



## The Training Program Effectiveness to Improve English Pronunciation for Students with Hearing Impairments in the Elementary Level

Mohammad Abedrabbu Alkhalwaldeh<sup>1</sup>, Mohamad Ahmad Saleem Khasawneh<sup>1</sup>

<sup>1</sup>Assistant Professor, Special Education Department, King Khalid University, Saudi Arabia

\*Corresponding Author: Mohammad Abedrabbu Alkhalwaldeh  
Email: [malkhalwaldeh@kku.edu.sa](mailto:malkhalwaldeh@kku.edu.sa)



### Article Info

#### Article history:

Received 18 October 2021

Received in revised form 9

November 2021

Accepted 24 November 2021

#### Keywords:

Training Program

Improve English

Pronunciation

Students with Hearing

Impairment

Elementary Level

### Abstract

This study aimed to determine the effect of a training program to improve English pronunciation for hard-of-hearing students. To achieve the aim of the study, the researchers used the quasi-experimental approach, and the study sample consisted of (30) students with hearing impairments from primary schools in the city of Irbid. The experimental group studied based on the training program and consisted of (15) students, and (15) students of the control group studied in the traditional way. A set of instruments has been prepared, which consists of an image-naming test and preparing a training program based on the curriculum for students to see their effectiveness in raising the level of pronunciation for students with hearing impairments in the English language. The results showed that there were statistically significant differences between the control and experimental groups in favour of the experimental group. The study recommended holding training courses (sound training) targeting parents of hearing-impaired students in order to develop the receptive and expressive language of their children.

## Introduction

Language disorders and the pronunciation of speech sounds are some of the topics of interest in special education (Puri, Rodiatun & Susanto, 2019). The field of speech and language disorders has expanded in the last two decades of the twentieth century (Şimon, Kilyeni & Suci, 2015). Language disorders and the pronunciation of speech sounds are mainly caused by a basic disability (Csizér, Kontra, & Piniel, 2015). Hearing disability occupies the first place, and the extent to which language abilities are affected, and the pronunciation of speech sounds varies depending on the severity of the hearing loss, and the age at the time of injury (Csizer & Kontra, 2020). One of the linguistic characteristics of the hearing impaired is the emergence of problems in the phonological abilities of the deaf and hard of hearing in acquiring the beginnings and endings of words (Hadi, Wahyuni & Sulistyawati, 2019).

There is a great correlation between hearing impairment and speech and language disorders (Gargiulo & Bouck, 2019). Despite the soundness of the speech apparatus and speech for hearing impaired children, they pronounce speech sounds incorrectly for the most part (Griffiths, 2011). Children with mild hearing impairment learn language automatically and use language in a natural way, but their main disability is represented in the articulation mechanics of phonemic speech, not in their language development (Tlazalo & Basurto, 2014). The greater the amount of hearing loss, the more difficult the vocal language becomes, and its pronunciation is distorted and incorrect because they repeat the sounds as they were heard. Also, the first roots of personality are shown in the first years of a child's life (Zaigham, 2011). This stage is the stage of formation, modification, and growth, through interaction and friction with the elements of the surrounding environment (Tost, 2013).

The category of people with hearing disabilities is one of the special groups that have increased interest in them at the present time, and it is one of the most interested areas, whether at the research level, or at the educational level, as this category has many problems that must be overcome and treated, and this led to the invention of many methods and methods (Nurani & Rosyada, 2015). To treat these problems, which can help to acquire language and speech to develop their abilities and personalities and prepare them to understand the world around them, by improving their level of social interaction by employing various educational, guidance and training programs (Ercan, 2018). The sense of hearing plays an important and major role in human development, through the sense of hearing; children can acquire language and speech, especially in the early years of a child's life (Gilakjani, 2012). The manifestations of his physical, cognitive, emotional, and social development are progressing, and man has been able to understand his environment and know the dangers in it. Having a hearing disability will limit a person's ability to acquire language and speech, learn different skills, or practice normal life activities; Therefore, losing this sense means losing a source of human knowledge (Gilakjani, 2016).

