Natural Resources for Human Health
eISSN: 2583-1194

Original Research

Received 25 July 2026
Revised 22 Aug 2026
Accepted 08 Sep 2026

Natural Resources for Human Health 2026, Vol. 6 (22s): 796–812

KEYWORDS:
Deaf and Hard of Hearing Audiences, Sign Language Interpretation, Television News Bulletins, Audience Exposure, Media Gratifications, Cognitive Gratifications, Social Communication, Accessibility Barriers

The Effectiveness of Sign Language in Television News Bulletins in Delivering Information to Deaf and Mute Audiences: An Empirical Study

Amer Saleh Nayef, Prof. Radhi Rashid Hassan

College of Media, AL- Iraqi University, Iraq
amer.s.nayyef@aliraqia.edu.iq

ABSTRACT: This study aims to examine the exposure of deaf and mute audiences to television news bulletins interpreted in sign language and to identify the gratifications they derive from such exposure. It also seeks to identify the main obstacles that limit their access to sign-language-interpreted news bulletins. The study adopts the survey method and uses a questionnaire as the primary data collection instrument. The questionnaire was administered to a purposive sample of 250 deaf and mute individuals in Baghdad, Iraq. The findings reveal that the majority of respondents tend to follow sign-language-interpreted news bulletins in their entirety. The results also indicate that these bulletins contribute to fulfilling several types of gratifications among deaf and mute audiences, particularly cognitive, guidance, and social gratifications. Furthermore, the findings show that the small size of the sign-language interpreter window and the limited number of news bulletins available with sign-language interpretation constitute the most prominent barriers restricting this group's exposure to televised news.

INTRODUCTION

Mass media are the principal driving force of life in our era; they are the interface from which the public draws the news and knowledge that help them understand what is happening around them and communicate with their society. Amid the political, economic, and social changes we are witnessing, the need has emerged to give persons with hearing impairments considerable attention as an integral part of society. Despite this attention, media plans and television news content are still prepared and presented in a manner that primarily addresses hearing persons. This places the deaf and mute in the face of major obstacles that prevent them from accessing information and news easily, creating a knowledge gap among them. Persons with hearing impairments are not merely an issue that we discuss; they are an audience with an inherent right to information, guidance, and entertainment, like everyone else.

Hence, television news bulletins interpreted into sign language emerge as one of the means that enable the deaf and mute to exercise their right to knowledge of what is happening on the political and social scene. Sign language is not merely a technical translation; it is a language in its own right that gives deaf and mute persons the ability to build their own mental perceptions and to achieve cognitive and psychological gratifications that make them active partners in society rather than marginalized observers.

Section One: Methodological Framework

First: Research Problem

Visual media have witnessed considerable development in the present era and have become the cognitive window that contributes to shaping the awareness of members of the public and directing their attention toward current world events. Television news bulletins emerge as a principal tool in this context, on which the public relies to obtain information and follow current events. However, the deaf and mute remain limited in their access to these bulletins, particularly given the absence of

sign-language interpretation in most news bulletins, its restriction to a single bulletin, and the weak use of non-verbal means of communication that contribute to conveying the media message effectively.

From the researcher's review of previous studies, a scarcity of media studies addressing this group was noted. From this, the research problem emerges in the main question: **What is the effectiveness of sign-language-interpreted news bulletins in delivering information to the deaf and mute, and what gratifications are achieved from them?**

Second: Research Questions

1- What are the motives behind the deaf audience's exposure to news bulletins presented in sign language?

2- What types of gratifications does following news bulletins achieve among the deaf and mute?

3- What are the most prominent sign-language elements on which the deaf and mute rely most to understand the content?

4- What are the main difficulties facing the deaf during their exposure to news bulletins?

Third: Significance of the Research

The significance of this research stems from its examination of the relationship between following sign-language news bulletins and the achievement of cognitive and psychological gratifications among the deaf and mute, an issue that has not received sufficient study and research, particularly in the Iraqi context. This gives the study a scholarly dimension and opens new horizons for researchers in the field of specialized communication. The significance of the research also lies in highlighting the technical efficiency of the media in conveying world events to this group and the extent to which these media can break their informational isolation and fulfill their inherent right of access to information. This significance is completed by the societal dimension, which seeks to promote the integration of the deaf and mute into public life and transform them into an active and participating audience, drawing on modern technological developments to ensure their psychological stability and achieve informational inclusion as an integral part of the fabric of Iraqi society.

Fourth: Research Objectives

Research objectives describe the ultimate endeavors that the researcher seeks to reach or aims to achieve by investigating solutions to the research problem; therefore, these objectives should not depart from the general foundations of scientific research in the theoretical and applied frameworks of the problem around which the research revolves.[1]

The research seeks to achieve several scientific objectives:

1- To identify the level of exposure of the deaf and mute to television news bulletins.

2- To investigate the motives behind the deaf audience's exposure to sign-language news bulletins.

3- To determine the type of gratification achieved by following news bulletins among the deaf and mute.

4- To identify the most prominent sign-language elements most relied upon by the deaf and mute to understand the content.

5- To identify the main difficulties facing the deaf during their exposure to news bulletins.

Fifth: Research Hypotheses

Hypotheses are defined as "conjectures, expectations, or conclusions adopted by the researcher from facts and phenomena; they serve as a guide for the researcher when conducting the research. The assumption is provisional because the research topic is not in its final form, and assumptions begin to crystallize and become clearer as the picture of the research becomes clear."[2] On this basis, the study proceeds to test the following hypotheses:

Hypothesis One: There is a statistically significant correlation between the motives of the deaf and mute for exposure to sign-language news bulletins and the level of following, in terms of the number of weekly viewings and the duration of following.

[1]Mohammed Abdul Hamid, Scientific Research in Media Studies (Cairo: Alam Al-Kutub, 2000), p. 13.
[2]Kamel Mohammed Al-Maghrabi, Scientific Research Methods in the Humanities and Social Sciences (Amman: Dar Al-Thaqafa for Publishing and Distribution, 2009), p. 48.

Natural Resources for Human Health
eISSN: 2583-1194

Hypothesis Two: There is a statistically significant correlation between the extent to which respondents follow sign-language news bulletins on Al-Iraqiya Satellite Channel and the level of cognitive and reality-understanding gratifications, represented by increased knowledge, understanding, and awareness.

Hypothesis Three: There is a statistically significant correlation between the extent to which news bulletins contribute to forming a clear image and the guidance and entertainment gratifications.

Hypothesis Four: There is a statistically significant correlation between the guidance and entertainment gratifications and the personal and social gratifications.

