

interactive Digital Stories Develop the & Linguistic Perception Skills Children with Learning Difficulties

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Abstract :

The aim of the current study is to investigate the relationship between the digital storytelling and the linguistic perception skills of children with learning Difficulties , and the effectiveness of the program for using digital storytelling communication in developing the linguistic perception skills of children with learning Difficulties. The study consisted of a group of children with learning Difficulties, in Minya Governorate are common in (15) children The study tools included: a linguistic perception card, and a study program that consisted of (6) sessions. The researcher used a variety of Instructional techniques and strategies, and the experimental design of the program was based on one group (pre-, post-, and follow-up measurement). The statistical methods were represented by: the Pearson correlation coefficient, the Wilcoxon test to verify the validity of the research hypotheses, and the results revealed the effectiveness of the program for using the interactive digital story in developing linguistic skills of children with learning Difficulties.

Keywords: digital storytelling , linguistic perception skills, children with learning Difficulties.

Research introduction: ➤

Children are the true wealth of any society, and they are the basis of the progress of all developed societies. There is no doubt that today's children are the men of tomorrow, and that they are half of the present and all of the future, and they are society's tools and tools for growth and progress. Therefore, the issue of special education has become the concern of all countries, international and local bodies and organizations. To develop the skills and abilities of these children, hence the importance of caring for children with learning Difficulties as one of the most modern, rapidly developing and spreading fields of special education, due to the increasing interest in it from specialists and educationalists, as caring for these groups is an urgent matter necessitated by humanitarian and social necessity. In the last two decades, Egypt has witnessed great interest in children with learning Difficulties with the aim of improving their educational, social and living conditions to provide the necessary care for them as well as for their families, to provide them with a helping hand and to invest their abilities and skills in a way that benefits them and achieves the appropriate level of adaptation and coexistence in the family and society. who belong to it.

Therefore, the process of teaching children with learning Difficulties various perceptual, cognitive, and linguistic skills and abilities that help them interact positively with their social environments is considered a difficult matter for many parents and teachers working in the field of special education. Perhaps this is due to the inability of these teachers to use the most appropriate existing teaching methods. Based on the principles drawn from learning theories, as well as based on a sound understanding of their cognitive and perceptual characteristics.

The results of Patricia's (2015) study also indicate the effectiveness of early intervention for children with learning Difficulties, in addition to the effectiveness of the counseling and

educational services provided to them and their families, which help their educators understand their problems and enable them to deal with them wisely and competently.

Many studies that have dealt with the role of stories in training children in many skills, including: the results of the study of Menna Hilal Kassab (2016) show that the narrative approach has a positive effect in improving the verbal performance of pre-school children, and the results of the study of Kholoud bint Rashid Al Kathiri also show (2018) on the role of stories in developing expression and listening skills among pre-school children.

Magda Mahmoud (2000) explains that digital stories work to attract children's attention to hearing the story and focus on its events, making them feel enjoyment and comfort while listening and viewing and helping them see characters similar to the characters in the story. Children also learn through them how to arrange ideas in a sequential form and compose meaningful work. And telling stories after watching and hearing them, (p. 88)

Samah Abdel Fattah Marzouk (2010) also adds that using the computer aims to train children and develop their scientific abilities and skills, and to benefit from it to increase their individual productivity. It is also used as an educational means in various educational applications, as its programs have an attractive and fast method capable of attracting the child's attention. These programs are also more organized and structured, which helps the child easily retrieve information and helps increase his self-confidence and form a positive image of himself (p. 364).

(Mustafa Ahmed Ali, Imad Ahmed Hassan: 2003) indicates that sound and image increase the ability of a child with learning Difficulties to perceive and distinguish information, and that they help him increase the attention span, eliminate the difficulty he finds in understanding abstract words, and facilitate the process of learning new words. It facilitates the learning process based

mostly on verbal behavior, especially in the first educational phase of a child's life. Sound, images, illustrations, and mental visualization are among the basic strategies for conveying information better to normal children in general and to children with learning Difficulties in particular (p. 220).

The results of the study of Tariq Obaid Al-Masoud and others (2018), Hani Abdel Fattah Shoura Abu Zaid (2020) showed the use of interactive digital stories in developing verbal interaction skills and enhancing motivation among children of the primary language phase.