Nurhayati (2015) and Grash, Skuratovskaya and Mamedova (2021) points out that the early developmental stages of a child's life are of great importance to the child's development, adaptation and compatibility with society in all developmental fields in general and language in particular. Therefore, children's acquisition of language is one of the important paths in a child's life, as it is related to different areas of life, whether mental, social, emotional, and even physical. Also, acquiring language in the early stage of a child's life is one of the most important abilities that help the child to adapt to his environment, it helps him to express his needs and desires and helps him to understand the desires of others and helps him to provide information from the individuals around him. Hearing loss in a child can cause a delay in the development of the ability to speak. A child with hearing loss may face language difficulties and educational problems. The absence of hearing leads to various developmental problems for deaf and hard of hearing children. These difficulties appear clearly in language delays, speech production and understanding, and restrict the experiences necessary for cognitive development, which leads to noticeable problems in their academic achievement (Khasawneh, 2021e).

Language is the basis for communication and learning, a social phenomenon, and a means of human communication (Asaria, 2011). Speech is the spoken manifestation of language, an essential tool for building personality, a tool for independence, and a tool for expanding the circle of dealing with others (Cheng, 2015). Without language, communication methods become more difficult and complex, the child begins to acquire language skills from the first years of his life, his ability to understand and use speech and language naturally develops within a short period of time, as the child's natural pronunciation develops from the stage of babbling to the stage of forming sentences clearly, especially after the age of three, and after the age of six the ability to speak using complete and correct sentences develops, and he is able to use words and morphological and grammatical forms appropriately socially with children of his age (Seaman, Allen & Seaman's, 2018). If the child cannot hear properly, this leads to the emergence of a clear defect in the child in the normal development of language (Baralt & Morcillo Gómez, 2017). Thus, language acquisition is one of the most important abilities that help a child adapt to his environment, as it helps him to express his needs and desires, as well as help him understand the desires of others and provide information from those around him (De Paepe, Zhu, & Depryck, 2018). Martin (2020) indicated that language disorders and the pronunciation of speech sounds are mainly caused by a basic disability, of which the hearing disability is ranked first; problems with the phonological abilities of the deaf and hard of hearing appear in acquiring the beginnings and endings of words. The slight hearing

impairment of the child may cause him to suffer from distraction, focus and inability to listen for long periods, inability to socialize in situations of communication with others, as well as not remembering spoken phrases easily.

The language and speech disorders resulting from hearing impairment vary according to the degree of hearing loss in the hearing-impaired individual (Derwing & Munro, 2015). Children with mild hearing impairment (15-30) decibels show noticeable problems in communication, language learning and academic achievement (Huensch & Thompson, 2017). The vowel sounds are described as being clearly heard and the silent unspoken voices may be lost, in addition to distraction, poor attention, language delay, and minor speech problems (Lee, Jang & Plonsky, 2015). As for children with moderate hearing impairment (31-50), they suffer from losing most of the speech sounds of conversation, but they respond well to educational and language activities using hearing aids, and they show weakness in attention, language delay, speech problems and learning problems, in addition to difficulty hearing Unstressed words and end words (Khasawneh, 2021d). This leads to overlap between verbal sounds, word meanings, specific vocabulary, difficulty with the multiple meanings of the word, and the deletion of some words and letters during expression, and they have the advantage of deleting and distorting silent sounds or letters. While children with severe hearing impairment (50-70 dB), are unable to develop language and speech spontaneously, and they cannot hear sounds or conversation without the use of sound amplifiers (Huensch & Thompson, 2017). However, they hear distorted voices and speak loudly. This type of hearing impairment leads to severe language problems and speech problems associated with educational problems. Finally, children with very severe hearing impairment (71 and above), are characterized as only learning language and speech through intensive special educational programs, and their success in life depends well on early diagnosis and early treatment of hearing impairment problems, and without the use of amplifiers, they are unable to hear sounds, so they suffer from language delays, speech problems, and learning difficulties (Khasawneh, 2021c).