Sixth: Type and Method of the Research

This research is classified among descriptive studies, which are based on the description and analysis of available data and information. Descriptive studies are those concerned with surveying media audiences and examining their characteristics, patterns of exposure, and attitudes toward media content. The research adopted the survey method, as it is the method appropriate to the research and a technique of data collection through which information is obtained directly from individuals selected to serve as a basis for reaching conclusions about the research population under study;[1] adopting this method is therefore the most suitable for accomplishing and completing this study.

Seventh: Research Limits and Domains:

1- Temporal domain: The temporal domain of the research was set from 20 February 2026 to 21 March 2026, which is the period taken by the fieldwork, namely distributing the questionnaire to the sample members, collecting the forms from respondents, examining and verifying them, analyzing and statistically processing the data, and identifying its results.

2- Spatial domain: The research was confined to the city of Baghdad on both sides (Karkh and Rusafa), given that the capital, Baghdad, is a center that includes the various educational, social, and cultural levels of this segment. The non-governmental organizations and associations were: the Association of the Deaf and Mute for Peace, the Association of the Deaf and Mute in Iraq, the Al-Furatayn Network for the Care of the Deaf, and the Al-Hayat Foundation for the Rights of Persons with Disabilities.

3- Human domain: The human limits are represented by the population targeted by the researcher in distributing the questionnaires, namely persons with hearing impairments (the deaf and mute) in the city of Baghdad, specifically those attending the specialized institutions and associations mentioned who are exposed to television news bulletins supported by sign language.

Eighth: Research Population

The research population consisted of deaf and mute persons aged (18 to 48) years and over who are registered in their institutions and associations. Given the difficulty of conducting the research on all deaf and mute persons in the governorates, an available population was selected for the research, comprising the institutions and associations of the city of Baghdad, namely the Ministry of Labor and Social Affairs, the Association of the Deaf and Mute for Peace, the Association of the Deaf and Mute in Iraq, the Al-Furatayn Network for the Care of the Deaf in Iraq, and the Al-Hayat Foundation for the Rights of Persons with Disabilities.

Ninth: Research Sample:

The research sample consists of the deaf and mute population affiliated with five available associations in the city of Baghdad, which were selected because they realistically represent this group. The total number of members of the research population in these associations was (4,710) individuals. The researcher adopted the purposive sampling method in selecting these associations because of their direct connection with the research topic. At the individual level, the available (convenience) sampling method was used in distributing the questionnaire forms: the questionnaires were distributed to sample members while they were present at the associations' premises on working days (and on Fridays and Saturdays), in addition to events and gatherings, such as the Ramadan evenings organized by some organizations, which attract this group. Accordingly, the researcher was able to distribute

[1]Ismail Ibrahim, Media Research Methods (Cairo: Dar Al-Fajr for Publishing and Distribution, 2017), p. 59.

(280) forms to respondents, of which (30) forms were excluded because of inaccurate answers, and data were collected from (250) sample members.

Eighth: Research Instruments

A. Questionnaire form: The researcher relied on the questionnaire form as the main tool for collecting data from the sample members, aiming to learn about a sample of deaf and mute respondents, as one of the data collection tools within the survey method. The form was administered through personal interviews with the assistance of sign-language interpreters to explain and interpret the questionnaire items while applying the form to sample members. The questions varied among demographic information and respondents' habits of exposure to news bulletins, in addition to the sample members' motives for exposure to sign-language-interpreted news bulletins, the identification of the most important obstacles facing sample members in their exposure to news bulletins, and finally the gratifications achieved for them. The researcher used a three-point Likert scale, which suits the cultural and educational abilities of the respondents.

Ninth: Validity and Reliability Tests

1. 1. Face Validity

The researcher was keen to verify the validity and reliability of the research instrument, the questionnaire, to ensure the accuracy and credibility of the results. The questionnaire on the deaf and mute's exposure to sign language in television news bulletins and the gratifications achieved from it was presented to a number of referees specializing in media and in psychological and educational sciences, to express their opinions on the suitability of the questionnaire for the research objectives. Modifications, deletions, and additions were made in accordance with their opinions until the questionnaire reached its final form. The questionnaire received the experts' approval at a rate of (80%) or more, and this percentage was therefore adopted as the criterion for the validity of the questionnaire items.

2. Reliability

To obtain reliability, the researcher used the Kuder–Richardson formula, which is used when the answers on the scale are graded;[1] to extract reliability by this method, the Kuder–Richardson formula was applied, and the reliability coefficient was (0.981), which is an acceptable value in media studies, indicating that the questionnaire has an appropriate degree of reliability and can be relied upon in analyzing the data and drawing conclusions.

Tenth: Research Terminology

1- Deaf:

Terminologically: An individual who lost his or her hearing ability in the first three years of life due to hereditary or acquired causes and was therefore unable to acquire language; he or she is referred to as deaf-mute.[2]

Operationally: A person who suffers from total or partial hearing loss due to hereditary or acquired factors, which affects his or her ability to receive or hear spoken sounds clearly, and who relies on sign language or other visual means that enable communication with others.

2- Mute:

Terminologically: "An individual who has lost the ability to speak because of the inability to hear language and consequently has been unable to acquire it."[3]

Operationally: A mute person can be defined as a person who suffers from an inability to speak and to express himself or herself verbally in order to communicate with others as a result of the loss of the sense of hearing, and who resorts to sign language and facial expressions to express his or her thoughts and feelings.

1Wahib Majeed Al-Kubaisi, Applied Statistics in the Social Sciences (Beirut: Mu'assasat Misr Murtada for Iraqi Books, 2010), p. 95.
2Badie Al-Qashaleh, Foundations of Special Education (Palestine: Dar Al-Huda for Publishing and Distribution, 2017), p. 89.
3Ibid., p. 90.

Natural Resources for Human Health
eISSN: 2583-1194

3- Sign language:

Terminologically: "A descriptive language that serves as a system of manual symbols or pictorial movements, using movements of the hands, shoulders, and arms, facial expressions, and lip movements to describe words, concepts, ideas, and events and convey them to the deaf and mute."[1]

Operationally: A communicative means used by the deaf and mute, who suffer from loss of the sense of hearing, in their communication among themselves and with hearing individuals, and it includes all facial expressions, lip movements, arm and hand movements, and finger spelling.

