

Digital Technologies in Teaching Arabic to Individuals with Special Needs

التقنيات الرقمية في تعليم اللغة العربية لذوي الاحتياجات الخاصة

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Abstract: The aim of digital technologies in teaching Arabic to individuals with special needs is to evaluate the effectiveness of learning by facilitating access to educational lessons and providing special methods that align with the needs of each individual. Various applications, tablets, and AI-based programs offer effective ways to learn essential skills such as reading, writing, and pronunciation. They contribute to interactive training based on various senses, blending audio and visual content during interaction, and enhancing comprehension and understanding skills. It supports students' independence in learning, making it easier for them to face educational challenges and increasing their opportunities for integration into the educational environment.

Keywords: digital technologies, Arabic language education, individuals with special needs, interactive applications.

ملخص: تهدف التقنيات الرقمية في تعليم اللغة العربية لذوي الاحتياجات الخاصة إلى تقويم فعالية التعلم عن طريق تسهيل الوصول إلى الدروس التعليمية وتقديم أساليب خاصة من شأنها التوافق مع احتياجات كل فرد. وتوفر مختلف التطبيقات، والأجهزة اللوحية، والبرامج المعتمدة على الذكاء الاصطناعي طرقاً فعالة لتعلم المهارات الأساسية مثل القراءة والكتابة والنطق. وتساهم في التدريب التفاعلي اعتماداً على مختلف الحواس، حيث يمازج بين المحتوى الصوتي والمرئي أثناء التفاعل ويقوي من مهارة الفهم والاستيعاب. ويدعم استقلالية الطلاب في التعلم ويسهل عليهم مواجهة التحديات التعليمية. ويزيد من فرص اندماجهم في البيئة التعليمية.

الكلمات المفتاحية: التقنيات الرقمية، تعليم اللغة العربية، ذوي الاحتياجات الخاصة، التطبيقات التفاعلية.

1. Introduction problem

The importance of language lies in the fact that it is a means associated with the higher cognitive abilities that humans possess, distinguishing them from other living beings. It is essential for achieving communication goals, expressing oneself, engaging in groups, and meeting various needs that are unique to humans. (Abd Al-Bari, M. S., 2013)

Regarding the Arabic language, many believe that the difficulty in learning it is due to the complexity of grammar and syntax, while Al-Tabashi (2014) clarified in his study that there are several reasons including the weak competence of teachers, non-supportive learning environments, and unsuitable curricula, encompassing all dimensions of the educational process. Accordingly, educators continuously strive to find the best methods and means to provide an interactive learning environment to attract students' interest and encourage them to exchange opinions and experiences. (Jamal Al-Din, 2022)

The increasing attention to special needs groups at both local and global levels has imposed modern trends in all fields. Based on the principle of equal opportunities and humanitarian assistance for this group, teaching language to individuals with special needs is one of the challenges faced by educational authorities for several reasons that will be discussed later.

"Most individuals with special needs suffer from language disorders, facing difficulties in both receptive and expressive language. They tend to add or omit words from sentences, and find it hard to convey their ideas clearly, which limits their social participation (Al-Baz, n.d). Furthermore, Boutros added that they suffer from lack of clarity and coherence in words due to omissions, substitutions, distortions, or the addition or repetition of certain sounds, in addition to losing the ability to acquire speech due to brain injury".

A study by Carta, Cataudella, Penna, Petretto, Masala, and Mascia (2021) aimed at revealing the psychological aspects of students with learning difficulties in electronic environments, indicated that the lack of comprehensive accessibility standards and limited attention to specific tools for addressing learning difficulties can lead to high levels of stress, anxiety, and emotional disturbance among students, as well as low levels of self-efficacy. This highlights that individuals with special needs require ongoing efforts to enhance their communication through all forms of interaction or by using electronic means that stimulate all senses. They must also have motivation and resources (such as knowledge and skills; availability of devices and software support; professional development) to design such tasks (Geiger et al., 2016). Therefore, it is crucial to integrate these

elements into classrooms to keep students abreast of technological advancements. Pierce and Stacey (2013) comment that this positive intention is accompanied by challenges related to adapting to rapid changes in software and device design. There is an ongoing need to learn and teach new technical skills.