From the foregoing, it is clear that auditory weakness has a clear negative impact on his linguistic development, as the child's ability to hear spoken words is weakened clearly. And thus weakens his ability to distinguish the sounds of others, and accordingly weakens his ability to verbally express his needs properly; Therefore, it is necessary to carry out continuous and intensive training for the hard of hearing to improve their ability to understand the speech of others and to communicate with them, and thus improve their abilities to integrate socially (Derwing & Munro, 2015; Gordon & Darcy, 2016). Given the importance of training programs offered to hearing-impaired students, the current study prepared a training program for students in the elementary level to improve their English pronunciation and prepare them linguistically to deal with their peers at school. To achieve this objective, the study seeks to answer the following question:

Is there a statistically significant difference in the mean scores of the experimental group and the control group for improving the English pronunciation of students with hearing disabilities attributed to the program?

## **Literature Review**

The child's acquisition of vocal language goes through stages that start with screaming and babbling in sounds that have nothing to do with the language of the surrounding environment. It is a stage that represents the vocal training of the child's speech apparatus, and all children are similar, even hearing-impaired children, during the first six months of the child's life (Levis, 2016). However, hearing-impaired children gradually stop repeating the sounds around them, until the beginning of the ninth month, because they do not hear these sounds, that is, there is

no auditory feedback (Alkhalwaldeh & Khasawneh, 2020). The ear is the instrument of hearing, and it is a highly sensitive device that can sense very high air pressure, and it can hear very weak (low) sounds whose wave pressure moves the eardrum membrane (Khasawneh, 2016).

Hearing impairment is a noticeable problem that requires intervention in order to reduce its incidence, it is one of the problems facing civilized and developing societies, especially children (Khasawneh, 2021a). Hearing disability is meant: those problems that prevent the individual's auditory system from performing its functions, or reduce the individual's ability to hear different sounds (Susanto & Nanda, 2018). Hearing impairment ranges in severity from mild and moderate degrees that result in hearing impairment to very severe degree, which results in deafness (Puri et al., 2019). Hearing impairment is also defined as the sensory deficit that prevents the individual from receiving evoked sounds in all or most of their forms (Csizer & Kontra, 2020).

The hearing impaired is defined as the person who, if provided with the appropriate hearing aid, is able to acquire language through hearing (Hadi et al., 2019). Hearing-impaired is also defined as a person who has sufficient residual hearing, which, using hearing aids, enables him to understand the speech of others and communicate with them orally (Adi, Unsiyah & Fadhilah, 2017). It is clear from the above that the residual hearing percentage of an individual is one of the most important factors that separate deafness from hearing impairment. Thus, the researchers conclude from the previous definitions that the hard of hearing is a person who suffers from partial hearing loss, and who has a balance of language and normal speech. If he is provided with the appropriate audio aid, and the appropriate audio (conversational) exercises, he will be able to acquire the language and the proper pronunciation of sounds through hearing.

#### ***The Effect of Hearing Impairment on English Pronunciation:***

Alkhalwaldeh and Khasawneh (2020b) points out the important role that hearing plays in learning to speak in the early years of a child's life, a child learns to speak by hearing others speak, and by imitating what he hears from them when the child reaches school, these phonetic symbols are transformed into written symbols, and the process of reading and writing begins. Partial deprivation of the individual's sense of hearing means depriving him of an important means that facilitates the learning and pronunciation of sounds, it is known that language acquisition and proper pronunciation are directly dependent on auditory perception (Khasawneh, 2021b). A hearing-impaired child has a problem receiving auditory stimuli, which leads to language and speech disorders, and thus his life develops without enjoying communication, or dealing with society on an audio basis. Accordingly, Puri et al. (2019) mentioned that if we want to reduce the speech and language problems of hearing-impaired children, we must first focus on teaching them language and proper pronunciation at home, because waiting until the child reaches school age will multiply the problem very much