4- News bulletins:

Terminologically: "A broadcasting term applied to a period of time that radio and television stations allocate to present the most important news that has occurred. Given these stations' concern to provide a continuous news service that keeps the listener informed of everything that is happening, they present more than one bulletin over the twenty-four hours of the day, at fixed times, and these bulletins include news summaries, commentaries, news briefs, political analyses, and correspondents' reports."[2]

Operationally: A news program that presents a summary of the most important facts and events, whether local or international, for the purposes of informing, explaining, and interpreting, broadcast within a specified duration and at a known time, using words and moving images and, in addition, sign language to convey its content to the deaf and mute and to keep them informed of the course of events.

Eleventh: Previous Studies and the Extent of Benefit from Them:

- **Local studies:**

- **Study by Abdul Qader Saleh, 2020:**[3]

Titled: **"Uses of People with Special Needs of the Media and the Gratifications Achieved from Them: A Survey Study on a Sample of the Deaf and Mute in the City of Baghdad."** The study aimed to reveal the nature of the daily motives that drive the deaf and mute toward exposure to the media, to determine the type of gratifications achieved, and to monitor the difficulties that prevent their effective use of media applications.

As for the findings reached by the study, they showed a notable interest among respondents in exposure to the media, with the Facebook and YouTube applications topping the list of most-used media. Regarding gratifications, the results revealed that the main motive for use is the desire to acquire new life experiences and to form multiple social relationships. The study also identified a fundamental obstacle, namely the weak use of sign language in the content presented through these applications, which limits the ability to derive maximum benefit from the programs offered.

- **Arab studies:**

1. **Study by Hamido Shimi, 2023**[4]

The study centered on the main question: **"The deaf's exposure to television programs and their level of perception of social reality."** This study sought to identify the intensity of respondents' viewing of television programs and the extent of its influence on shaping their awareness. It is a descriptive study that adopted the survey method as a methodological tool, using the questionnaire and the interview as data collection tools. The study reached important scientific findings, most notably that 88% of the sample are keen to follow television programs, and it demonstrated a statistically significant positive correlation between the rate of this exposure and the level of the deaf's perception of social reality and their perceptions of it.

1Adel Abdullah Mohammed, Introduction to Special Education (Cairo: Dar Al-Rashad for Publishing and Distribution, 2010), p. 223.
2Karam Shibli, Dictionary of Media Terms (Cairo: Dar Al-Shorouk, 1989), p. 603.
3Abdul Qader Saleh, Uses of People with Special Needs of the Media and the Gratifications Achieved from Them: A Survey Study on a Sample of the Deaf and Mute in the City of Baghdad (Anbar University Journal of Humanities: Vol. 1, No. 4, 2020).
4Hamido Shimi Mohammed Ahmed, The Deaf's Exposure to Television Programs and Its Relationship to Their Perception of Social Reality, Journal of Research in Specific Education Fields (Egypt: Vol. 9, No. 47, July 2023).

Natural Resources for Human Health
eISSN: 2583-1194

2. Study by Hala Attia Shaheen, 2019[1]

Titled "Attitudes of People with Special Needs toward Following the Media and Satisfying Their Needs": a field study on a sample of the blind and the deaf in the Jazan region.

The study aimed to measure the attitudes of persons with disabilities toward following the media and the ability of these media to satisfy their cognitive and psychological needs. The study adopted the social survey method, as the most suitable for the field objectives, and used the questionnaire as the main tool for collecting data from a systematic random sample of 100 individuals, consisting of teachers and adult students in the educational sector in the Jazan region, distributed equally between the blind and the deaf and mute. The findings indicated that exposure motives are concentrated on the search for knowledge and entertainment, with respondents preferring television over the other media, while the internet came last because of the weakness of programs designated for them. The study also recommended activating sign language in television programs and attending to the unification of its symbols to ensure full understanding and comprehension.

3. **Study by Jab Allah Aisha, 2019[2]**

Titled: "Television and the Hearing-Impaired": a field study from the perspective of the uses and gratifications theory.

The study aimed to investigate the nature of the relationship between persons with hearing impairments and television as a medium that relies on the duality of sound and image, and to identify the motives of exposure and the interaction resulting from it in light of the uses and gratifications theory. The study adopted the survey method and applied the questionnaire to a comprehensive survey sample of 115 individuals with hearing impairments. The study reached several findings, the most important of which is that the sample members' motives for use are confined to the desire for knowledge, keeping informed of events, and entertainment; the study also identified a fundamental obstacle, namely the absence of sign-language interpretation for the majority of media content.

4. Study by Alaa Al-Badawi Othman, 2016[3]

Titled: "Sign Language on Television and Its Role in Delivering the News Service to the Hearing-Impaired": an analytical field study applied to the deaf bulletin on Al Jazeera Satellite Channel.

The study aimed to investigate the extent to which sign language contributes to delivering news information to the deaf and to identify the role played by television in meeting their needs. The study adopted the descriptive and historical methods and applied research tools represented by the questionnaire, the interview, and observation to a purposive sample of 108 deaf individuals in Khartoum State. The study's findings indicated that differences in cultural environments substantially affect the understanding of sign language. It also confirmed that the news presentation is the sole source of information for the sample members, who rely entirely on the senses of sight and movement to attract their attention, making sign language the most relied-upon means and an indispensable common language among the deaf and mute.

- **Foreign studies:**

1. Study by Alexander Does, 2021[4]

Titled "News 'with' or 'in' Sign Language?": a field study on a sample of deaf people in the Flanders region, Belgium.

This study focused on evaluating the news bulletins presented by the Flemish public broadcaster VRT, with the aim of identifying the extent to which sign language is understood in the news and determining the reasons that limit deaf viewers' comprehension of sign-language-interpreted bulletins, in addition to comparing the competence of deaf interpreters with that

[1]Study by Hala Attia Shaheen, Attitudes of People with Special Needs toward Following the Media and Satisfying Their Needs (Arab Journal of Disability and Giftedness Sciences, No. 8, 2019).

[2]Jab Allah Aisha, Television and the Hearing-Impaired, Arab Journal of Research and Studies in Humanities and Social Sciences (Algeria: Vol. 12, No. 1, January 2020).

[3]Alaa Al-Badawi Othman Ali, Sign Language on Television and Its Function in Delivering the News Service to the Hearing-Impaired, Master's thesis, Omdurman Islamic University (Sudan: Faculty of Media, Department of Radio and Television, 2016).

