

The effectiveness of a proposed program based on infographics to develop students with hearing disabilities with theatrical acting skills

"A quasi-experimental study"

Nada Abdel kader Ali, Prof. Dr. Mohamed Zain Abdel
Rahman, Prof. Eman Ashour syad
Minia University-Faculty of Specific Education-Department
of Educational Media

nada75721@gmail.com



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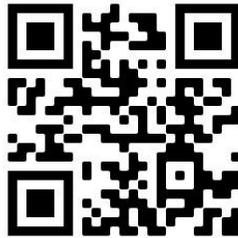
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The effectiveness of a proposed program based on infographics to develop students with hearing disabilities with theatrical acting skills "A quasi-experimental study"

Abstract :

The current study sought is to reveal the effectiveness of a proposed program, It is based on infographics to provide students with hearing disabilities with theatrical acting skills. To achieve the objectives of the research, the descriptive approach was followed to review previous studies and research, and the quasi-experimental approach to measuring the impact of independent variables on dependent variables. The experimental research sample consisted of a group of students from Al-Amal School for the Deaf and Hard of Hearing in Elminya It consisted of (26) items, and the research tools were represented in (the proposed program, an achievement test for the cognitive aspect of theatrical acting skills, and a observation card for theatrical acting skills). On the theater and its implications, how to dramatize the curricula, as they were designed in the form of lessons and measurement tools were applied before and after learning, and the most important results concluded to the effectiveness of the proposed program based on infographics to provide students with hearing disabilities with theatrical acting skills. In addition to, there are no statistically significant differences between males and females in ranks Scores in both the cognitive side and the skill side of theatrical acting skills.

Keywords: Effectiveness, infographics, theatrical acting skills, with hearing disabilities.

فاعلية برنامج مقترح قائم على الإنفوجرافيك لتزويد الطلاب ذوي الإعاقة

السمعية بمهارات التمثيل المسرحي "دراسة شبه تجريبية"

مستخلص البحث :

هدف البحث الحالي إلى الكشف عن مدى فاعلية برنامج مقترح قائم علي الإنفوجرافيك لإكساب الطلاب ذوي الإعاقة السمعية مهارات التمثيل المسرحي ولتحقيق أهداف البحث تم اتباع المنهج الوصفي للإطلاع على الدراسات والبحوث السابقة، والمنهج شبه التجريبي لقياس أثر المتغيرات المستقلة على المتغيرات التابعة، وتكونت عينة البحث التجريبية من مجموعة من الطلاب من مدرسة الأمل للصم وضعاف السمع بالمنيا قوامها(26) مفردة كما تمثلت أدوات البحث في(البرنامج المقترح، اختبارتحصيلي للجانب المعرفي لمهارات التمثيل المسرحي، وبطاقة ملاحظة لمهارات التمثيل المسرحي) حيث تم تصميم البرنامج يحتوي علي ماهية المسرح، كيف يتم بناء مسرحية، مهارات صناعة الشخصية، مهارات الحركة، أوضاع الممثل علي المسرح ومدلولاتها، كيفية عمل مسرحية المناهج حيث تم تصميمها في شكل دروس وقد طبقت أدوات القياس قبل التعلم وبعده، وخلصت أهم النتائج إلي فاعلية البرنامج المقترح القائم علي الإنفوجرافيك لإكساب الطلاب ذوي الإعاقة السمعية مهارات التمثيل المسرحي وأنه لا توجد فروق دالة إحصائياً بين الذكور والإناث في رتب الدرجات في كلاً من الجانب المعرفي والجانب المهاري لمهارات التمثيل المسرحي.

الكلمات الرئيسية: فاعلية، الإنفوجرافيك، مهارات التمثيل المسرحي، ذوي الإعاقة السمعية.

Introduction :

In recent years, there has been remarkable interest from all state institutions in persons with special capacities in general and hearing disabilities in particular in all areas of social, educational and psychological life to enhance their participation.

There is no doubt that people with hearing disabilities are innately gifted, despite the affliction. One of the advantages of educational media as an activity is that it is characterized by the freedom it grants to its practitioners; Where it can be practiced inside and outside the school, and it is not only used as a media tool, but can also be used to integrate people with hearing disabilities into society and enable them to deal with other ordinary peers. Many researches and studies in psychology have addressed the importance of students with hearing disabilities practicing educational media activity within the school and its skills. It has a major role in providing them with information and assisting them in the teaching and learning processes, making the educational process more effective and meaningful, as well as compensating for their disability and shortcomings, which contributes to their adaptation and integration into society faster.

The successive cognitive and technological development has put the educational process in a stage of rapid changes, so those in charge of the educational process for special groups in general tended to take advantage of this technological development and integrate new technology into the education and learning of these groups. there for, this new technology, the infographic, was able to transform a huge amount of words in to pictures and drawings that are easy to understand and comprehend clearly for the special abilities of people with hearing disabilities.

Problem of the study:

The researcher noted the lack of research that concerned the participation of people with special needs with hearing disabilities in school activities in general and educational media in particular as a result of the inferior view of them due

to their special abilities, the lack of consideration of the distinct and learnable models among them and the belief in the need to ensure equality between them and their ordinary peers in the practice of schools activities, activating it for them, developing their various talents, and opening the way for them to express themselves in a manner commensurate with their abilities, and adapting activities and teaching methods in a way that contributes to communicating information to them.