The results of the study by Heba Mukhtar Ali Saeed (2021), Wiener, 2012) (Wiener, et.) add to the effectiveness of visual and audio technology in developing the language of children with learning Difficulties, as this study was subjected to the treatment of four autistic children using modern technological means represented by visual storytelling. And audio to help children express themselves, which helped these children improve communication and interaction skills despite the challenges that the researchers faced during conducting this study due to the difficulty of the sample of people with learning Difficulties. The results of this study also indicated the necessity of providing the learning environment for children with learning Difficulties with technology. In future studies to support the skills of children with learning Difficulties.

Study questions: ➤

- 1-What is the effectiveness of using the interactive digital story in developing the linguistic perception skills of children with learning Difficulties?
- 2- To what extent is the effectiveness of using interactive digital stories in developing linguistic perception skills among children with learning Difficulties?

Objectives of the study : ➤

The current research aims to use the interactive digital story and reveal its effectiveness in developing:

1-Linguistic perception skills of children with learning Difficulties.

2- The extent of the continuity of the effectiveness of linguistic perception skills among children with learning Difficulties.

study approach : ➤

The current research is considered experimental research, as the descriptive approach was used in the study, analysis and design phase of the learning environment, the experimental treatment material represented by an interactive digital story, and the quasi-experimental approach when measuring the effectiveness of the independent variable (interactive digital story) on the dependent variable (linguistic perception skills) in the evaluation phase.

Two search variables: ➤

Independent variable:

- Interactive digital story.

Dependent variable:

- Linguistic perception skills.

Theoretical framework ➤

-The concept of an interactive digital story:

There are many literatures that have dealt with the definition of the interactive digital story, including: (Salmons, (2006: 13), (Norman, (2011: 1), Hassan Ribhi Mahdi, the digital story (2016: 18), and it is noted that it emphasizes that the interactive digital story is the development occurring in The recognized traditional story, relying on digital technology, which provided the story with the following digital elements: text, animation, and sound, for the purpose of producing a coherent story electronically, which plays a unique role in education, and is used for the purpose of exchanging knowledge, wisdom, values, etc., among learners. It is also characterized by merging Between the verbal narration of the

story, a number of visuals and soundtracks, and modern techniques for editing and publishing the story, it also includes all forms and processes of stories produced and exchanged digitally, including stories that consist of images only, Internet radio stories, .and stories that include multimedia that combine sound, images

- Linguistic perception:

Ahmed Ramadan Muhammad Ali (2006) defines linguistic awareness as: “the child’s ability to understand, acquire, produce, transmit, remember, and use language. It includes listening awareness, awareness of speaking skills, awareness of reading skills, awareness of writing skills, and awareness of linguistic skills in general,” (p. 44).

The results of Wiener's study (Wiener, et. al: 2012) add to the effectiveness of using visual and audio technology in developing the language of children with learning Difficulties, as the results of the study led to the treatment of four children with learning Difficulties using modern technological means.

The results of Ahmed Sabry Ghoneim’s study (2016) indicate the effectiveness of an educational program based on the use of computers in developing some language skills among students with learning Difficulties.

Learning Difficulties : ➤

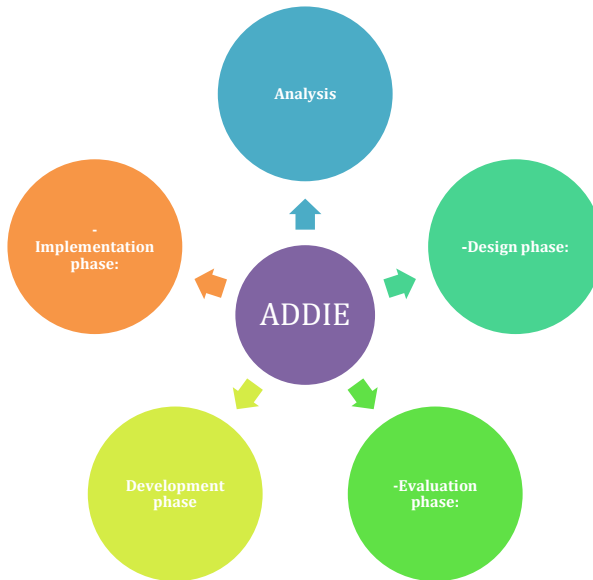
Farouk Al-Rosan (1999) defines learning Difficulties as disorders in one or more psychological processes that include understanding and using written or spoken language, which appear in disorders of hearing, thinking, speech, spelling, and arithmetic, which are due to causes related to simple functional brain injury.