[1]**Does, A., & Rickert, J. News 'with' or 'in' sign language? A case study on the intelligibility of sign language in news broadcasts. Perspectives: Studies in Translation Theory and Practice, 304. 2022.**

of hearing interpreters. The study adopted the qualitative experimental method across three phases comprising qualitative interviews, a case study for international comparison with European broadcasters such as the BBC and SVT, and the testing of an alternative news format. It was applied to a random sample of 20 deaf individuals in Belgium, in addition to experts and producers from three European countries, and used the interview as the main data collection tool. **The study reached several findings, the most important of which** was that comprehension among most sample members was lower by 50% when relying on hearing interpreters, with a strong preference for deaf interpreters. It also revealed that the high speed of speech and the use of unfamiliar signs negatively affected the quality of simultaneous interpretation, leading respondents to prefer news presented directly in native sign language rather than news interpreted from the spoken language.

2. Study by Samuel Nyaiji and Alexina Nyaboke Marocha, 2018[1]
"From Exclusion to Inclusion: Integrating Kenyan Sign Language during TV News Bulletins in Kenya"

This study aimed to evaluate the role of the media in ensuring the inclusion and participation of the deaf community through Kenyan Sign Language during news bulletins, to identify the reasons why some media institutions refrain from this inclusion, and to determine the field challenges facing the channels that actually employed interpreters. The study adopted the qualitative evaluative method and used a set of data collection tools that included a questionnaire applied to a snowball sample of 35 individuals, interviews with production managers at major channels such as KBC and KTN and with international experts, in addition to direct observation and document analysis. As for the findings, the study showed that inclusion has not been fully achieved because of economic obstacles and a shortage of qualified interpreters, confirming that the absence of interpretation limits the deaf's exposure to news and reinforces their sense of exclusion, especially during national crises.

General Commentary on Previous Studies

From the review and analytical reading of the previous literature, the scientific indicators that formed the knowledge basis for the present study can be drawn as follows. Most previous studies focused on how the deaf and mute use the media in general and on monitoring habits of exposure and obstacles to accessing information, whereas the knowledge gap that the present study seeks to fill takes shape in its shift to a specialized focus, namely identifying the gratifications achieved from the sample members' exposure to sign language in news bulletins, especially given the researcher's observation of the scarcity of local studies that addressed this variable precisely in the local environment. This study sought to narrow the knowledge gap by investigating the adequacy of the sign-language interpreter in general news formats and the interpreter's ability to achieve informational satisfaction among the deaf and mute. The added value of this study also lies in the possibility of generalizing its results as a scientific indicator urging media outlets to employ sign-language interpreters and to activate their role in the various television programs, thereby ensuring the societal integration of this group and providing it with an integrated media service that adequately meets its cognitive needs.

Section Two: Theoretical Framework

First: Uses and Gratifications Theory

The uses and gratifications theory is among the theories concerned with studying the effect of the means of communication on the audience, and it focuses on the audience's actual role in the process of communicating with the media. It came as a new step in studying the effects of the means of communication, as this theory holds that the media audience is an active audience with the will and desire to choose the media that suit them, accord with their wishes, and satisfy their needs.[2] The theory thus departed from direct-effects theories, and the idea of the indirect or limited effect of the media emerged; that is, the audience itself decides which medium suits it and which content fulfills its gratifications. The theory focused on the reasons that drive audiences from various social categories to use the media, in an attempt to find the relationship linking the reasons, the use, and the return that the individual achieves through using the media,[3] and it is an audience-centered approach

---

[2] **Nyaiji, S., & Marocha, A. N., "From Exclusion to Inclusion: Integrating Kenyan Sign Language during TV News Bulletins in Kenya", Journal of Literature, Languages and Linguistics, Vol. 42, p. 15, 2018..**
[2]Hassanein Shafiq, Media Theories and Their Applications in New Media Studies and Social Networking Sites (Cairo: Dar Fikr wa Fan, 2013), p. 185.
[3]Hassanein Shafiq, previous source, p. 187.

with a particular vision that lies in recognizing the importance of individual differences and social variation among the audience and the behavior associated with the media.[1]

The uses approach receives great attention in media studies because it views the audience as a positive and active recipient that interacts with communication messages. Littlejohn describes the uses and gratifications approach as "a breath of fresh air in media research, because it is not satisfied with measuring the amount of exposure to the media but is concerned with what individuals obtain from their exposure to these means of communication."[2]

The Concept of Hearing Impairment: The Deaf and Mute.

The term hearing impairment refers to persons who are hearing-impaired, hard of hearing, and mute, and includes all degrees of hearing loss.[3] It expresses varying levels of hearing impairment ranging from mild and moderate impairment to very severe impairment, known as deafness. It is a phenomenon that is not limited to the elderly but also includes children and young people; that is, it occurs during the developmental stage, which makes it a developmental disability, and hearing impairment indicates the presence of a defect or problem somewhere in the auditory system.[4]

Hearing impairment includes total and partial deafness. The totally deaf child is the child who lost his or her hearing ability in the first three years of life and, as a result, was unable to acquire language, and is called a "deaf-mute child." The partially deaf child is the child who lost part of his or her hearing ability, hearing to a limited degree and speaking language at a level commensurate with the degree of the hearing disability, which makes him or her in need of special care that differs from the care methods needed by normal children of the same age; the degree and type of care vary according to the degree of hearing loss.[5]

Hearing impairment includes the hard of hearing, the deaf, and the mute[6]:

1- **Hard of hearing.** A hard-of-hearing person is defined as "a person who has sufficient residual hearing that enables him or her, through the use of hearing aids, to understand the speech of others and communicate with them orally."[7]
2- **Deaf.** They are defined as "persons who lost the sense of hearing before they learned language and speech, such that they have no traces of communicative development through language and speech that previously existed and were reduced."[8]

Smith **defines the deaf person** as "a person who is unable to perceive sounds in the surrounding environment in a useful way, whether with or without a hearing aid, and who is unable to use the sense of hearing as a primary basis for acquiring information."[9]

3- **Mute:** "The child who lost the ability to speak because of the inability to hear language and consequently has been unable to acquire it."[10]