Technological development and the nature of the age require the preparation of generations capable of accommodating the civilization of the age and the preparation of a model human being model capable of adapting to the tremendous cognitive development, the information revolution and information technology. there is no doubt that sight is an important compensatory means of information acquisition In communicating the educational message to the learner, so the visual experience is more lasting and has a deeper impact on the educational process. In addition to the use of technology in the way information is presented contributes to its delivery, this is what was proven by a study. Alrwele,n, where the results came to confirm that 60% of the sample believed that the use of infographics in education improves the knowledge and information of individuals, and 50% of the sample believe that it increases the chances of imagination for the learner, and 66% believe that its use develops creativity in the learner (Alrwele,n.,2017,115).It also contributes to solving many educational problems, especially for people with hearing disabilities, and this in turn contributes to their interest in practicing all educational media activities, and through the field researcher's visit to the Al-Amal School for the Deaf and the Weak in Matai, the researcher noticed the existence of educational media activities that are already practiced inside the school. The theater activity came at the forefront of the media activities practiced by the deaf, but it lacks many skills that refine its importance and suit that category and make it more able to play its desired role. outward, and he can express himself through it.

Here, the researcher can be able to do this by experimenting on the hearing impaired, trying to use a new, non-traditional method characterized by the characteristics that are commensurated to the characteristics of the sample, namely, the infographic, to provide them with theatrical acting skills. So, the problem of the current study crystallized in the following main question: *What is the effectiveness of a proposed program based on infographics to provide people with hearing disabilities with theatrical acting skills?* A set of sub-questions emerge from this question:

- What is the effectiveness of the proposed program based on infographics in the cognitive acquisition of information related to theatrical acting skills?

-What is the effectiveness of the proposed program based on the infographic in the skill side of theatrical acting?

Importance of the study:

The importance of the study is as follows:

1- The study contributed to providing a guiding model for the deaf learner to the right path in dealing with educational media activities, and trying to establish rules that contribute to building a generation that keeps pace with the developments of his time, in addition to teaching him how to improvise a situation on the stage?, How to turn a lesson into a play?, What are the skills that he must have in order to become a theater actor? What are the mistakes that the theater actor makes and how to avoid them?.

2- The current study derives its importance from the importance of theatrical representation as an important compensatory means for people with hearing disabilities in expressing themselves and presenting their problems and ways to solve them.

3- This study may increase the deaf people's desire to participate in the school theater in a new way that suits their unlimited capabilities, and train the sample on effective community participation.

4- It develops creative production of the class with audio disabilities under the recommendations and attention of all

state institutions to search for their abilities and develop them as technology put from techniques for all categories of society and less effort.

Aims of the study:

The current study aims to:

1. Detection of the effectiveness of a proposed program based on infographics to provide the hearing impaired with theatrical acting skills.
2. Determining the elements of the proposed program based on the infographic in providing the hearing impaired with theatrical acting skills.
3. Stating the impact of the program presented through the infographic on developing the cognitive aspect of theatrical acting skills for people with hearing disabilities.
4. Stating on the impact of the program presented through the infographic in developing the skill side of theatrical acting skills for people with hearing disabilities.

A literature review :

The researcher sought to see previous studies related to the subject of her study in order to benefit from them, and start from where others had finished. The following is a review of some previous studies related to the study:

A study by Karim, Alia Muhammad 2021 entitled Infographics as a visual learning tool for science among deaf students: an analytical study, study sought to reveal how infographic is used as a visual learning method using the descriptive analytical approach It is based on reviewing the literature and previous studies and drawing conclusions from them. Visual and developing skills are learned through it.

A study by Teppharak,k. 2019 entitled Creating interactive games to improve acting skills, study aimed to create representational games to improve acting skills on a sample of (30) third-year students at the Department of Dramatic Arts, Suan Sunandha Rajabhat University, study used the quasi-experimental approach, and the observation card tool to assess student representation. The most important results revealed that pretending games contribute to improving

acting skills that can be done in 5 specific forms of activity: (physical activity, focus activity, imagination activity, improvisation activity in ideas and texts, and role - playing activity) in order to improve acting skills .

A study by Manita,Ayyad Abu al-Qasim 2018 entitled The impact of a training program on developing puppet theater skills for students of the Kindergarten Division at the Faculty of Education in Zawiyah, study aimed to measure the impact of a training program on developing puppet theater skills for students of the Kindergarten Division at the Faculty of Education in Zawia, represented in: preparing and writing a puppet theatrical script, designing an educational puppet, and employing theatrical elements in the production of a theatrical performance, as well as providing them with information and theoretical and practical skills about Child theater using the experimental method through the one-group method. On a sample of (72) students, the results confirmed the high arithmetic averages in the pre/post measurement in favor of the post-measurement of the three skills.

A study by Abdel-Maboud, Reda Ibrahim 2017 entitled The impact of an educational program in science based on infographic technology in acquiring scientific concepts and developing visual thinking skills and usability among hearing-impaired students in the primary stage, study aimed to reveal the effect of an educational program in science based on the infographic technique on acquiring scientific concepts, developing visual thinking skills and usability among hearing-impaired students in the primary stage(9-12) years, the toolsof the study include the test of scientific concepts, the usability scale, and the visual thinking test. The results of the research resulted in the presence of statistically significant differences between the mean scores of the experimental group students and the scores of the control group in the post - application in favor of the experimental group in each of the (test Scientific concepts, usability scale, and visual thinking test.

A study by Muhammad,Ahmed Hussein 2017, entitled “The effectiveness of a training program for developing theatrical improvisation skills for students of Mansoura University, an experimental study, The study aimed to examine the effectiveness of a training program in teaching and developing theatrical improvisation skills for Mansoura University students, which is represented in the improvisation of the idea, the improvisation of acting, and the avoidance of acting errors. The study indicated that there were statistically significant differences between the mean scores of the tribal and remote measurements in theatrical improvisation skills in favor of the post-measurement.