This research aims to address some issues related to individuals with special needs regarding learning the Arabic language, and what prevents them from learning it due to their disabilities, as well as to explore the mechanisms and methods of electronic education as a modern technology in the entire educational process, not just for the Arabic language. Consequently, What are the latest electronic technologies in teaching the Arabic language?

2.Research Objectives:

- The study aims to understand how digital tools, such as educational applications and smart devices, are used to develop Arabic language skills among students with special needs, including reading, writing, and oral communication skills.

- To evaluate the effectiveness of digital methods that consider individual learning needs, and how to adapt digital educational activities to meet the specific requirements of students.

- To analyze how students interact with the available digital technologies and the impact of this interaction on their motivation and drive to learn, as well as on their academic progress and social skills.

- It also aims to propose designs for inclusive digital educational programs that incorporate innovative teaching methods that facilitate Arabic language education and ensure active participation and better integration of students in the learning process.

- To highlight the importance of training teachers to use digital technologies and equipping them with the skills that help them adapt education according to the special needs of students, thereby enhancing their ability to communicate and effectively guide learning.

3.Importance of the Research:

The importance of this research is evident in its enhancement of educational equity for individuals with special needs, as it contributes to shedding light on digital tools as an effective support for Arabic language education. It helps empower these students to overcome linguistic barriers that hinder their academic and social integration. The research opens the door to educational innovations capable of meeting diverse needs and encourages the development of modern teaching strategies that keep pace with digital advancements. Additionally, this research supports teachers and parents by providing advanced educational

resources

4. Defining Concepts

4.1. Teaching the Arabic Language

A purposeful activity aimed at helping individuals acquire communication skills through a system of linguistic symbols, differing from what they are accustomed to in their linguistic communication. This activity involves guiding students to recognize the system of linguistic symbols and the rules of the Arabic language, relying on teachers' efforts to convey the rules and concepts of the language correctly and systematically to students' minds, ensuring their use of the language in appropriate and correct ways. (Tabee'i., 1989)

4.2 E-learning

Al-Oraifi defined it as "the provision of educational content, including explanations, exercises, interaction, and follow-up, either partially or comprehensively in the classroom or remotely through advanced programs stored on the computer or via the internet." (Al-Ahmari, 2015) It is also defined as "an educational system that has been planned, prepared, and implemented electronically and transmitted through information technology. E-learning can also take the form of providing scientific material electronically." (Saadi, 2018)

According to these definitions, digital education contributes to enhancing students' ability to participate effectively through tools characterized by interactivity and providing opportunities for practical interaction. It also highlights the importance of training teachers to effectively employ these tools to achieve deeper and more comprehensive educational communication, which facilitates student learning through innovative methods that meet their needs.

5. Definition of individuals with special needs:

Abdul-Muttalib Al-Qurti (1995) defines individuals with special needs as "those individuals who deviate from the normal or average level in one or more characteristics or aspects of personality to the degree that their needs require special services that differ from those provided to their normal peers, in order to assist them in achieving the maximum possible growth and adjustment".

The common categories of individuals with special needs can be summarized as follows (Zaitoun K., 2003)

- Visual impairment.
- Hearing impairment,
- Physical or health disability
- Intellectual disability.
- Gifted individuals or geniuses

-Specific learning difficulties.