Fouad Abu Hatab and Amal Sadiq (2000) define the concept of learning Difficulties as the inability to learn and consider it a form of severe disability that places its owner in the category of those who need special education (p. 774).

Lerner (2003: 2) also adds that the term learning disability is a disorder in the nervous system that affects the child's brain functions.

Experimental research design: ➤

Producing interactive digital stories according to the educational design standards for digital stories for children with developmental learning Difficulties. The general design model (ADDIE) was chosen, from which all other models are derived, because of its flexibility in designing educational environments, as most design models contain main components and phases. Common, even if the order, names, or representation in linear formations differ The model took the initial letters from each of its five phases. It consists of five main phases. Each phase has its own director, which serves as an introduction to the next phase. The model derives its name from each of its phases.



phase: Analysis-

This phase is the starting point in the educational design process, where the characteristics of children with developmental learning Difficulties in special education associations in Minya Governorate, numbering (20) fifteen children, are determined and

the reality in which the environment and available learning resources will be applied is studied.

Design phase: -

Work was done in the design phase based on the previous phase, where the goals related to the cognitive and skill aspects were determined, the list of educational tasks that were achieved in the classrooms and the goals that were achieved through learning through interactive digital stories were determined.

-Development phase:

The production phase is divided into two basic phases. In the first phase, tools for the electronic learning environment are produced. In the second phase, the classroom is prepared to implement learning activities and tools for the traditional environment.

-Implementation phase:

After completing the preparation of the digital stories as a whole, then controlling them and verifying their suitability for application, this is done by presenting them to a group of arbitrators from faculty members specializing in curricula and teaching methods for the specific specializations “Educational Technology” and various other specializations to express their opinion and the objectives of the electronic environment, its content, activities used in it, and teaching methods. Evaluation methods, and their suitability to the nature of children and the nature of the skills desired to be developed. Thus, the electronic environment became ready to be applied to the research sample. Continuous support and maintenance were implemented on the interactive digital stories and the devices through which they are presented.

-Evaluation phase:

Formative Assessment :

In this step, the researcher performs formative evaluation by pre-testing a group of children with developmental learning Difficulties. The performance observation card is applied before

starting to study through the interactive digital stories, and the post-performance observation card is applied after completing the study of the interactive digital stories

Final evaluation:

After completing the preparation of the electronic environment as a whole, it was controlled and verified for its suitability for the application. This is done by presenting it to a group of arbitrators who are faculty members specializing in educational technology, to express their opinion on the objectives of the electronic environment, its content, the activities used in it, the teaching methods and evaluation methods, and their suitability to the nature of the learners and the nature of the skills to be developed, and the preparation of evaluation tools and the construction of measurement tools.

Tools of the search: ➤

Preparing a card to note children's performance of linguistic skills:

The observation card is one of the appropriate evaluation tools for collecting data about the learner while performing the skill. The current research is concerned with developing linguistic awareness, so one of its most important goals was to determine performance levels that can be accepted by children with learning Difficulties, after completing the interactive digital story.

Steps to prepare a note card: ➤

1- Determine the sources for building the note card:

The vocabulary of the card was determined after reviewing the studies and research used in observation cards in general and in basic skills in particular, and presenting it to a group of arbitrators, and after making the proposed amendments, the card was built in its final form,

2- Determine the purpose of the note card:

The observation cards aimed to measure the research group's performance of linguistic perception skills.

3- Wording of the card vocabulary:

The card items were formulated in light of the basic skills of linguistic perception. The skills were formulated in a basic axis, including sub-axes. Linguistic perception includes Receptive skill and expressive skill

These basic skills were analyzed hierarchically into the most important sub-skills, which were It was previously identified in the list of basic skills for linguistic perception.