#### ***Linguistic and Verbal Characteristics of the Hearing Impaired:***

Astina (2020) go to the fact that the biggest negative effects of hearing impairment appear clearly in the field of language development, and the proper pronunciation of verbal sounds, and therefore the hearing impaired suffer from a clear delay in the development of language and pronunciation. The degree of this delay becomes clear the greater the degree of hearing impairment. As a result of the hearing disability, the child does not get (appropriate auditory nutrition) at the stage of babbling, does not continue to babble, does not get sufficient auditory stimulation, or verbal support from adults, either because of his hearing disability, or because of the reluctance of adults with disabilities to provide auditory stimulation as a result of their expectations Negativity about the child, or both factors together, which prevents the child from obtaining appropriate linguistic models that he imitates (Dwiningrum, 2016). Since language

development is the most affected by hearing impairment, the hearing impaired child has a limited linguistic store, and has speech problems and slow speech with an unusual tone and centered on the sensible. Muriithi (2019) has pointed out that some vowel errors reflect difficulties in distinguishing loud and unvoiced, alternations of the voiced, the unvoiced, the nasal, the oral, the fricative, and the apse, the omission of consonants at the beginning and the end of speech, and inappropriate nasal distortions. for consonant sounds, and the last omission for the consonant sound.

Muriithi (2019) and Csizer and Kontra (2020) showed that the common pronunciation errors of hearing-impaired children are not restricted to the productions of individual phonemes (single phonemic units), but errors also occur due to the phonemic context in which the sounds are contained, and he explained that the common errors of pronunciation in the speech of the hearing impaired are moderate hearing impairment, who are impossible to they have daily auditory communication, or so on, which are as follows:

Omission; a child's omission of one or more sounds from a word may change the meaning. It occurs at the beginning, end, and middle of a word when two consonants follow in succession. There is no fixed and limited rule for deletion. Substitution; a substitution problem occurs when one sound is replaced by another sound that may change the meaning. Distortion; occurs when a spoken sound carries the basic elements of the intended sound, but has other elements added to it. Distortion is more likely than deletion and substitution. Addition; these are pronunciation errors where a child adds phonemes to a word that may change the meaning.

### **Previous Studies**

Hang (2015) examined the digital content to see if it improved pupils' spelling abilities and self-study motivation, based on student and teacher interviews, observation, questionnaires, and documentation. Text-to-speech technology provides English instructors with a tool for merging informative teaching and English teaching resources, based on the outcomes and technique. Furthermore, rather of being constrained by textbooks, teachers may choose whatever computer-assisted teaching content to use, broadening the scope of their instruction. To learn English efficiently, you must first understand how to pronounce words. To aid kids in learning spelling, developing engaging and interactive teaching and learning activities should be encouraged.

Masuda-Katsuse (2016) created a stand-alone system and a web application system for pronunciation training and practice in special education classrooms for language-disabled youngsters. Based on individual pronunciation needs, teachers entered practice words and their likely incorrect pronunciations into the system, and students were encouraged to read these practice words aloud. The speech-language-hearing therapists listened to the recorded speech to have a better understanding of the students' situations before providing advice to the instructors. Speech-language-hearing therapists had easier access to the pupils' speech and exercise data thanks to the online application system. According to the practical field test results, the system helped all of the teachers improve their students' pronunciation, the speech-language-hearing therapists felt that it simplified not only articulation tests, but also observation of the students' pronunciation improvement process, and both the speech-language-hearing therapists and the teachers believed that the system promoted mutual cooperation for more effective instruction.

Pardede (2018) investigated the use of explicit teaching to improve EFL students' pronunciation. The participants were 21 Universitas Kristen Indonesia English Education majors who took Integrated Skills IV in the even semester of the 2015/2016 academic year. The participants were given special pronunciation practices, such as watching videos or

listening to English expressions that contained elements of English pronunciation that they found difficult, drilling the elements, recording and transcribing their utterances, and comparing the transcriptions to those of native speakers. Tests and questionnaires were used to gather information. The participants' English pronunciation abilities improved as a consequence of the explicit teaching technique, as evidenced by an improvement in their average scores in the four tests performed during the activities implementation. The survey findings suggested that the technique was enjoyable for the participants, that it aided pronunciation improvement, and that it boosted self-confidence in English speaking.