-Autism (Aml Abdel Fattah Suwaydan, 2008)

The concept of educational technology for individuals with special needs. Educational technology for individuals with special needs is defined as "the theory and practice in designing, developing, using, and managing programs for individuals with special needs to facilitate the process of education and learning, and to engage with various learning resources to enrich their experiences and personal abilities" (Al-Bati', 2010)

6-The importance of using digital technologies in the education of individuals with special needs:

The benefits of using these technologies are numerous to ensure effective learning and improve the skills of students with special needs, as follows:

- Digital technologies provide various methods that allow students with special needs to interact with educational content in a way that suits their abilities. These tools can use images, sounds, and animations that help convey information in engaging and exciting ways.
- Some interactive tools help motivate students to actively participate in lessons, enhancing their interaction with teachers and the content.
- They offer the possibility to customize educational materials according to the needs of each student, where the level of difficulty, font type, and colors can be adjusted, or even use audio instead of texts.
- They enable students to learn at a pace that suits them, which enhances their comprehension level and reduces the stress they may face when encountering educational materials that are not suitable for them.
- They contribute to the development of reading and writing skills, especially for those with visual impairments or reading disorders (such as dyslexia).
- Applications that display texts accompanied by audio can be used to enhance word understanding and correct pronunciation, making it easier for students with learning difficulties.
- Some digital technologies provide tools for communication between students and teachers or among students themselves (such as applications and online forums), which contributes to improving social interaction, an essential aspect of the educational process.
- Digital technologies offer opportunities to use a variety of media such as videos, animations, and audio, making learning more diverse and helping students to better understand concepts.
- Digital educational materials are more engaging for students, especially if they

struggle to interact with traditional methods.

- Digital technologies enable students with special needs to learn independently and in a flexible environment. They can access content anytime and from anywhere, enhancing their independence and allowing them to learn according to a schedule that suits them.
- Some students with special needs face physical or social challenges in traditional classrooms, such as difficulty accessing the board or limited interaction with the teacher. By using digital technologies, these barriers can be overcome through the use of mobile devices and software that facilitate learning.
- Teachers can design educational activities that consider the special needs of students, such as activities aimed at strengthening certain skills or compensating for weaknesses in other skills.
- Various motivational methods, such as educational games and interactive activities, make learning enjoyable and interesting, contributing to improved focus and persistence in studying.

7. Educational tools used with individuals with special needs :

The concept of educational tools: The method and type of education have changed currently compared to the past, as teachers no longer rely on the method of rote learning and memorization in the educational system. The use of educational tools has become an integral part of the educational system and a fundamental necessity for the success of the educational system. The term educational tools has been addressed by many researchers, and we will present some of these definitions: "It is defined by Al-Hila as 'devices, tools, and materials used by the teacher to improve the process of education and learning, shorten its duration, clarify meanings, explain ideas, teach students skills, instill good habits in them, develop attitudes, and present values, without relying on words, symbols, and numbers, with the aim of leading students to the correct scientific facts and national education without cost.'" Another definition states: "They are all the media used by the teacher in the educational situation to convey facts, ideas, and meanings to students to make the lesson more exciting and engaging, and to make the educational experience purposeful and direct at the same time" (Alouna, 2004) It is known as "a term used to refer to educational tools, which are all the instruments used by the teacher or student to assist in achieving the processes of teaching and learning." Ahmad Hassani defines it as: "Any means that intervenes to assist the teacher in achieving educational and pedagogical objectives during his direct interaction with his subject on one hand, and with the learner on the other" (Hassan, 2000)

From the previous definitions, it becomes clear that educational tools are instruments used by the teacher to teach a specific subject or content, with the aim of clarifying and explaining a certain idea or changing a concept, all within the framework of objective contributions made earlier to achieve the desired educational goals and the aims of promising institutions aimed at building an individual who is aware of the responsibility of building and developing his nation amidst rational alignment with conditions at all levels and spheres .

8.As stated in another definition: "They are sensory tools that rely on addressing the senses of the learner, especially the senses of hearing and sight" (Hassan, 2000) This definition indicates that they are sensory tools related to the senses, through the learner's observation or listening, and thus they significantly help him acquire many skills: such as expression, dialogue, and asking questions .