A study by Yıldırım,s. 2016 entitled Infographics for Educational Purposes Its Structure Characteristics and Methods of Reading, study aimed to present the views of learners who learn through infographic presentations, using both the quasi-experimental approach through a (20) week program in which everything related to the infographic is presented,the study assigned to submit five presentations of the infographic,and the descriptive approach using the questionnaire tool. This was done on a sample of students from the College of Education, a university consisting of (64) singles. the most important results of the study concluded that the participants confirmed the extent of the importance of the infographic as a method of teaching, as it proved its worth in the basic learning processes. In addition, the infographic was considered one of the basic educational materials that make learning more sustainable.

A study by Obosu,g. et all 2013 Entitled The Use of Visual Arts Forms in Teaching and Learning in Deaf Schools in Ghana An investigation into the practice, study aimed to develop and defining visual teaching strategies for deaf students in schools. Using the case study approach on five (5) schools for the deaf in Ghana, was used the sample size was (104) individuals, using a set of tools including the observation card, in-depth interview and focused discussion. the results of the study revealed that although the deaf is a visual learner, the visual teaching In schools for the deaf

students is not sufficiently practiced in a way that meets the visual needs of the deaf, so it is necessary to adopt and modify new technological trends to meet the needs of the deaf student.

A study by Özmen,k. 2011 Entitled Teaching representation to the student teacher : Bing's model for identity development, study aimed at developing the representation of three pre-service teachers during three semesters. they took an acting course for teachers, in which they participated in practical training while developing their hobbies as teachers. Through a model based on influential representation theory, is based on the skills add the (veracity of expression, creating a representative situation, living experience) based on the case study method. using interview and observation were used as tools for evaluation. in developing their identity as A ateacher.

Hypotheses of the study:

- 1- There are statistically significant differences between the mean scores of the experimental group (the study sample) in the cognitive structure test of theatrical acting skills in the pre and post - applications in favor of the post application .
- 2- There are statistically significant differences between the mean scores of the experimental group (study sample) in the observation card of the sample performance of theatrical acting skills in the two applications, pre and post, in favor of the post - application .
- 3- There are statistically significant differences between the mean scores of the experimental group (study sample) in the observation card of the sample performance of theatrical acting skills in the two applications, pre and post, in favor of the post - application .

Method:

Two study methods were used:

The descriptive-analytical approach : because it aims to collect, analyzing and interpret data through reviewing the literature and previous studies

The quasi-experimental approach : This is due to its relevance to the nature of research in the human sciences, and the current study will depend on it in studying the effectiveness of a program in educational media based on infographics in providing people with hearing disabilities with media photography skills. Post-measurement with the same tools (cognitive test, note card).

Study population and sample :

The study population is represented in the category of people with hearing disabilities from the age of 15 to 18 years at Al-Amal School for the Deaf and Hard of Hearing in Minya. The sample in the school for the deaf consists of (26) individuals with hearing disabilities at Al-Amal School for the Deaf and Hard of Hearing in el Minya.

Tools of the study:

1. Preparing the experimental treatment material for the program and setting goals and content.
2. Theatrical acting skills observation card.
3. Cognitive test.

study variables:

The Independent Variable : a proposed program in the educational media based on the infographic.

Dependent variable : theatrical acting skills.

Experimental material:

The experimental treatment material was represented in a program based on infographics to provide the deaf students participating in the educational media activity with theatrical acting skills represented in (the definition of theatre, the definition of the play, the building elements of the play, the movement and conditions of the actor on the stage and its implications, the actor's tools, the types of plays, the methods of acting, how to Prepare a plan for acting a theatrical role, acting errors on stage and ways to avoid them, elements of curriculum dramatization, steps to convert a systematic lesson into a play).

The Experimental research design :

In the light of the independent variable in question, the experimental design with a single group was used, so that the measurement tools were applied to the “experimental” sample before and after.

Limits of the Study:

Time limits: The study was implemented in the first semester of the year 2020.

Place limits: The study was limited to Al-Minya Governorate, Al-Amal School for the Deaf and Hard of Hearing.

Objective limits: It is limited to the effectiveness of a proposed program based on infographics to provide the hearing impaired with theatrical acting skills.

human limits: The study was applied to a deliberate sample of (26) single deaf students at Al-Amal School for the Deaf in El Minya Governorate.

Search procedures :

1. Preparing the theoretical framework by reviewing research and studies related to Arabic and English related to the current research variables to benefit from them in the research preparation stages.
2. Content analysis of theatrical acting skills
3. Preparing a list of theatrical acting skills and presenting it to the jury members.
4. Preparing the experimental treatment material, which is represented in infographic models of theatrical acting skills.
5. Preparing to measuring instruments and to present them to Judgement members, including:
 - An achievement test for the cognitive aspect of theatrical acting skills.
 - Observation card for theatrical acting skills.
6. Conducting the exploratory experiment to calculate the validity and stability of the tools, and to identify the difficulties of application, and ways to solve them in preparation for the actual application.

7. Select a research sample of students with hearing disabilities from Al-Amal School for the Deaf and Hard of Hearing in the first, second and third grades of secondary school.
8. The application of measurement tools as a tribal application for the students of the research group.
9. The application of the experimental treatment material.
10. The application of measurement tools as a remote application of the research group
11. Monitoring the data and processing it statistically to test the validity of the hypotheses, reach the results and discuss them in the light of the related studies.
12. Presenting appropriate recommendations and suggestions in light of the results of the research.

Terminology of the study :

Effectiveness: The amount of change that the proposed program will bring about through educational media activity in the cognitive and skill aspects of media photography skills in the research sample, and this effectiveness is measured through the achievement test and the observation card.

Infographic: A tool to provide the sample with the skills of media photography in a visual way, as it explains them through pictures and drawings, which makes integration between images and information, allowing the hearing-impaired learner to understand information and develop media photography skills.