Anugrah (2019) aimed to improve the students' pronunciation through text-to-speech software. Text-to-speech software was used to help pupils improve their pronunciation. Pre-experimental research was used in this study. It was divided into three sections: pre-test, therapy, and post-test. This study enlisted the help of 30 students from SMA Negeri 8 Makassar. The test consisted of 20 words for the pre-test and 20 words for the post-test. According to the study's findings, Text-To-Speech is effective in enhancing pupils' pronunciation. This was demonstrated by the average score before therapy of 49.33 and the average score after treatment of 78.67, representing a 59.47 percent improvement. This indicates that pupils' pronunciation is improving.

Csizer and Kontra (2020) investigated the foreign language learning characteristics of deaf and extremely hard-of-hearing pupils. A mixed methods research was planned to gain a better knowledge of the obstacles faced by this set of learners, comprising a questionnaire survey to offer generalizable data for our environment and an interview study to gain a deeper insight into the issue from the insiders' viewpoint. Data was obtained using piloted and barrier-free tools in three European nations. Deaf and extremely hard-of-hearing students' motivation, beliefs, and tactics were examined and analyzed in order to better understand their foreign language learning processes. The findings showed that despite their enthusiasm and eagerness to study foreign languages, deaf and seriously hard-of-hearing students' foreign language learning experiences are plagued with problems and disappointments. To address these challenges, it is necessary to build engaging and effective learning environments in which the usage of the national sign language aids instructional efficiency.

## Methods

This part includes a description of the study population and instruments used, as well as a description of the training program for students with hearing impairments in the elementary levels, to improve their English pronunciation, in addition to the study design, procedures for applying the program to students, and statistical treatment.

### Study sample

The number of the study sample was (30) elementary school students in special education centers in Irbid Governorate, and their number was (88) students, who were hard of hearing (sensory/neurological) according to the audiogram. The study sample was distributed into two groups, an experimental group and a control group, where each group included (15) students.

### Study Instruments

For the purposes of this study, the researchers used the following instruments:

#### *The first instrument: the image naming test*

The researchers prepared a pictorial test in order to detect English pronunciation disorders in hard-of-hearing students after reviewing many previous studies related to the subject of the

study, and it was found that most of these studies used tests of the type of naming pictures, or a group of pictures.

### ***Test Description***

The test consists of (74) images, targeting (74) sounds in the three positions of the word (beginning, middle, and end) as follows: (25) sounds at the beginning of the word, (25) sounds in the middle of the word and (24) sounds at the end of the word. There is one sound at the end of the word location, which is targeted by one word because no picture words are acceptable and familiar to these children, and the three pictures in the test are in the form of a row on one page.

### ***Test Reliability and Validity***

Indicators of validity and reliability of the test were extracted for the purposes of the current study including content Validity: Based on the image naming tests from the Jordanian Ministry of Health dedicated to detecting speech sounds disorders among the hearing impaired, the analysis of available measures and the previous literature, these procedures were considered evidence of the validity of the test content that was prepared in order to detect speech disorders in the hearing impaired students. Test Reliability: The reliability coefficient was calculated by re-applying the test, where the test was applied to (15) hearing-impaired students who are not members of the main study, and two weeks after the first application, the test was re-applied to the individuals themselves, and the reliability coefficient reached by the repetition method (0.84) Thus, the study instrument is reliability and applicable for the purposes of the current study.

### ***The second instrument: the training program***

The researchers prepared the training program, as there is a relationship between hearing impairment and speech and language disorders. Despite the soundness of the speech apparatus for the hearing-impaired, they often pronounce speech sounds incorrectly. The program was presented to (8) special education teachers and specialists in speech and audio exercises for arbitration, and after taking their comments and suggestions, the required modifications were made.

### ***The contents of the program***

The contents of the program are commensurate with the student's social and educational levels. The researchers prepared a set of activities that help in dealing with students in order to improve their English pronunciation.

### ***Program sessions***

The program consisted of (24) sessions. Students receive the necessary English pronunciation training, four sessions per week. Then the visual test was applied to the hearing-impaired students to measure the extent to which their English pronunciation had improved in order to identify the effectiveness of the training program that was applied.