---

[1]Faraj Al-Kamel, Media and Public Opinion Research: Design, Conduct, and Analysis (Cairo: Dar Al-Nashr lil-Jami'at, 2001), p. 88.
[2]Abdul Razzaq Al-Dulaimi, An Introduction to Mass Media (Amman: Dar Al-Masirah for Publishing and Distribution, 2012), p. 252.
[3]Ahmed Samir Siddiq, Hearing Impairment, Faculty of Education, Minia University; for more, see the link below: https://courses.minia.edu.eg/Attach.
[4]Adel Abdullah Mohammed, Introduction to Special Education (Cairo: Dar Al-Rashad for Printing, Publishing and Distribution, 2010), p. 170.
[5]Nour Abu Shaqra, Persons with Hearing Impairment: Education, Rehabilitation, Integration (Amman: Dar Al-Mu'tazz for Publishing and Distribution, 2023), p. 19.
[6]Issam Hamdi Al-Sadafi, Hearing Impairment (Amman: Al-Yazouri Scientific Publishing House, 2007).
Mahmoud Zayed Mohammed Malkawi, Auditory Aids and Methods of Communicating with the Hearing-Impaired (Riyadh: Dar Al-Zahra for Publishing and Distribution, 2008), p. 20.
[8]Iman Al-Sayyid Abdul Latif, Acquisition of Sign Language by the Deaf and Its Relationship to Their Family Interaction, Zagazig University: Journal of Special Education, No. 40, 2022, p. 76.
[9]Ibrahim Abdullah Faraj, Hearing Impairment (Amman: Dar Wael Publishing, 2003), p. 58.
[10]Badie Al-Qashaleh, Foundations of Special Education (Palestine: Dar Al-Huda for Publishing and Distribution, 2017), p. 87.

Natural Resources for Human Health
eISSN: 2583-1194

The World Health Organization for Childhood defined the deaf-mute child as "a child who was born lacking the sense of hearing to a degree that makes spoken speech impossible for him or her, with or without hearing aids; he or she suffers from a disability or impairment that prevents him or her from benefiting from the sense of hearing because it is disabled, and therefore he or she cannot acquire language in the natural, spontaneous way."[1]

Eighth: Causes of Hearing Impairment:

1. Prenatal causes, which are divided into:

أ. Hereditary causes, such as consanguineous marriage or marriage between deaf persons; among the most important of these causes is the difference in the Rh factor between the blood of the mother and that of the father and fetus, and the incompatibility of blood between them.

ب. Environmental factors before and during the birth process, such as the pregnant mother's infection with certain diseases such as rubella, malnutrition, exposure to X-rays, particularly in the first three months, and the pregnant mother's taking of medications and drugs without consulting a physician.

2- Causes during birth: such as oxygen deficiency or complications that occur to the mother during pregnancy, which lead to a difficult delivery or similar conditions that cause hearing impairment in the child.

3- Postnatal causes: Environmental causes that lead to hearing loss as a result of diseases to which children are exposed, such as blockages and infections of the outer and middle ear, and other incidents such as inflammation of the aqueous membrane and chronic ear inflammation; there are also other diseases that lead to deafness.

Twelfth: The Deaf and Mute and Media Communication:

The deaf and mute are one of the groups of society, and they are exposed to the media as other groups of society are, but they face certain challenges in their exposure to media content and their interaction with it. They deal with the media differently because of their hearing impairment, with the aim of obtaining information, and media communication for them is not merely entertainment and passing time but a window that opens the doors for communicating with the surrounding world, informs them of political and social events, and enables them to form their opinions on issues that directly affect them. It is therefore necessary that media content be compatible with their communication abilities and skills through the use of sign language and text translation (captioning), which enable them to receive media messages and understand their content, thereby reinforcing their sense of being part of society and integrating into it.

For the deaf and mute to attain the required integration into society, there must be a communication language that achieves this integration for them; they begin their relationships with one another, influence one another, and receive political, cultural, literary, and religious information, etc., through a particular language of communication, and their ideas and attitudes are nourished through their exposure to the means of communication and the content they provide. The natural condition of the deaf and mute must be taken into consideration, and no particular means of communicating with them should be imposed while the other means are abolished.[2]

News Bulletins

A news bulletin, like any program, must have a specific time at which it is broadcast, out of respect for the viewer and also to ensure the smooth running of the work, since it is organized work and not random work subject to the fluctuation of circumstances and whims;[3] it must be written in clear and concise language able to convey the meaning to the recipient easily. Brevity in turn does not conflict with clarity, but it is necessary that concision help highlight and clarify the intended meaning, for the longer the words, the greater their difficulty, because grasping their meaning takes longer than the sentences that carry a direct meaning.[4]

[1]Nour Abu Shaqra, Persons with Hearing Impairment: Education, Rehabilitation, Integration, op. cit., p. 20.
[2]Sulaiman Qasim Al-Ta'ani, Media and the Deaf: Theory and Practice (Amman: Dar Al-Khaleej for Publishing and Distribution, 2010), p. 22.
[3]Mohammed Al-Fateh Hamdi and Abdul Qader Arada, Production of Television News Bulletins (Algeria: Kunouz Al-Hikma Foundation for Publishing and Distribution, 2012), p. 38.
[4]Saeed Al-Sayyid and Sami Al-Sharif, Radio and Television News (Cairo University: n.p., 2005), pp. 165–166.

Natural Resources for Human Health
eISSN: 2583-1194

Following television news bulletins also reinforces the information that the viewer obtains and is a fundamental tributary that contributes to forming awareness and deepening the public's perception of local and international events. Thanks to television and its ability to present fine details, to introduce the public to social and political figures, and to present them to the world, it becomes a medium of attraction and intellectual stimulation that stimulates dialogue and discussion on current issues, which provides an opportunity to form a new public opinion that will be accepted or rejected regarding an issue that concerns the recipient public.[1]

News bulletins have a prominent role in educating members of the public about current issues and events; they are the primary source for understanding what is happening in the outside world. Television news is not limited to a single group; it addresses all categories of society, including the deaf and mute, for whom news bulletins are the primary source for learning about what is going on in the environment around them. The use of visual elements and the accompanying sign language represents a breaking of the barrier of silence and a conveying of information clearly and accurately.

Section Three: Field Study

This research came to determine the extent of the deaf and mute's exposure to sign language in news bulletins on television channels and to reveal the gratifications achieved as a result of this exposure. To present the applied side of the research, the researcher distributed 280 questionnaire forms to a sample of the deaf and mute in the city of Baghdad, to ensure representation of diverse educational and occupational levels. After the forms were collected, 30 forms were excluded because of incomplete data, as some forms contained incomplete answers for certain axes, which affects the accuracy of the statistical analysis. Thus 250 valid forms were relied upon for statistical analysis, which represented the final study sample. In this section we present the field results and their interpretation as follows:

First: Axis One: Demographic Data:

1- Gender:

Table (1): Distribution of respondents by gender

Gender	Frequency	Percentage	Rank
Male	144	57.6%	First
Female	106	42.4%	Second
Total	250	100%	-

Table (1), which shows the distribution of respondents by gender, indicates the following:

Males came first with a frequency of 144 and a percentage of 57.6%, while females came second with a frequency of 106 and a percentage of 42.4% of the total sample of 250 (100%). The results reflect the numerical superiority of males, which indicates a higher level of their exposure and interest in following sign-language news bulletins compared with females.