The educational tools used for individuals with special needs hold a prestigious position among educational inputs due to their multiple benefits, as they stimulate the student's interest and satisfy his need for learning. Through them, teaching methods can be diversified to address the individual

8.differences between normal and disabled students alike. Below is a presentation of the educational tools used with individuals with special needs:

Educational tools used for individuals with special needs: Educational tools hold a prestigious position among educational inputs due to their multiple benefits, as they stimulate the student's interest and satisfy their need for learning. Through these tools, teaching methods can be diversified to address the individual differences between both regular students and those with disabilities. Below is a presentation of the educational tools used with individuals with special needs:

Auditory educational tools: "These include educational tools that rely on the sense of hearing in the learning process and the acquisition of experiences as a fundamental element. They include what is heard on the radio, tape recorders, and loudspeakers." (Sabri, 1998) There are four types, as follows:

✓- **Audio recordings:** "This is the process of preserving and storing sounds in various ways, using different devices, in order to listen to them again when needed, such as recordings of birds, animals, music, and human voices, and any sound regardless of its source. Additionally, audio recordings that include comprehensive explanations of scientific facts, as well as those in which the teacher explains the procedures that the student should follow and the safety measures that must be observed, have proven effective in helping the student understand relationships and develop innovative abilities." (Marwa Mohammed

Al-Baz, n.d)

✓. Educational radio programs: Educational radio programs are considered one of the most suitable auditory educational tools for individuals with special needs when it comes to mass communication due to the low cost of producing and receiving audio broadcast programs." (Al-Baz, n.d)

✓. Talking books: These are recordings of the text of books on audio tapes or discs and represent one of the educational materials that assist individuals with special needs in acquiring various knowledge. This method is beneficial in transferring knowledge to students.

A method of educational techniques is the dramatization of curricula and transforming them into a dramatic format, which helps individuals with special needs to grasp the subject of the series and interact with it (Al-Baz, n.d)

B- Audiovisual educational tools: These are useful means that address a large audience, at a lower cost and in a shorter time. Some of their forms include:

B-1- Television: It contributes to the educational process on a wide scale, addressing all segments of society and reaching the largest possible audience. Algerians have used it as a tool for preparation and training, and it has had a significant impact and effectiveness in achieving results, at lower costs.

B-2- Educational video: Jones stated that it "provides the teacher with a lot of information in a short time and increases the scientific knowledge of students who struggle with reading, motivates learners, and clarifies difficult information" (Rahman., 2004)

B-3- Theater: "A play is a dramatic story that presents a subject or situation through dialogue between the characters of the story. The events unfold through the conflict between the characters' positions and attitudes, developing until reaching a climax, and then concluding with a resolution and achieving the desired solution".

B-4- Computer: "A computer is defined as: an electronic device that can be programmed and is characterized by the ability to store, process, and connect with humans and other devices and components using various media" (Qarah Noura, 2012)

C- Tactile Educational Tools: They are represented as follows:

C-1- Educational Models and Figures: Defined as "a three-dimensional representation of the object itself with all details, or simplified according to the goal and need" (Qarah Noura, 2012) They are considered educational tools that achieve simulation of scientific reality and its processing, referring to manufactured shapes that feature three dimensions to simulate reality or

something else, or to reshape reality or the original object, such as: the globe as a model of an airplane.

C-2- Educational Boards: "They are flat surfaces usually made of wood... or metal, or cardboard, or cork, or compressed cardboard, or fabric... suitable for writing or drawing on, or for displaying useful educational tools for teaching and instruction." (Hamdan, 1987) If educational boards have proven effective in teaching ordinary students, then adding a tactile alternative and using them in teaching special needs groups has shown great effectiveness, as educational boards allow for direct interaction with lessons.