4-- How to correct the card:

The observation card consisted of a main skill of linguistic perception skills, and two sub-procedures. The children's performance during the implementation of linguistic perception skills was observed by the researcher, and levels were determined to evaluate each procedure, where the child gets one score (1) if he performs the procedure and gets (0) If the skill is not performed.

5- Preparing the final image for the note card:

The vocabulary of the card was formulated in light of the basic skills of their linguistic perception skills. The card was presented to (20) arbitrators in the specialization of curricula and teaching methods for the specific specializations "Educational Technology" and various other specializations that are related to the research sample, in order to obtain their opinions on the card items in terms of suitability. These statements are for the research sample, the correctness of the linguistic formulation of the statements, the connection between the criteria and the objectives, and the suitability of the card for application in its final form are .

6-Validity of the card:

After presenting the observation card to a group of (20) arbitrators, the results indicated a consensus regarding the validity of applying the observation card to children.

7-Card stability:

The researcher presented the card to a group of (20) experts in educational technology in order to express an opinion on the suitability of the card for what it was developed for, whether in terms of the main skills or sub-skills and the extent of its suitability to the skills of the main skills that it represents. The percentage of experts' opinions ranged between (50%: 100%). Thus, all skills were approved for obtaining a percentage higher than 70% of expert agreement. It was agreed that the proposed card style was appropriate, the importance of each skill, and the suitability of the card for application.

8 – pursuanc tools of the study:**Obtaining administrative approvals:**

After the approval of the supervisors to implement the exploratory experiment for the current research, to obtain approval to implement the experiment on children with learning Difficulties and to address social affairs officials to facilitate the researcher's task throughout the experiment period.

Ensuring the efficiency of the place and its suitability for use and implementing the research experiment:

The researcher conducted an inspection of the condition of the space available in the association to ensure its suitability for the application, and to ascertain other factors that might prevent the experiment from being completed correctly.

➤ Study methodology:

The study uses the experimental method in the manner of the experimental and control groups by comparing the scores of the study tool “Linguistic Skills Performance Observation Card” before and after applying the interactive digital stories

The research group : ➤

The current research sample consists of a group of (15) children with learning Difficulties whose ages range from (5-8) years, at

the Knights of Hope group for caring for people with special needs in Minya.

Limits of the search: ➤

Group limit: •

The research group included children with learning (developmental) Difficulties in Minya Governorate in the Knights of Hope Association. They numbered (10) children due to the lack of linguistic perception skills in them. The sample was determined by visiting the Knights of Hope Association for the Care of Children with Learning Difficulties and looking at the information. The association established child diagnostic standards and conducted an exploratory study in addition to interviews with caregivers.

Methodological limit: •

Interactive digital stories are applied in an interactive manner with the content in developing linguistic perception skills: “receptive and expressive language skills”; among children with learning Difficulties.

Spatial limit: •

It is applied to children with developmental learning Difficulties in the city of Minya by the Knights of Hope Association, as it is considered one of the most important associations caring for children with developmental learning Difficulties.

Time limit: •

The research will be implemented in the second semester of 2023/2024.