2- Age:

Table (2): Distribution of sample members by respondents' age.

#	Age	Frequency	Percentage	Rank
1	18–27	52	20.8%	Fourth
2	28–37	64	25.6%	Second
3	38–47	58	23.2%	Third
4	Over 48	76	30.4%	First
Total		250	100%	-

[1]Ghalib Kazem Jiyad Al-Dahmi, Television and the Making of Public Opinion (Amman: Dar Amjad for Publishing and Distribution, 2015), p. 78.

Natural Resources for Human Health
eISSN: 2583-1194

Table (2), which shows the distribution of sample members by age, indicates the following:

The category over 48 came first with a frequency of 76, followed by the 28–37 category in second place with a frequency of 64, then the 38–47 category in third place with a frequency of 58, while the 18–27 category came last with a frequency of 52, out of a total sample of 250 (100%).

These results reflect an increasing level of exposure to television news bulletins interpreted into sign language among the older age groups of the deaf and mute.

3- Educational level:

Table (3): Distribution of sample members by respondents' educational level.

#	Educational Level	Frequency	Percentage	Rank
1	Primary	92	36.8%	First
2	Can read and write	79	31.6%	Second
3	Illiterate	49	19.6%	Third
4	Intermediate	30	12%	Fourth
Total		250	100%	-

Table (3), which shows the distribution of sample members by educational level, indicates that the primary category came first with a frequency of 92, followed by the can-read-and-write category in second place with a frequency of 79, then the illiterate category in third place with a frequency of 49, while the intermediate category came last with a frequency of 30, out of a total sample of 250 (100%).

It is evident from this that the majority of sample members are of basic educational levels, which may explain their greater exposure to television news bulletins interpreted into sign language as a primary means of obtaining information and achieving cognitive gratifications.

Axis Two: Patterns of Exposure of the Deaf and Mute to Sign-Language-Interpreted News Bulletins on Al-Iraqiya Satellite Channel.

1- To what extent do you follow sign-language news bulletins on Al-Iraqiya Satellite Channel?

Table (4): The extent to which respondents follow sign-language news bulletins on Al-Iraqiya Satellite Channel.

#	Responses	Frequency	Percentage	Rank	df	Chi-square (χ^2) Value		Significance Level
						Calculated	Tabulated	
1	Always	124	49.6%	1	2	34.47	5.99	0.05
2	Sometimes	77	30.8%	2				
3	Rarely	49	19.6%	3				
Total		250	100%	-				

Table (4), on the extent to which respondents follow sign-language news bulletins on Al-Iraqiya Satellite Channel, shows that the "always" category came first with a frequency of 124 and a percentage of 49.6%, followed by the "sometimes" category in second place with a frequency of 77 and a percentage of 30.8%, while the "rarely" category came third with a frequency of 49 and a percentage of 19.6%, out of a total sample of 250 (100%).

These results indicate a high level of regular following of sign-language news bulletins among the sample members, which points to the importance of these bulletins in meeting the needs of the deaf and mute and achieving cognitive gratifications for them.

2- What news contents do you follow in television news bulletins?

Table (5): News contents followed by respondents in television news bulletins.

#	Statements	Frequency	Percentage	Rank
1	Local political news	169	22.03%	First
2	Arab news and events	150	19.56%	Second
3	Health news	141	18.38%	Third
4	Sports news	95	12.39%	Fourth
5	News concerning persons with disabilities	88	11.47%	Fifth
6	Economic news	85	11.08%	Sixth
7	International news and events	39	5.08%	Seventh
Total		*767	100%	-

Table (5), which shows the news contents that respondents prefer to follow in television news bulletins, indicates that local political news came first at (22.03%), followed by Arab news and then health news, which reflects their pursuit of keeping pace with events connected to their daily lives and living needs. By contrast, sports news, economic news, and issues concerning persons with disabilities received similar levels of interest, while international news came last at (5.08%); this confirms that the local and health spheres represent the highest priority in the patterns in which the deaf and mute follow news content.

3- What communication elements do you rely on to understand the news?

Table (7): Communication elements on which respondents rely to understand the news.

#	Responses	Frequency	Percentage	Rank	df	Chi-square (χ^2) Value		Significance Level
						Calculated	Tabulated	
1	Images	60	24%	2	2	54.18	5.99	0.05
2	Written text	52	20.8%	3				
3	Sign-language interpreter	138	55.2%	1				
Total		250	100%	-				

Table (7), on the communication elements on which respondents rely to understand the news, shows that the sign-language interpreter came as the most important means of understanding at (55.2%), followed by images in second place at (24%), then written text at (20.8%). These results confirm that the interpreter represents the fundamental communicative pillar enabling the deaf and mute to comprehend news content, while the other visual elements, such as texts and images, remain supporting means that reinforce the overall process of understanding.

*It is evident that the number of frequencies is 767, while the size of the research sample is 250; the reason for the high number of frequencies is that answering this question allowed choosing more than one option.

Natural Resources for Human Health
eISSN: 2583-1194

Table (8): Motives for the deaf and mute's exposure to sign-language-interpreted news bulletins on Al-Iraqiya Satellite Channel. N = 250.

#	Statements	Degree of Agreement				Mean	SD	Weight (%)	Level	Rk.
		Agree		Neu.	Dis.					
1	To learn about regional and international events in the world	F	191	53	6	2.74	0.47	91.33	High	6
		%	76.4	21.2	2.4					
2	To follow local news in Iraq.	F	210	210	7	2.81	0.39	93.67	High	1
		%	84	13.2	2.8					
3	To obtain accurate information and deeper interpretations of current events	F	182	57	11	2.68	0.64	89.33	High	10
		%	72.8	22.8	4.4					
4	To provide me with information that enables me to converse with my peers	F	195	48	7	2.75	0.46	91.67	High	5
		%	78	19.2	2.8					
5	It provides me with information related to issues of persons with disabilities	F	205	38	7	2.79	0.42	93	High	3
		%	82	15.2	2.8					

Table (8), on the motives for the deaf and mute's exposure to sign-language-interpreted news bulletins on Al-Iraqiya Satellite Channel, shows that all motives fell within levels ranging from high to moderate, with a clear prominence of cognitive and news motives as the most influential in patterns of exposure, with a mean of (2.48) and a percentage weight of (82.67%). Cognitive and news motives dominate the reasons for following, with following local news ranking first, followed by social and economic interests and issues concerning persons with disabilities. The results also revealed a heavy reliance on sign language as the sole interpretive means and as a tool for reinforcing social communication and building attitudes, whereas entertainment motives and the "escape from reality" motive receded to the last ranks, which confirms that the primary function of the bulletin for this group is an informational media function that seeks to integrate them into public affairs and meet their cognitive needs.