### ***Program application procedures***

Before starting the application of the program, the researcher conducted a pre-test on the image naming test for the hearing-impaired students. In a quiet room for the purposes of recording the student's English pronunciation on tapes. After the application ended, the researcher unloaded the tapes on the answer form for each student separately. The researchers applied the program to the study sample (the experimental sample) in order to improve the English pronunciation.



## Study Design

The study is an empirical study, and it aims to know the effect of a training program for hearing-impaired students in the primary stage to improve their English pronunciation. Where two groups of hard of hearing students were selected, one of them is the experimental group, and the other is the control group, and the training program was applied to the experimental group, while the training program was not applied to the control group. A pre- and post-test was conducted through the image naming test for the hearing-impaired students to reveal the effect of the training program applied to them.

## Data Analysis

To answer the study question, the mean score of the experimental and control groups were extracted for performance on the image naming test for students with visual impairments to detect English speech disorders among students. Also, the t-test for the two independent samples was used to calculate the significance of the differences between the means of the control and experimental groups in the post-achievement test.

## Results and Discussion

To answer the study question, the means and standard deviations of the image naming test for students with hearing impairments were extracted according to the group variable (control and experimental), and table (1) illustrates that.

Table 1: T-test results

Subject	Groups	N	Mean	St.d	T (value)
English	Control	15	9.89	1.62	16.35
	experimental	15	18.05	2.53	

Table (1) showed that there are statistically significant differences between the control and experimental groups in favor of the experimental, and this result indicates the effect of training program to improve English pronunciation for students with hearing impairments in the elementary level. This result is in agreement with the studies of Hang (2015), Masuda-Katsuse (2016), Pardede (2018), Anugrah (2019) and Csizer and Kontra (2020). Through this result, the importance of developing communicative training programs for hearing-impaired students, and the importance of early intervention in training and developing their verbal and auditory abilities, and that there is a correlation between the impact of early intervention and both training of hearing-impaired students, and improving receptive language and expressive language (pronunciation). As well as the importance of using hearing aids in improving the pronunciation of speech sounds, and the speech perception of students with hearing impairments. As the use of hearing aids enables the student to use and develop hearing in the best possible way, and learn skills more clearly and stronger, and this enables them to also enjoy the surrounding sounds throughout the day. Therefore, teaching verbal skills is a difficult job if its goal is to employ them to build a communication language.

## Conclusion

The study found that a training program for hearing-impaired pupils in primary school can help them improve their English pronunciation because it allows them to use and develop their hearing in the best possible way, acquire skills more clearly and effectively, and appreciate the sounds around them. Also, the training program provided the students with motivation, and facilitated the appropriate encouragement and training to suit his disability. This is due to its flexibility and adaptability to teach all age groups, starting from the basic stage. In addition, the image naming test is one of the effective methods in teaching people with learning



difficulties because it contains a variety of activities that make them benefit from it in accordance with the type of disability. Holding training courses (audio training) targeting parents of hearing-impaired students in order to develop the receptive and expressive language of their children. Conducting research studies dealing with the impact of variables such as (the child's family arrangement, the child's age, and the family's economic status) on developing receptive and expressive language for students with hearing impairments.

### Acknowledgment

The authors extend their appreciation to the Deanship of Scientific Research at King Khalid University for funding this work through Big Research Groups under grant number (RGP.2 /103/42).