Theatrical acting skills: A set of performances by students with hearing disabilities during their study of the school theater and their performance on the school theater, and it is measured through an achievement test for the cognitive aspect and a note card for the skill aspect.

Hearing- impaired : They are those who have a defect in the auditory system of different degrees, which leads to problems in normal communication.

The cognitive framework of the study: Theoretical side: is divided into two sections.

Section one: infographic

Infographic Concept :

Salem (2017,254) believes that the infographic is a visual representation of information and ideas, by employing different visual forms to clarify an idea and presents a large amount of information in a simplified and understandable way that reaches the recipient quickly and combines information and design to enable visual learning and present complex information in a more easily. Shaltout (2014, 111) also refers to it as an art that helps present the curriculum in a new, interesting and exciting way; As he appeared with his various designs in transforming complex information and concepts into images and graphics and presenting them in an attractive form. Ali (2017,550) calls it “information architecture” “data visualization” “information design” “information representation” “information designs” as he defines it (Heer, J. et all 2010,61) as a visual representation of information enhanced with graphics, with the aim to display and show complex information in a way that makes it faster and more clear to understand.

Characteristics of infographics as an educational tool for people with hearing disabilities :

Infographics as an educational have method have a set of characteristics that distinguish them from other technological means, among which are the following :

1. **Coding, brevity and simplicity:** That is, his ability to put information and concepts into symbols, in addition to his ability to shorten the learner's time instead of spending a long time learning a skill.
2. **Visual communication :** that is, the formulation of information in a visual image that is easy to understand, as it transforms it into interesting numbers, pictures and drawings.

3. **Attractive design:** the use of colors, images, graphics, fonts, and arrows all have a role in attracting the recipient's attention to the message to be delivered. (Mohammed, Amr & Mohamed, Amani, 2015, 270)
4. **Shareability and ease of dissemination:** that is, the possibility of sharing it across different educational platforms. It is also more widespread than video and writing because it summarizes all of this in images, symbols and semantics.
5. **Shareability and ease of dissemination:** that is, the possibility of sharing it across different educational platforms, as well as it is more widespread than video and writing because it summarizes all of this in images, symbols and semantics, as well as pluralism and applicability as there are many methods and styles of presentation with various specifications that makes it able to cover all aspects for scientific material, It can also be used to explain any scientific material, as it is for all fields, Ain Shams University. (Mohammed, 2018, 65)
6. **Enrichment Ability :** It means the possibility of adding additional links that make it easier for the learner to refer to them to enrich his educational knowledge about the topic of learning contained within the infographic (Ali, 2019, 121)
7. **Creative ability:** as it enhances the ability of its users and producers to think creatively, link and organize information, and change the routine ways of presenting information, which increases the interaction of the learner with the scientific material (Ghoneim, 2018, 355).

functions of the infographic in the educational process of the deaf are :

When using infographics as an educational tool for the category of students with hearing disabilities, it performs several functions, including the following :

1. Enhancement of the processes of understanding and interpreting the meaning of vocabulary.
2. Easier and faster access to concepts and ideas in complex information, as well as highlighting important ideas with categorizing information and arranging stories and events. (IARE, 2003,9).
3. Providing more opportunities for interaction between learners and each other and between learners and their teachers (Vanichvasin, P.,2013,140).
4. Giving the needs of the visually deaf learner (Smiciklas, m., 2012, 60).
5. It is an integrated visual system for displaying information, and it includes multiple forms. which does not depend on a specific language (Mohiuddin, F. & Chhutani, V., 2013, 7).
6. Contributing to the formation of positive attitudes about his abilities and his education. contributes to reducing their dependence on others in the educational process, that is, increasing his independence, which gives him self-confidence and strengthens his self-esteem. (Abdullah, 2020, 288: 289).
7. Providing the skill of using technological innovations, the skill of communicating effectively with others (Damaynov, I. & Tsankov, n., 2018, 88).
8. Enhancing the process of recalling and retaining information by associating it with colors and images in a way that is difficult to forget.

The second Section: theatrical acting :

Eid (2006, 470) defined it as the delivery of dramatic events by exchanging influence in front of the audience in the theater hall through personalities and roles played by actors in a certain period. Sahel refers to it from an educational perspective (2016, 30) that it is a school activity and a means

of measuring and presenting educational lessons through a story that is transformed into a dialogue implemented on the school stage in order to increase the students' interest in the educational process. Al-Kashef (2006, 38) considers that theatrical representation is an artistic creation aimed at translating the ideas of the playwright into life, movement and action.

Mary Ellen (2001,119)explains that theatrical representation is the presentation of an image of a character immersed in a series of actions and conditions set by the author and transmitted by the actor to the viewer to create the character. Kaufman, C. & Beghetto, A. (2013,35) Theatrical representation is an idea born from another in which the actors create an imaginary environment simulating reality and then interacting with it and in it emotionally and physically through a set of imaginary graphic rules.

The importance of teaching theatrical acting for the hearing impaired :

The importance of teaching acting on the stage for people with hearing disabilities lies in :

1. Teaching acting on stage provides opportunities for the deaf to assume responsibilities, face the audience without fear, regulate emotions and self-control processes (Ashour, 2009, 382).
2. Acting creates human qualities in deaf people that they may miss as a result of their isolation from the world and social relations, as the acting agent refines emotions and educates the mind.
3. Acting develops the imagination and brings the mind out of the dark and places it in its natural position in life.
4. Theatrical acting contributes to recreation and getting out of the boredom of silence experienced by the deaf, to express feelings, let go of repressions, and enjoy time (Sahel, 2016, 37).
5. Theatrical acting develops in the deaf people information, culture, experience and skills different in all human and life aspects as it works to reach the deaf to the stage of

maturity and integration of personality (Al-Hallaq, 2010, 35)

6. Theatrical acting works to develop the elements of language and the deaf's familiarity with a large number of words that have a linguistic outcome that enables him to express himself and deal with the society around him (Al-Abdullah, 2016, 220).