➤ **Statistical treatments:**

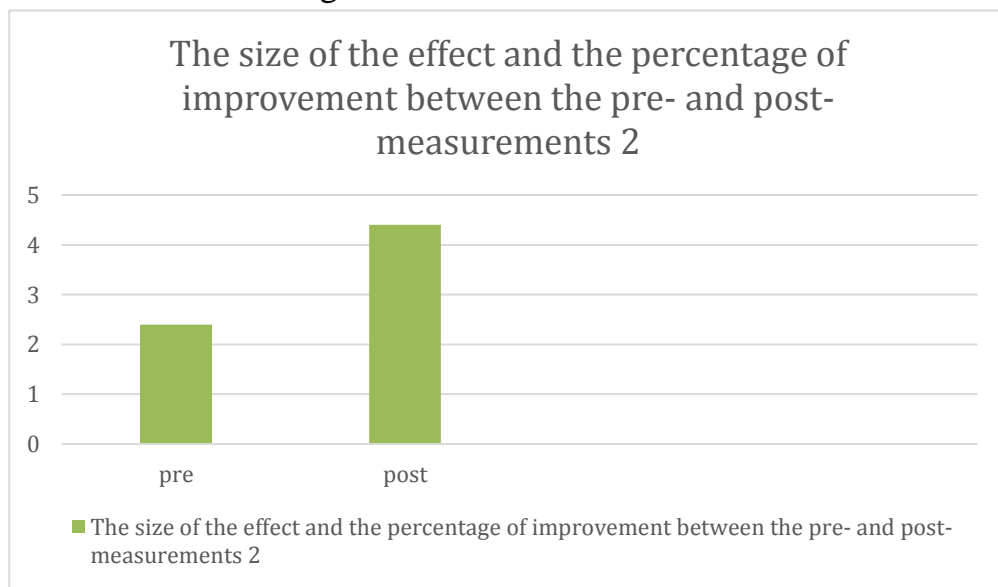
The SPSS statistical software package was used for all statistical parameters to analyze the data obtained from the study tool, where the following statistical parameters were used:

- SMA.
- Nonparametric Weill-Kixon test
- Choose Ka 2

- One-way analysis of variance test.
- Correlation coefficient
- standard deviation
- Percentage of improvement
- Percentage
 - The researcher accepted a significance level of (0.0500.01).

➤ **research results :**

The size of the effect and the percentage of improvement between the pre- and post-measurements for children with learning difficulties in the pre- and post-measurements on the linguistic perception skills observation card reached (86.54), (0.841), respectively, which indicates the positive use of the interactive digital story in developing the linguistic perception skills of children with learning difficulties.



The first hypothesis states:

-There is a statistically significant difference at the level of (0.05) between the average scores of children with learning Difficulties in the pre- and post-measurements on the linguistic perception skills observation card in favor of the post-measurement.

-The size of the effect and the percentage of improvement between the pre- and post-measurements for children with learning Difficulties in the pre- and post-measurements on the linguistic perception skills observation card reached (86.54), (0.841), respectively, which indicates the positive use of the interactive digital story in developing the linguistic perception skills of children with learning Difficulties.

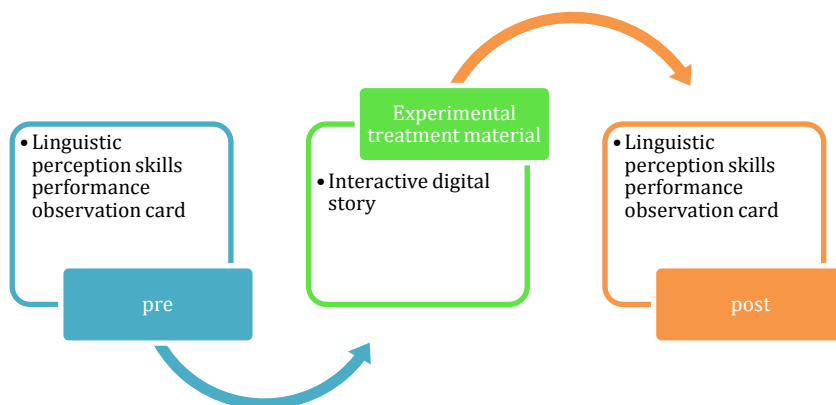
The second hypothesis states:

-There is a statistically significant difference at the level of (0.05) between the average scores of the post- and follow-up measurements for the children of the post- and follow-up measurements on the linguistic perception skills observation card.

-There is no statistically significant difference between the average ranks of the post and follow-up measurements for children with learning Difficulties, the post and follow-up measurements on the linguistic perception skills note card, which confirms the continued effectiveness of the use of the interactive digital story in developing the linguistic perception skills of children with learning Difficulties.

Experimental design used in the research: ➤

- Applying the research tools in advance to the two groups before conducting the experiment.
- Exposing the experimental group only to the independent variable.
- Applying remote research tools to the two groups.



Research recommendations: ➤

- Establishing a special department to study learning Difficulties, especially children, and providing them with the necessary programs that help them learn and integrate socially.
- Including the learning focus based on the interactive digital story in the system of training programs provided to teachers and in-service learning Difficulties center specialists.

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