Axis Six: What are the obstacles that limit your exposure to sign-language news bulletins on Al-Iraqiya Satellite Channel?

Table (9): Obstacles that limit respondents' exposure to sign-language news bulletins on Al-Iraqiya Satellite Channel. N = 250.

#	Statements	Degree of Agreement				Mean	SD	Weight (%)	Level	Rk.
		Agree		Neu.	Dis.					
1	Sign-language-interpreted news bulletins are not sufficiently available	F	200	41	9	2.76	0.44	92	High	2
		%	80	16.4	3.6					
2	The small size of the window allocated to the sign-language interpreter	F	211	34	5	2.82	0.39	94	High	1
		%	84.4	13.6	2					

Natural Resources for Human Health
eISSN: 2583-1194

	on the television screen									
3	The interpreter's speed makes understanding difficult	F	150	80	20	2.52	0.66	84	High	5
		%	60	32	8					
4	Restriction of the sign-language interpreter's airtime to a single bulletin only	F	178	58	14	2.65	0.54	88.33	High	3
		%	71.2	23.2	5.6					

Table (9), on the obstacles that limit respondents' exposure to sign-language news bulletins on Al-Iraqiya Satellite Channel, shows real challenges at a high general level (mean 2.63 and percentage weight 87.67%), with the small size of the interpreter's window topping the list of obstacles as the most prominent technical challenge affecting the clarity of the signs. The results also revealed organizational and technical obstacles represented by a shortage of interpreted content and its restriction to a single bulletin. It is evident from this that the technical and organizational factors related to the presentation mechanism and content availability have the greatest influence in limiting following, which necessitates improving the quality of the visual presentation and increasing the time allocated to interpretation to ensure that the media message is delivered effectively.

Axis Seven: Gratifications Achieved through the Deaf and Mute's Exposure to News Bulletins on Al-Iraqiya Satellite Channel.

Dimension One: Cognitive Gratifications and Understanding of Reality, Represented by Increased Knowledge, Understanding and Awareness.

Table (10): Cognitive gratifications and understanding of reality, represented by increased knowledge, understanding, and awareness. N = 250.

#	Statements	Degree of Agreement				Mean	SD	Weight (%)	Level	Rk.
		Agree		Neu.	Dis.					
1	They increase my information and knowledge of Arab and international events.	F	205	41	4	2.80	0.41	93.33	High	2
		%	82	16.4	1.6					
2	My information and knowledge of local events and issues have increased	F	208	37	5	2.81	0.43	93.67	High	1
		%	83.2	14.8	2					
3	They acquaint me with viewpoints related to issues of persons with disabilities.	F	202	45	3	2.79	0.40	93	High	3
		%	80.8	18	1.2					
4	I have become more aware of dealing with laws, and they have introduced me to new topics.	F	183	58	9	2.69	0.56	89.67	High	5
		%	73.2	23.2	3.6					
5	The sign language accompanying television news helps increase my awareness in dealing with health,	F	198	44	8	2.76	0.48	92	High	4
		%	79.2	17.6	3.2					

	social, and economic issues.									
Total						2.77	0.46	92.33	High	-

Table (10), on cognitive gratifications and understanding of reality represented by increased knowledge, understanding, and awareness, shows that all items fell within a high level, with an overall mean of (2.77) and a percentage weight of (92.33%), which highlights the pivotal role of sign-language-interpreted news bulletins in enhancing knowledge of local issues, which came first, followed by Arab and international events. The bulletins also contributed effectively to developing awareness of issues concerning persons with disabilities and of dealing with health and economic affairs. It is evident from this that these bulletins represent a main tool for raising the level of applied awareness and cognitive integration among respondents, with an opportunity to intensify specialized legal and cognitive content in the future.

Dimension Two: Personal and Social Gratifications, Represented by Interaction, Communication, and Social Behavior.

Table (11): Personal and social gratifications, represented by interaction, communication, and social behavior. N = 250.

#	Statements	Degree of Agreement				Mean	SD	Weight (%)	Level	Rk.
		Agree		Neu.	Dis.					
1	They helped me build my independent personality and make correct decisions regarding various issues	F	180	59	11	2.67	0.57	89	High	2
		%	72	23.6	4.4					
2	Sign-language news bulletins motivate me to participate in volunteer work and community service.	F	173	67	10	2.65	0.58	88.33	High	3
		%	69.2	26.8	4					
3	Following sign-language news bulletins encourages me to participate in official meetings.	F	172	66	12	2.64	0.59	88	High	4
		%	68.8	26.4	4.8					
4	Following sign-language-interpreted news bulletins does not help me integrate into society	F	75	76	99	1.90	0.82	63.33	Medium	5
		%	30	30.4	39.6					
5	They helped me communicate with my peers and share their opinions	F	194	46	10	2.73	0.52	91	High	1
		%	77.6	18.4	4					
Total						2.51	0.62	83.67	High	-

Table (11), on personal and social gratifications represented by interaction, communication, and social behavior, shows that most items fell within a high level, with a mean of (2.51) and a percentage weight of (83.67%). The fundamental role of news bulletins stood out in strengthening communication with peers and exchanging opinions, ranking first, followed by their contribution to building an independent personality and the ability to make decisions. The results also showed tangible

motivation of respondents toward participation in volunteer work and official meetings, which enhances self-confidence and the spirit of initiative, while the perception of the inability to integrate came last and at a moderate level, which confirms that the general trend leans strongly toward regarding the bulletins as an effective means of personal empowerment and societal integration for the deaf and mute.

Study Hypotheses:

Hypothesis One: There is a statistically significant correlation between the motives of the deaf and mute for exposure to sign-language news bulletins and the level of following, in terms of the number of weekly viewings and the duration of following.

Result: The results showed a very strong positive correlation between the two variables, with a Pearson correlation coefficient of 0.864, a high value that clearly reflects the strength of the relationship, which indicates that the relationship is statistically significant; therefore, the fourth hypothesis is accepted.

Hypothesis Two: There is a statistically significant correlation between the extent to which respondents follow sign-language news bulletins on Al-Iraqiya Satellite Channel and the level of cognitive and reality-understanding gratifications, represented by increased knowledge, understanding, and awareness.