Study design :

The researcher built an infographic-based program through the following stage:

The first stage: the study and analysis stage: This stage includes:

- Problem analysis and needs assessment.
- Analysis of the characteristics of learners (sample).
- Analysis of theatrical acting skills.
- Analysis of available resources and constrain.

The second stage: the content identification stage: this stage includes the following :

- Defining content items.
- Formulating general and educational objectives for the content.

The third stage: Creating the learning environment: This stage includes the following :

- The infographic has been used as an educational tool because it has many characteristics that suit the special abilities of students with hearing disabilities.

Fourth stage: Determining evaluation procedures: This stage includes the following:

- The measurement tools consisted of the achievement test for the cognitive aspect of theatrical acting skills, a note card for theatrical acting skills.

Fifth stage: Production stage: This stage includes the following :

1. Production of educational content the following:

The researcher designed a set of lessons on the two programs (Photoshop and Illustrator). These lessons included a simplified and adequate explanation of what theater is, what theatrical representation and its components, what theatrical representation, actor skills, plan to prepare a theatrical role, actor tools, acting errors and ways to avoid them, dramatization of curricula and its elements, how drama lesson)

2. Experimentation of the experimental treatment on the exploratory group:

After the researcher made the adjustments of gury members , she started the application on the exploratory group consisting of (15) items

3. Editing and final output of the content

Sixth stage : Application and evaluation: This stage includes the following :

- **Providing educational content :** The educational content was presented in the educational media activity classes during the school day.
- **Providing educational content :** The educational content was presented in the educational media activity classes during the school day.
- **Evaluation :** the measurement tools (achievement test, note card) were applied.

Preparing measuring instruments:

The measuring tools were:

- **First : The Achievement Test for theatrical Acting Skills:**

Determining the purpose of the test : The purpose of the test is to measure the achievement of students with hearing disabilities participating in the educational media activity "the research sample" for the cognitive aspect of theatrical acting skills

Determining the type of test vocabulary : The achievement test was prepared in the form of multiple-choice questions, marked with true or false.

Formulating test vocabulary : Taking into account the accuracy, integrity and clarity of the linguistic formulation, taking into account the educational characteristics of the sample, taking into account that the answers do not include a hint towards the correct answer, while preparing the answer form and the correction key.

Showing the initial image of the test to the referees : Presenting the achievement test in its initial form to a group of jury members specialized in (educational media, special education) to verify the correctness of the formulation of questions and items and their relevance with the characteristics of the research sample.

Final picture of the test : According to the assessment of the achievement test by a group of specialists in the field of (educational media, special education), whose modifications were (deletion, addition, modification) in formulating the questions, where the responses were according to the criteria on which the test was designed as follows:

- (100%)of the judges agreed on the validity of the vocabulary for measuring behavioral objectives. which are measured.
- (90%)of the judges agreed on the suitability of the scientific accuracy of the test items.

- (95%) of the judges agreed on the integrity of the linguistic formulation of the test items. These amendments were made in the light of the judges' opinions, and the achievement test became.

Calculation of the statistical constants and scientific coefficients for the test :

- 1- Calculating the validity of the test :** The t-test was used to compare the two sides of the test using the terminal method to compare between the lower and higher quartiles of students' scores in the exploratory application of the test on a sample of (15) male and female students, and it came as follows:

Table (1)

Shows the comparison between the lower and upper bounds of the test using the t-test

part	n	SMA	standard deviation	t value	degree of freedom	Moral value	significance
lower part	8	12.38	1.188	6.605	13	0.000	Significant at 0.01
top part	7	16.57					

It is evident from Table (1) that the T-value amounted to (6.605) at a degree of freedom (13) and a significant value reached (0.000), and therefore it can be said that the test has the ability to distinguish between the minimum and the highest degrees and therefore enjoys a high degree of validity.

- 2- Test stability :** Using the split half equation using the Spearman-Brown equation to test the exploratory sample consisting of (15) individuals, where the following table was :

table(2) Demonstrates the split half of the theatrical performance test

parts	SMA	variance	standard deviation	Half-segment stability
part One	7.733	2.638	1.624	0.660
part two	19.933	13.781	3.712	0.795
both parts	27.667	24.381	4.938	0.797

It is evident from the table that the value of the Spearman-Brown split-half equation has reached (0.797) which is a high stability value that is close to the correct one, which indicates a high and acceptable degree of stability for the test.

3- Ease coefficient, difficulty and coefficient of excellence for test vocabulary: The ease coefficients were calculated for the test vocabulary using the special equation, and the ease coefficients ranged between (0.20: 0.80) and the difficulty coefficients between (0.80: 0.20), The ability of the test to distinguish between students is one of the characteristics required for the good test items. The discrimination coefficients were calculated using the relevant equation, and the discrimination coefficients ranged between (0.16: 0.25), and accordingly, the test can be used as a tool to measure the cognitive achievement of theatrical acting skills.

- **Second: Designing observation card for theatrical acting skills:** Observe the performance of the learners in applying theatrical acting skills with the observation card to ensure the effectiveness of the impact of the proposed program based on the infographic in acquiring theatrical acting skills for people with hearing disabilities. The card has been designed according to the following steps:

Determining the sources of building the observation card: Research and studies have been reviewed that dealt with the design of observation card in general, and on the subject of theatrical representation in Especially .