### References

- Adi, S. S., Unsiyah, F., & Fadhilah, D. (2017). Teaching special students: English lessons for deaf students in Indonesian special junior high schools. *International Journal of Education and Research*, 5(12), 121-136.
- Alkhalwaldeh, M. A. (2020). and Mohamad Ahmad Saleem Khasawneh (2020a). The Impact of Using an Infographic-based Training Program on Improving Visual Motor Memory Among EFL Student. *INDIAN JOURNAL OF SCIENCE AND TECHNOLOGY*, 405-416. DOI: [10.17485/ijst/2020/v13i04/148906](https://doi.org/10.17485/ijst/2020/v13i04/148906)
- Alkhalwaldeh, M. A., & Khasawneh, M. A. S. (2020b). Developing acoustic analysis skills among students with developmental apraxia of speech (DAS). *Indian Journal of Science and Technology*, 13(22), 2237-2244. DOI: [10.17485/ijst/v13i22.148932](https://doi.org/10.17485/ijst/v13i22.148932)
- Asaria, N. (2011). Teaching Pronunciation to The Eighth Year Students of SMP Negeri 16 Palu through English Songs. *Unpublished Skripsi*. Palu: Teacher Training and Education Faculty of Tadulako University.
- Astina, A. (2020). *The Analysis of Teaching English Pronunciation at Young Learners at SD Negeri 82 Parepare* (Doctoral dissertation, IAIN Parepare).
- Baralt, M., & Morcillo Gomez, J. (2017). Task-based language teaching online: A guide for teachers. *Language Learning & Technology*, 21(3), 28-43.
- Cheng, T. (2015). The reality behind the hype: Online world language teaching and instructional design. *Unpublished doctoral dissertation*. Teachers College, Columbia University, New York City, NY.
- Csizér, K., & Kontra, E. H. (2020). Foreign Language Learning Characteristics of Deaf and Severely Hard-of-Hearing Students. *The Modern Language Journal*, 104(1), 233-249.
- Csizér, K., & Kontra, E. H. (2020). Foreign Language Learning Characteristics of Deaf and Severely Hard-of-Hearing Students. *The Modern Language Journal*, 104(1), 233-249.
- De Paepe, L., Zhu, C., & Depryck, K. (2018). Learner characteristics, learner achievement and time investment in online courses for Dutch L2 in adult education. *TOJET: The Turkish Online Journal of Educational Technology*, 17(1), 101-112.
- Derwing, T. M., & Munro, M. J. (2015). Pronunciation fundamentals. *Evidence-based perspectives for L2 teaching and research*.

- Dwiningrum, N. (2016). *The Teaching of English Pronunciation to Young Learners (A Case Study at The Sixth Grade Students of SDN 06 Ciputat)* (Bachelor's thesis, Jakarta: FITK UIN Jakarta).
- Ercan, H. (2018). Pronunciation Problems of Turkish EFL Learners in Northern Cyprus. *International Online Journal of Education and Teaching*, 5(4), 877-893.
- Gargiulo, R. M., & Bouck, E. C. (2019). *Special education in contemporary society: An introduction to exceptionality*. Sage Publications.
- Gilakjani, A. P. (2012). Visual, auditory, kinaesthetic learning styles and their impacts on English language teaching. *Journal of studies in education*, 2(1), 104-113.
- Gilakjani, A. P. (2016). English pronunciation instruction: A literature review. *International Journal of Research in English Education*, 1(1), 1-6.
- Gordon, J., & Darcy, I. (2016). The development of comprehensible speech in L2 learners: A classroom study on the effects of short-term pronunciation instruction. *Journal of Second Language Pronunciation*, 2(1), 56-92.
- Grash, N., Skuratovskaya, M., & Mamedova, E. (2021). Speech education of students with hearing impairment as a means of communication. In *E3S Web of Conferences* (Vol. 273, p. 12091). EDP Sciences.
- Griffiths, B. (2011). Integrating pronunciation into classroom activities. *British Council & BBC*.
- Hadi, F. N., Wahyuni, D. S., & Sulistyawati, H. (2019). Teacher's Strategies in Teaching English for The Hearing-Impaired Students. *English Education*, 7(2), 264-271.
- Huensch, A., & Thompson, A. S. (2017). Contextualizing attitudes toward pronunciation: Foreign language learners in the United States. *Foreign language annals*, 50(2), 410-432.
- Khasawneh, M.A.S. (2016). The Impact of a Training Program Based on the Visual Words Composition Techniques on the Development of Reading Comprehension Skills among the Students of Primary Stage. *Advances in BioResearch*, 7(2).
- Khasawneh, M. A. S. (2021a). An electronic training program to treat errors of reading aloud in the English language among students with learning difficulties during the emerging Covid-19. *The Journal of Quality in Education*, 11(17), 49-69. <https://doi.org/10.37870/jogie.v11i17.251>
- Khasawneh, M. A. S. (2021b). Language skills and their relationship to learning difficulties in English language from the students' point of view. *Science and Education*, 2(9), 261-272. DOI: [10.34293/education.v9i4.4082](https://doi.org/10.34293/education.v9i4.4082)
- Khasawneh, M. A. S. (2020c). The Extent of Bullying Against Students with Learning Disabilities According to the Age Variable. *International Journal of Learning, Teaching and Educational Research*, 19(6), 267-281. DOI: [10.26803/ijlter.19.6.16](https://doi.org/10.26803/ijlter.19.6.16)
- Khasawneh, M. A. S. K. (2021d). Work pressures among teachers of learning disabilities in English language from their point of view. *Journal of Asian Multicultural Research for Educational Study*, 2(2), 15-23. DOI: [10.47616/jamres.v2i2.177](https://doi.org/10.47616/jamres.v2i2.177)
- Khasawneh, M. A. S. (2021e). Cognitive Flexibility of Students with Learning Disabilities in English Language and Its Relationship to Some Variables. *Shanlax International Journal of Education*, 9(3), 49-56. DOI: [10.34293/education.v9i3.4003](https://doi.org/10.34293/education.v9i3.4003)

