), 223-240.
- Musyarofah, L. (2015). Mini-story for teaching speaking to slow learners. *JURNAL EDUKASI: KAJIAN ILMU PENDIDIKAN*, 1(1), 81-90.

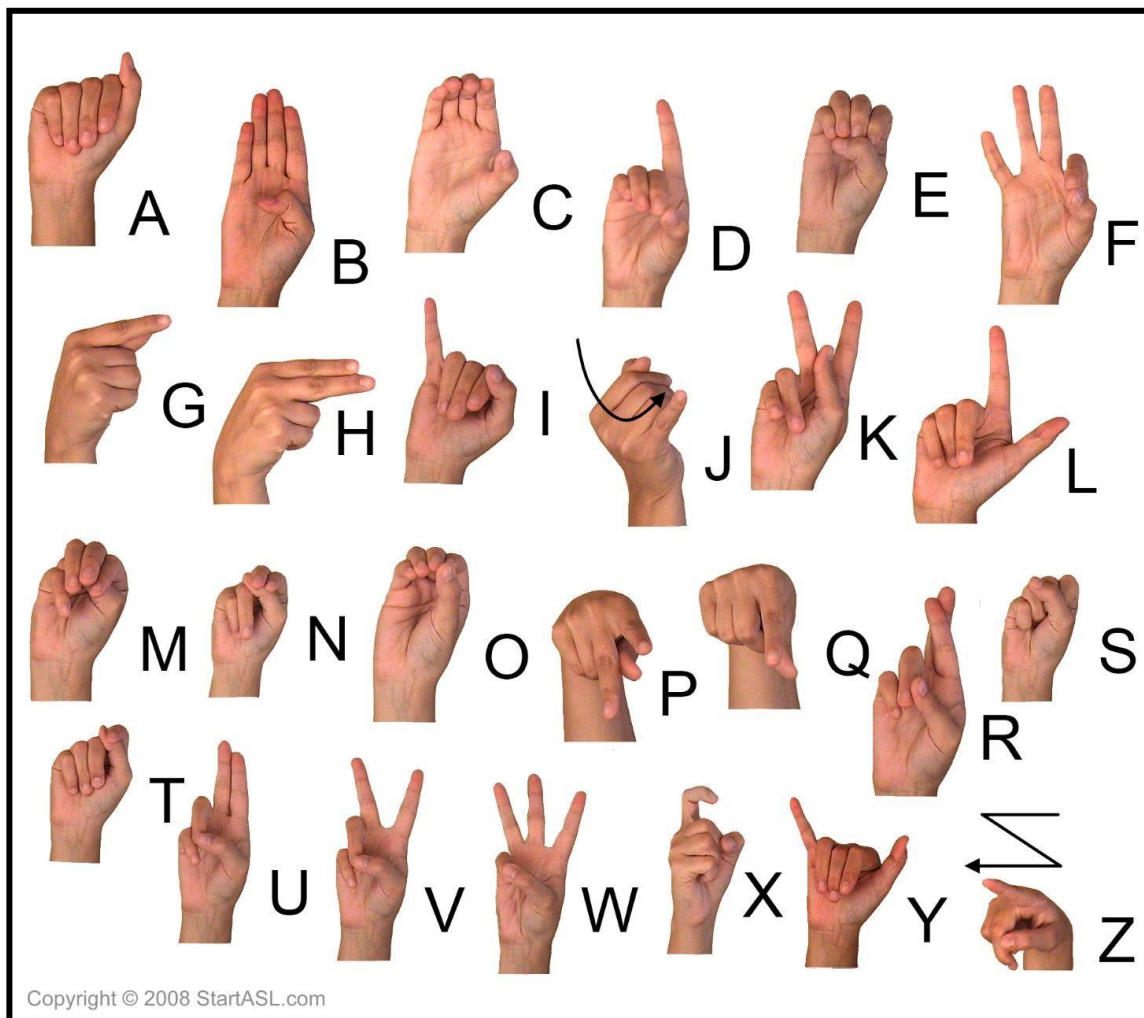
- Nikolarazi, M., Vekiri, I., & Easterbrooks, S. R. (2013). Investigating deaf students' use of visual multimedia resources in reading comprehension. *American annals of the deaf*, 157(5), 458-474.
- Powers, C. J., Bierman, K. L., & Coffman, D. L. (2016). Restrictive educational placements increase adolescent risks for students with early-starting conduct problems. *Journal of Child Psychology and Psychiatry*, 57(8), 899-908.
- Qi, S., & Mitchell, R. E. (2011). Large-scale academic achievement testing of deaf and hard-of-hearing students: Past, present, and future. *Journal of deaf studies and deaf education*, 17(1), 1-18.
- Rudner, M., Andin, J., Rönnerberg, J., Heimann, M., Hermansson, A., Nelson, K., & Tjus, T. (2015). Training literacy skills through sign language. *Deafness & Education International*, 17(1), 8-18.
- Scott, J. A., & Hoffmeister, R. J. (2016). American Sign Language and academic English: Factors influencing the reading of bilingual secondary school deaf and hard of hearing students. *The Journal of Deaf Studies and Deaf Education*, 1-13.
- Shanahan, T., & Lonigan, C. J. (2010). The National Early Literacy Panel: A summary of the process and the report. *Educational Researcher*, 39(4), 279-285.
- Singh, V. (2015). Hearing in India: All aspects. *Online Journal of Otolaryngology*, 5(1).
- Stanfield, C., Williamson, R., & Özçalışkan, Ş. E. Y. D. A. (2014). How early do children understand gesture–speech combinations with iconic gestures?. *Journal of child language*, 41(2), 462-471.
- Stone, A., Kartheiser, G., Hauser, P. C., Petitto, L. A., & Allen, T. E. (2015). Fingerspelling as a novel gateway into reading fluency in deaf bilinguals. *PloS one*, 10(10), e0139610.
- Szymanski, C., Lutz, L., Shahan, C., & Gala, N. (2013). Critical Needs of Students Who Are Deaf or Hard of Hearing: A Public Input Summary. Laurent Clerc National Deaf Education Center. Publications and Information Dissemination, Clerc Center KDES PAS-6, 800 Florida Avenue NE, Washington, DC 20002-3695.
- Van Staden, A. (2013). An evaluation of an intervention using sign language and multi-sensory coding to support word learning and reading comprehension of deaf signing children. *Child Language Teaching and Therapy*, 29(3), 305-318.
- Ware, J., Butler, C., Robertson, C., O'Donnell, M., & Gould, M. (2011). Access to the curriculum for pupils with a variety of special educational needs in mainstream classes. An exploration of the experiences of young pupils in primary school. National Council for Special Education Research Report, (8).
- Zane, R. L. (2012). The Impact of High Stakes Accountability Systems and the New Performance Demands on Special Education Teachers' Attitudes, Beliefs and Practice (Doctoral dissertation, UC Berkeley).