Determining the purpose of the observation card : The observation card was designed to measure the performance of the research sample in theatrical acting skills.

The vocabulary of the observation card: The vocabulary of the observation card of theatrical acting skills was formulated according to the skills that were previously identified in the list of basic skills for theatrical acting,

where the note card consisted of (5) basic skills (37) sub-procedures.

Observation card correction method: The performance of the learners was observed during the application of media photography skills, and three levels of evaluation were determined in each procedure (high, medium, not performing), where the learner gets a degree (3) in the case of high performance and (2) in performance median and (1) in the event that the procedure does not perform.

Preparing the initial image of the observation card: The observation card was presented in its initial form to a group of (7) arbitrators in the field of educational media and special education to verify the correctness of the wording of the items and their relevance with the characteristics of the research sample and their relevance with the objectives, and the validity of the card for application to learners.

Preparing the final image of the observation card : According to the arbitration of the note card by a group of specialists in the field of educational media and special education, whose modifications came in the form of modifications in some language, the modifications were made to make the card in its final form.

Calculating the Statistical Constants and Scientific Coefficients of the observation card :

- 1- **Sincerity of gurg members :** Presenting observation card for theatrical acting skills to a group of specialists in the field (educational media, special education) who confirmed the possibility of applying them after modifying and reformulating some skills
- 2- **Internal consistency validity :** Using Spearman's rank correlation coefficient to identify the extent to which the sub-procedures are related to the overall performance of photographic skills, the following table was reached was as follows:

Table (3)

It shows the correlation coefficients between the total score of the sub-skill .

Implementation of the action plan in preparing the theatrical role		Acting and character making		Performing movement on stage		Performing the actor's body poses		Avoid acting errors	
N	correlation	N	correlation	N	correlation	N	correlation	N	correlation
1	0.697**	1	0.834**	1	0.739**	1	0.713**	1	0.924**
2	0.63**	2	0.892**	2	0.932**	2	0.789**	2	0.571*
3	0.770**	3	0.520**	3	0.621**	3	0.544*	3	0.719**
4	0.734**	4	0.892**	4	0.587*	4	0.508*	4	0.921**
5	0.877**	5	0.892**	5	0.987**	5	0.617**	5	0.901**
6	0.603**	6	0.773**	6	0.523*			6	0.899**
7	0.697**	7	0.632**						
8	0.645**	8	0.743**						
9		9	0.562*						
10		10	0.662**						
11		11	0.824**						
12		12	0.871**						

**a function at the 0.01 level, * a function at the 0.05 . level

Table (4)

Rank correlation coefficients between the degree of sub-skills and the total score of the observation card theatrical representation

n	main skill	correlation
1	Implementation of the action plan in preparing the theatrical role	0.911**
2	Acting and character making	0.728**
3	Performing movement on stage	0.845**
4	Performing the actor's body poses	0.971**
5	Avoid acting errors	0.987**

It is clear from Table (3) and (4) that there is a relationship between the procedures for each skill and the total sub-skill function at a confidence level of (0.01) and some of it is significant at a confidence level (0.05).

- 3- **Card stability** : The stability was calculated using the alpha-Cronbach equation and the following table was reached:

table(5)

Shows Cronbach's alpha value for the persistence of theatrical acting skills observation card

SMA	variance	standard deviation	alpha Value
168.867	189.410	13.763	0.911

The table shows that the value of the alpha ranged from (0.901) to (0.955), and the total alpha value was (0.911), which shows that the observation card for theatrical performance has a high stability value.

Results :

Presentation and interpretation of the results of the study hypotheses :

The first hypothesis, which states : There are statistically significant differences between the mean scores of the experimental group (the study sample) in the cognitive structure test of theatrical acting skills, To verify the validity of this hypothesis, the Wilcoxon Signed Ranks Test was used, and the following table was obtained:

table(6)

Explains the descriptive statistics for the pre and post applications to test the cognitive structure of theatrical acting skill

implementation	n	SMA	standard deviation	smallest value	greatest value
pre	26	1.385	1.525	0.00	5.00
post		14.731	2.342	12.00	19.00

Table (7)

It shows the differences between the mean ranks of the students' scores in the two applications, the pre and post applications, to test the cognitive structure of the representation skill.

implementation	average rank	total ranks	Value z	Level of morale	significance
negative ranks	0.00	0.00	4.486-	0.000	Significant at 0.01
positive ranks	13.50	351.00			

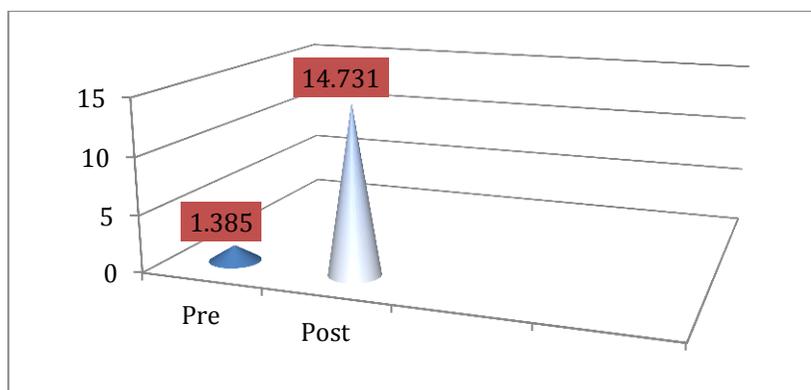


Figure (1) A graph showing the differences between the average scores of students in the two tribal applications And dimensional to test the cognitive structure of theatrical acting skills.