Result: The results of the statistical analysis indicate a strong positive correlation between the two variables, with a Pearson correlation coefficient of 0.775, a high value that reflects the strength of the relationship between following this type of news and the level of cognitive gratifications, and this indicates that the relationship is statistically significant; therefore, the hypothesis is accepted.

Hypothesis Three: There is a statistically significant correlation between the extent to which news bulletins contribute to forming a clear image and the guidance and entertainment gratifications.

Result: The results of the statistical analysis indicate a moderate positive correlation between the two variables, with a Pearson correlation coefficient of 0.524, a value that reflects a noticeable correlation of moderate degree, which indicates that the relationship is statistically significant; therefore, the hypothesis is accepted.

Hypothesis Four: There is a statistically significant correlation between the guidance and entertainment gratifications and the personal and social gratifications.

The results of the statistical analysis indicate a strong positive correlation between the two variables, with a Pearson correlation coefficient of 0.768, a high value that reflects the strength of the association between the two types of gratifications, which indicates that the relationship is statistically significant; therefore, the hypothesis is accepted.

In light of the study's findings, the following recommendations can be presented:

1- Visual media should employ a sign-language interpreter in all news bulletins and talk programs.
2- A sign-language interpreter should be added to children's programs, series, films, and educational channels to ensure this group's right of access to information and to achieve cognitive empowerment and comprehensive societal integration.
3- Sports satellite channels should add a sign-language interpreter to their programs.
4- The interpreter's on-screen area should be increased and the sign language used in news bulletins should be standardized.

REFERENCES

[1] Ibrahim Abdullah Faraj, Hearing Impairment (Amman: Dar Wael Publishing, 2003).
[2] Ahmed Samir Siddiq, Hearing Impairment, Faculty of Education, Minia University; for more, see the link below: https://courses.minia.edu.eg/Attach.
[3] Ismail Ibrahim, Media Research Methods (Cairo: Dar Al-Fajr for Publishing and Distribution, 2017).
[4] Badie Al-Qashaleh, Foundations of Special Education (Palestine: Dar Al-Huda for Publishing and Distribution, 2017).
[5] Hassanein Shafiq, Media Theories and Their Applications in New Media Studies and Social Networking Sites (Cairo: Dar Fikr wa Fan, 2013), p. 185.
[6] Saeed Al-Sayyid and Sami Al-Sharif, Radio and Television News (Cairo University: n.p., 2005).

[7] Sulaiman Qasim Al-Ta'ani, Media and the Deaf: Theory and Practice (Amman: Dar Al-Khaleej for Publishing and Distribution, 2010).
[8] Adel Abdullah Mohammed, Introduction to Special Education (Cairo: Dar Al-Rashad for Publishing and Distribution, 2010).
[9] Abdul Razzaq Al-Dulaimi, An Introduction to Mass Media (Amman: Dar Al-Masirah for Publishing and Distribution, 2012).
[10] Issam Hamdi Al-Sadafi, Hearing Impairment (Amman: Al-Yazouri Scientific Publishing House, 2007).
[11] Ghalib Kazem Jiyad Al-Dahmi, Television and the Making of Public Opinion (Amman: Dar Amjad for Publishing and Distribution, 2015).
[12] Faraj Al-Kamel, Media and Public Opinion Research: Design, Conduct, and Analysis (Cairo: Dar Al-Nashr lil-Jami'at, 2001).
[13] Kamel Mohammed Al-Maghrabi, Scientific Research Methods in the Humanities and Social Sciences (Amman: Dar Al-Thaqafa for Publishing and Distribution, 2009), p. 48.
[14] Karam Shibli, Dictionary of Media Terms (Cairo: Dar Al-Shorouk, 1989).
[15] Mohammed Al-Fateh Hamdi and Abdul Qader Arada, Production of Television News Bulletins (Algeria: Kunouz Al-Hikma Foundation for Publishing and Distribution, 2012).
[16] Mohammed Abdul Hamid, Scientific Research in Media Studies (Cairo: Alam Al-Kutub, 2000).
[17] Mahmoud Zayed Mohammed Malkawi, Auditory Aids and Methods of Communicating with the Hearing-Impaired (Riyadh: Dar Al-Zahra for Publishing and Distribution, 2008).
[18] Nour Abu Shaqra, Persons with Hearing Impairment: Education, Rehabilitation, Integration (Amman: Dar Al-Mu'tazz for Publishing and Distribution, 2023).
[19] Nour Abu Shaqra, Persons with Hearing Impairment: Education, Rehabilitation, Integration (Amman: Dar Al-Mu'tazz for Publishing and Distribution, 2023).
[20] Wahib Majeed Al-Kubaisi, Applied Statistics in the Social Sciences (Beirut: Mu'assasat Misr Murtada for Iraqi Books, 2010)
[21] Alaa Al-Badawi Othman Ali, Sign Language on Television and Its Function in Delivering the News Service to the Hearing-Impaired, Master's thesis, Omdurman Islamic University (Sudan: Faculty of Media, Department of Radio and Television, 2016).
[22] Jab Allah Aisha, Television and the Hearing-Impaired, Arab Journal of Research and Studies in Humanities and Social Sciences (Algeria: Vol. 12, No. 1, January 2020).
[23] Hamido Shimi Mohammed Ahmed, The Deaf's Exposure to Television Programs and Its Relationship to Their Perception of Social Reality, Journal of Research in Specific Education Fields (Egypt: Vol. 9, No. 47, July 2023).
[24] Abdul Qader Saleh, Uses of People with Special Needs of the Media and the Gratifications Achieved from Them: A Survey Study on a Sample of the Deaf and Mute in the City of Baghdad (Anbar University Journal of Humanities: Vol. 1, No. 4, 2020).
[25] Hala Attia Shaheen, Attitudes of People with Special Needs toward Following the Media and Satisfying Their Needs (Arab Journal of Disability and Giftedness Sciences, No. 8, 2019).
[26] Iman Al-Sayyid Abdul Latif, Acquisition of Sign Language by the Deaf and Its Relationship to Their Family Interaction, Zagazig University: Journal of Special Education, No. 40, 2022.
[27] Does, A., & Rickert, J. News 'with' or 'in' sign language? A case study on the intelligibility of sign language in news broadcasts. Perspectives: Studies in Translation Theory and Practice, 304. 2022.
[28] Nyaiji, S., & Marocha, A. N., "From Exclusion to Inclusion: Integrating Kenyan Sign Language during TV News Bulletins in Kenya", Journal of Literature, Languages and Linguistics, Vol. 42, p. 15, 2018.