- Kontra, E. H., Csizér, K., & Piniel, K. (2015). The challenge for deaf and hard-of-hearing students to learn foreign languages in special needs schools. *European Journal of Special Needs Education, 30*(2), 141-155.
- Lee, J., Jang, J., & Plonsky, L. (2015). The effectiveness of second language pronunciation instruction: A meta-analysis. *Applied Linguistics, 36*(3), 345-366.
- Martin, I. A. (2020). Pronunciation development and instruction in distance language learning. *Language Learning & Technology, 24*(1), 86-106.
- Masuda-Katsuse, I. (2016). Support system for pronunciation instruction and practice in special education classes for language-disabled children. In *Proceedings of Meetings on Acoustics 172ASA* (Vol. 29, No. 1, p. 060010). Acoustical Society of America.
- Muriithi, F. M. (2019). *Effectiveness of Automated Speech Training System in Enhancing Speech among Hard of Hearing Learners in Selected Schools in Nairobi City County Kenya* (Doctoral dissertation, Kenyatta University).
- Nurani, S., & Rosyada, A. (2015). Improving english pronunciation of adult esl learners through reading aloud assessments. *Lingua Cultura, 9*(2), 107-112.
- Nurhayati, D. A. W. (2015). Improving Students' English Pronunciation Ability through Go Fish Game and Maze Game. *Dinamika ilmu, 15*(2), 215-233.
- Pardede, P. (2018). Improving EFL Students' English Pronunciation by Using the Explicit Teaching Approach. *JET (Journal of English Teaching), 4*(3), 143-155.
- Puri, I. R., Rodiatun, R., & Susanto, S. (2019). An Analysis of Learning English Vocabulary for Hearing Impaired Student at Dharma Bhakti Dharma Pertiwı Special School 2017/2018. *Journal of English Education Studies, 2*(1), 60-66.
- Seaman, J. E., Allen, I. E., & Seaman, J. (2018). Grade Increase: Tracking Distance Education in the United States. *Babson Survey Research Group*.
- Şimon, S., Kilyeni, A., & Suci, L. (2015). Strategies for Improving the English Pronunciation of the 1st Year “Translation-Interpreting” Students. *Procedia-Social and Behavioral Sciences, 191*, 2157-2160.
- Susanto, S., & Nanda, D. S. (2018). Teaching and learning English for visually impaired students: an ethnographic case study. *English Review: Journal of English Education, 7*(1), 83-92.
- Tlazalo Tejada, A. C., & Basurto Santos, N. M. (2014). Pronunciation instruction and students' practice to develop their confidence in EFL oral skills. *Profile Issues in TeachersProfessional Development, 16*(2), 151-170.
- Tost, G. (2013). Bettering Pronunciation through Reading Aloud and Peer Appraisal. *Bellaterra Journal of Teaching and Learning Language and Literature, 6* (1), 35-55.
- Zaigham, M. S. (2011). Language Starts with the Ear. *The Fiat Pointer, 1*(4), 26-27.