It is clear from Table (6) and Figure (1) that the value of (-4.488) at a degree of freedom of (25) and a significant value of (0.000) is a statistically significant value at a confidence level of 0.01, and therefore the null hypothesis can be rejected and the alternative hypothesis accepted, which states that There are statistically significant differences at the 0.01 confidence level between the mean scores of the experimental group (the study sample) in the tribal and remote applications for testing the cognitive structure of theatrical acting skill in the tribal and remote applications in favor of the post application in favor of the best average, which is the average ranks of the students of the experimental group (study sample). In the post application of the test, which shows the success of the experimental treatment method using the proposed program in developing the cognitive aspect in the theatrical representation of the study sample students.

The researcher returns this result to:

The use of the infographic as an educational tool helped the researcher to communicate the information provided easily and simply, it also helped the sample to be familiar with all the cognitive aspects of theatrical representation, which had a positive impact on understanding the cognitive aspect of the sub-skills, the availability of scientific material and the possibility to refer to it at any time contributed to the increase of Their achievement in the test, also, maybe due to the fact that the mental abilities of the deaf are not affected by the hearing disability, which means the individual's ability to perform work in its cognitive and skill aspects and adapt to it, This is stated in the study (Al-Qaryouti, 2005), which confirmed that there are no statistically significant differences in mental performance between students with hearing disabilities and their normal peers.

The researcher also returns to the study sample's familiarity with the cognitive aspect, which relied on two main factors:

First: The educational readiness of the program, that is, it combined an explanation supported by sign language with pictures with simple words that explain the meaning.

Second: The students' desire to achieve with the presence of motivation and flexibility on the part of the students.

This study also agrees with the study (2017) of Alrwele, n. In that there are statistically significant differences in the average scores of the total post-test between the control and experimental groups, as this result indicated that the infographic led to a significant improvement in the achievement test for the participants in the experimental group.

The second hypothesis: There are statistically significant differences between the mean scores of the experimental group (the study sample) in the observation card of the sample performance of theatrical acting skills in the pre and post applications in favor of the post application, To verify the validity of this hypothesis, a t-test was used for non-independent samples, and the results were as follows:

table (7) Descriptive statistics for the pre and post applications of the theatrical acting skill observation card.

skill	implementatio n	n	SMA	standard deviation	greatest value	Smallest value
Implementati on of the action plan in preparing the theatrical role	pre	26	10.923	1.44	8.00	14.00
	post		21.615	2.35	16.00	24.00
Acting and character making	pre	26	15.077	3.161	12.00	22.00
	post		31.92	4.137	24.00	36.00
Performing movement on stage	pre	26	6.00	0.00	6.00	6.00
	post		18.00	0.00	18.00	18.00
Performing the actor's body poses	pre	26	5.00	0.00	5.00	5.00
	post		14.923	0.272	14.00	15.00
Avoid acting errors	pre	26	6.00	0.00	12.00	18.00
	post		15.00	2.776	6.00	6.00
Total	pre	26	43.00	4.373	37.00	53.00
	post		101.629	8.853	87.00	111.00

Table (8)

It shows the differences between the average ranks of students' scores in the two applications, pre and post, of the theatrical acting skills observation card

skill	rank	average rank	total ranks	Value z	Level of morale	significance
Implementation of the action plan in preparing the theatrical role	negative ranks	0.00	0.00	-4.470	0.000	Significant at 0.01
	positive ranks	13.50	351.00			
Acting and character making	negative ranks	13.50	351.00	-4.461	0.000	Significant at 0.01
	positive ranks	0.00	0.00			
Performing movement on stage	negative ranks	0.00	0.00	-5.099	0.000	Significant at 0.01
	positive ranks	13.20	351.00			
Performing the actor's body poses	negative ranks	0.00	0.00	-4.939	0.000	Significant at 0.01
	positive ranks	13.50	351.00			
Avoid acting errors	negative ranks	0.00	0.00	-4.533	0.000	Significant at 0.01
	positive ranks	13.50	351.00			
Total	negative ranks	0.00	0.00	-4.458	0.000	Significant at 0.01
	positive ranks	13.50	351.00			

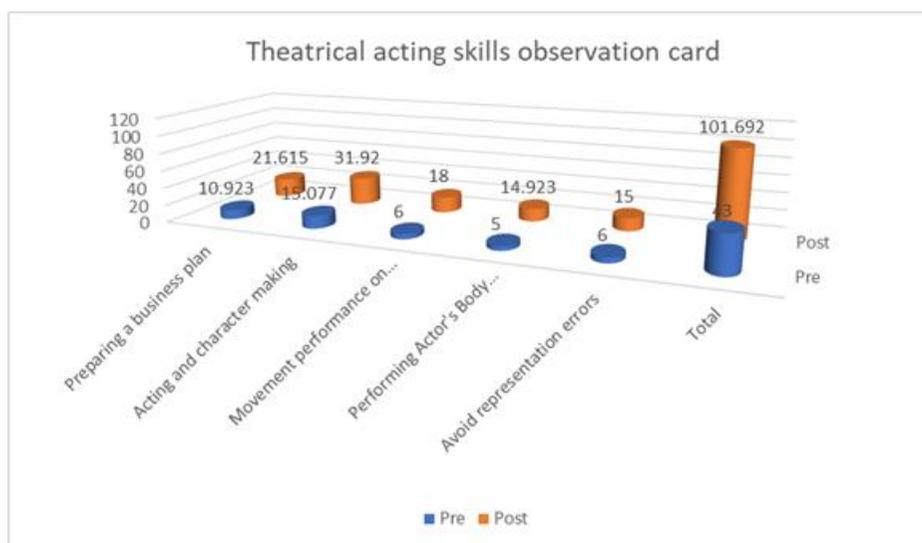


Figure (2)

A graph showing the differences between the average scores of students' performance in the two applications, pre and post, of the theatrical representation observation card.