Appendix A

Name _____ Class _____

| Total | English | Placement | Test |
|-------|---------|-----------|------|
|-------|---------|-----------|------|



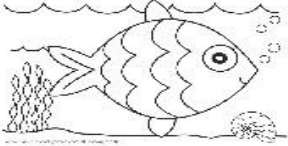
PART A



PART B

Alphabet

1. Draw a line.

| | | |
|---|---|---|
| D | f |  |
| E | e |  |
| F | d |  |




2. Trace. Write.

D d _____ D d _____ D d _____ D d _____

E e _____ E e _____ E e _____ E e _____

F f _____ F f _____ F f _____ F f _____

3. Write the correct letter. Trace.

| | | |
|---|---|--|
|  |  |  |
|---|---|--|

Dog dog dog

Elephant elephant.....

Fish fish fish.....

Part C

Choose the best answer. Mark it with an X. If you do not know the answer, leave it blank.

1 _____ name is Robert.

- a) Me b) I c) My

2 They _____ from Spain.

- a) is b) are c) do

3 _____ are you from?

- a) What b) Who c) Where

4 What do you do? I'm _____ student.

- a) the b) a c) the

5 Peter _____ at seven o'clock.

- a) goes up b) gets c) gets up

6 _____ you like this DVD?

- a) Are b) Have c) Do

7 We _____ live in a flat.

- a) don't b) hasn't c) doesn't

8 Wednesday, Thursday, Friday, _____

- a) Saturday b) Tuesday c) Monday

9 _____ he play tennis?

- a) Where b) Does c) Do

10 Have you _____ a car?

- a) any b) have c) got

11 We don't have _____ butter.

- a) a b) any c) got

12 _____ some money here.

- a) There're b) There c) There's

13 We _____ got a garage.

- a) haven't b) hasn't c) don't

14 Those shoes are very _____ .

- a) expensive b) a lot c) cost

15 Have you got a pen? Yes, I _____ .

- a) am b) have c) got