C-3- Tactile Images: "They are surfaces that are raised to illustrate the features of objects in nature, with the components of the tactile images written on them, serving as prominent illustrative drawings. Tactile images embody objects and places through their transfer to paper and vary according to their use: scientific, historical".

C-4- Samples: They are parts of reality and are considered one of the educational tools taken from the environment without any modification or change, helping students with special needs to study topics that are not available in the community or at the time of their study, such as fruits, birds, reptiles, etc.

C-5. Counting Device: The counting device has been developed to assist individuals with disabilities in performing arithmetic operations such as addition, subtraction, multiplication, and division of whole numbers (Al-Baz, n.d) . In light of the above, teachers should understand that children with special needs have limited lives and may not know many things that others take for granted. Their interaction with the world is more limited than that of typically developing children. Therefore, experiences should be provided that expose them to the good qualities of educational technologies and devices for individuals with special needs:

- They should stem from the school curriculum.
- They should help achieve the general goals and summarize the lesson.
- They should be suitable for the students' level.
- They should contain elements of excitement and attraction, capturing students' attention and motivation.
- They should be easy, simple, and clear in presenting information without complication.
- They should be flexible in use and capable of modification and development.
- They should be well-made, not expensive, and suitable for the cognitive,

linguistic, emotional, and physical levels of the students.

-They should be appropriate for the specific disability category being taught, in good condition, such that the film is not cut, the computer is not slow, the map is not torn, or the audio recording is not distorted.

– Barriers to using educational tools for individuals with special needs: There are some obstacles that hinder the optimal use of educational tools designed for individuals with special needs, and these obstacles can be divided into:

9- The obstacles that hinder the optimal use of educational tools related to special needs teachers:

-Teachers' lack of knowledge about methods, techniques, and conditions for using educational tools, especially in operating audio-visual devices, along with the absence of technical assistance and prior training on their use.

-Teachers' fear of chaos and disorder that may prevail in the classroom during the use of educational tools. (Diaa Abd Allah, 2006)

-The lack of in-service training courses in the field of using tools in education.

-Insufficient qualification in using educational tools during years of study and preparation..

-Special needs teachers believe that using educational tools requires more effort than training in the usual way. (Al-Awad, 2005)

-Special needs teachers believe that using educational tools prevents them from completing the curriculum on time.

-Special needs teachers believe that educational tools are ineffective in their teaching

9.1- The obstacles that hinder the optimal use of educational tools related to individuals with special needs:

-Misuse of devices by students with special needs when they use them alone.

-The presence of sensory or physical problems among students with special needs, which limits their ability to use educational tools.

-Students' lack of desire to use educational tools, thus necessitating the search for reasons leading students to avoid using them.

-Students quickly forget what they learned through electronic devices.

- Students face difficulties in how to use educational tools due to their cognitive limitations, whether this limitation is intellectual or sensory. (Saadi, 2018)

Conclusion

Digital technologies represent a powerful tool in enhancing Arabic language education for individuals with special needs, as they provide a flexible and adaptable learning environment tailored to each student's needs. Through interactive applications, artificial intelligence, and multisensory tools, students have the opportunity to develop their language skills in a manner that suits their individual capabilities, fostering their independence and self-confidence. Integrating these technologies into education not only helps overcome language difficulties but also paves the way for broader community integration, supporting the principle of equal opportunities for all in education and cognitive growth .

Recommendations

-Design interactive digital educational resources in Arabic that cater to different levels and needs of students with special needs, focusing on auditory, visual, and kinesthetic aspects .

-Organize workshops and training courses for teachers to empower them to effectively use digital applications and tools in supporting language learning for students with special needs .

-Provide devices and applications in schools and educational centers for individuals with special needs, ensuring students can easily access digital resources .

-Raise awareness among parents about the importance of using digital technologies in their children's learning and their role in supporting this educational experience at home .

- Design digital assessment tools that help teachers measure student progress and understand their strengths and challenges, contributing to the adaptation of educational programs according to their individual needs.

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