It is clear from table (8) and figure (2) that the value of g amounted to (-4.488) at a significant value of (0.000), which is a statistically significant value at a confidence level of (0.01). and therefore the null hypothesis can be rejected and the alternative hypothesis accepted, which states that there are statistically significant differences when Confidence level of (0.01) between the mean scores of the experimental group (the study sample) in the pre and post applications of the observation card of the performance of theatrical acting skills and its sub-skills (implementation of the action plan in preparation, acting and character making, the performance of movement on stage, performance of the actor's body positions, and avoiding mistakes representation, and the total performance of these skills as a whole) in the pre and post applications in favor of the best average, which is the average score of the experimental group students - the study sample - in the post application of the test. **That shows the success of the experimental treatment method using the proposed program in developing the cognitive aspect of theatrical acting skill for the study sample students.**

The researcher returns this result as follows :

The presented educational content supported by images expressing theatrical acting skills and the meanings they contained that the researcher wanted to communicate to the sample, as well as the colors and visual forms used in presenting the information contributed to increased attention and focus .It also, gave a great deal of information inside in a way that contributed to clarifying how to implement the skills and contributed to improving the understanding of the sample how to perform the skill .It also, increased the students' motivation towards performing theatrical acting skills.

This category also depends on the process of sign language (sign language) to communicate information to each other as well as to the listeners around them. greatly in their understanding of theatrical acting skills and trying to benefit from them in their daily lives and support them with their disability to coexist with it.

This result can also be attributed to the visual appeal of the infographic, which attracted the attention of the students. It also facilitated their understanding of the sub-skills of theatrical acting skill, and the simplicity of the content and its ability to quickly communicate the visual representations enabled them to understand them quickly. This is in agreement with the study of Dowse, R., & Ehlers, M. (2005, 63), which confirmed that posters containing text and visual representations (infographics) were understood and implemented by 95% of the sample, unlike posters that contain only text, which was interpreted and her skills performed by 70% of the sample.

The third hypothesis which states: There are statistically significant differences between the mean scores of the experimental group (study sample) by gender (male and female) in the grade levels in both the cognitive test and the observation card for theatrical acting skill.

Table (9)

It shows the differences between the average grades of students (males and females) in the pre and post applications of the knowledge structure test and the observation card theatrical acting skill.

Dimensions	implementation	n	average rank	total ranks	Value z	Level of morale	significance
Knowledge structure	female	13	13.46	175.00	84.00	0.979	un Significant
	Male	13	13.54	176.00			
Acting Skills observation card	female	13	14.38	187.00	73.000	0.553	un Significant
	Male	13	14.62	164.00			

It is clear from Table (9) that the null hypothesis is accepted, which states that there are no statistically significant differences between males and females in the grade levels in both the cognitive side and the skill side of theatrical acting skills.

The researcher returns this result to:

The intentional sample that was chosen from Al-Amal School for the Deaf and Hard of Hearing in Minya city can be described as an equal and homogeneous sample in terms of age, mental abilities, and degrees of deafness are close, so the degree of influence of the educational environment and its

impact on the level of hearing is close, using communication methods that can be understood by all sample members(indicative annotation, lip movement, fingerspelling).

This study agreed with the study (Abd Rab Al-Nabi & Abdulaziz,2018), which confirmed that there are no statistically significant differences in the cognitive achievement of students with hearing disabilities, according to the variable of the auditory state, according to the time of occurrence of hearing loss, according to the method of communication. This study also agreed with a study (Jarallah &Abdullah,2020), which confirmed that there was no statistically significant effect of the gender variable on cognitive achievement, but this study differed with the study (Abd Rab Al-Nabi & Abdulaziz, 2018), which showed that there are statistically significant differences at a level in cognitive achievement according to the gender variable) Males - females) in favor of males.

- **To verify the effectiveness of the proposed program in developing the cognitive aspect of theatrical acting skills,** The researcher designed and built a cognitive test according to the general objective of the study, and after analyzing the tasks, educational goals and cognitive elements that the test evaluated, To measure the effectiveness of the proposed infographic-based program in developing the cognitive aspect of media photography skills; The effectiveness ratio was calculated as calculated by McGujian, and the following results were reached :

Table (10)

It shows the effectiveness of the program presented through the infographic in the cognitive aspect of theatrical acting skill

The grand final score of the scale	average score		Rate of effectiveness	program's effectiveness
	pre	post		
20	1.385	14.731	0.717	effective

It is evident from the table that the effectiveness ratio of the proposed program in the cognitive aspect of theatrical acting skill reached (0.717) according to the McGujian equation and

the effectiveness criterion according to it is (0.60), which indicates the effectiveness of the proposed program based on the infographic in developing the cognitive side of theatrical acting skill in the study group.

- To verify the effectiveness of the proposed program In developing the skill side of theatrical acting skill, the researcher designed and built a note card to evaluate the performance of the study group according to the general objective of the study and after analyzing the educational tasks and objectives that will be evaluated by the card. to measure the effectiveness of the proposed program based on the infographic on the performance of the skill side of theatrical acting skill; The effectiveness ratio was calculated according to the McGujian equation for effectiveness, as the following results were reached :

Table (11)

It shows the effectiveness of the program presented through the infographic in developing the skill side of theatrical acting skill

The grand final score of the scale	average score		Rate of effectiveness	program's effectiveness
	pre	post		
108	43.00	101.692	0.863	effective

It is clear from the table that the effectiveness ratio of the proposed program in the cognitive aspect of media photography skills reached (0.863) according to the McGujian equation and the effectiveness criterion according to it is (0.60), which indicates the effectiveness of the proposed program based on infographics in developing the skill side of theatrical acting skill of the study group.

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