

The use of computational software in Arabic didactics

– PowerPoint as a sample -

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Abstract:

Computer is one of the modern educational means, which becomes strongly present in languages didactics. The interaction between the learner and the material has been adopted in designing the applied computational programs in Arabic didactics in the applied program, like PowerPoint, which helps Arabic learners to develop and consolidate their four linguistic skills: listening, speaking, writing and reading. This would lead to a differentiated education and a successful educational process.

Thus, through this article, we look for tackling the use and investment of PowerPoint in Arabic didactics and the extent of educational process success.

Key words: didactics, educational technology, computer, software, differentiated education, PowerPoint.

Introduction:

Keeping up with the cultural evolution is a reality we live today, and we observe its features in various fields, especially in information technology, which has permeated all aspects of life and has become an urgent necessity due to its positive results, particularly in the educational process. The field of language

education has witnessed the use of modern technological tools and different techniques.

Among the most important of these tools is the computer, which is used in teaching and learning Arabic, due to its ability to facilitate interaction between the learner and the material presented in its various programs, including presentation software.

Hence, we will try to answer the following research questions:

-What is the role of computer software in Arabic language education?

-Does presentation software contribute to differentiated teaching?

To answer these questions, we go through these steps:

-The concept of educational technology

-The importance of utilizing computer software in teaching Arabic

-The role played by presentation software in teaching Arabic

-Conclusion

.1The Concept of Educational Technology:

Educational technology is concerned with how to apply modern teaching methods and systems that utilize all available resources, networks, and software to improve educational services without complications (Salim Andraws, 2011, p.22), aiming to elevate the levels of education. Modern technologies, in all their forms, including digital, computational, and software, have

been employed in the educational process. Educational technology thus includes "all means or media used in the educational process, whether these means are simple or complex, manual or automatic, individual or collective." Consequently, educational technology encompasses a variety of devices, equipment, and supplies, ranging from traditional blackboards to modern educational technologies. (Majdi Aziz Ibrahim, 2006, p.124)

On this basis, technology in education means using contemporary technology and its applications in educational institutions to benefit from them in teaching all aspects, such as transferring knowledge, information, and experiences from teacher to learner. It ensures an interactive educational process that engages all senses, as the technological tool captures attention.

The educational tools and technologies used in teaching-learning process have diversified and multiplied to achieve the desired educational objectives. Among the most prominent are computers, digital boards, the internet and its applications, video conferencing tools like Zoom, Skype, Google Meet,

educational satellite channels, electronic platforms, electronic books, and electronic boards.

Computer is one of the modern educational tools that have become strongly present in language education. It is a system consisting of a hardware part and a software part, which is "a set of instructions and data placed in the electronic section that it follows to perform its tasks." (Peters Antoine, 1991, p.11) It is an electronic machine that can be programmed to process, store, retrieve data, and perform arithmetic and logical operations automatically.

Thus, it is "an effective electronic tool designed to receive, store, and process data so that it can perform all simple and complex operations quickly and obtain the results of these operations automatically. Data is converted into a language that the computer can deal with". (Houcine Hamdi Ettouidji, 1987, p.273)

Based on the above, the computer is considered as a contemporary and advanced educational tool, due to its features and capabilities to store a large amount of data on high-capacity hard disks and magnetic disks, in

addition to the speed of execution with the presence of the CPU, thus saving time and effort for the teacher and learner. It provides the opportunity for individualized learning through applications designed for this purpose, and it influences attention and excitement in presenting lessons and information using colors, images, video clips with high-quality graphics cards, image processing programs, and video, among others.

.2The Importance of Utilizing Computer Software in Teaching Arabic:

The development of sciences and the emergence of computational linguistics, which is concerned with benefiting from computer resources in studying various linguistic issues, have also led to the use of computers in the service of language and the development of its learning curricula, in line with the creation of computer and information software and the invention of machines that rival human thought, intellect, and intelligence.

In this regard, Nabil Ali attributed the reasons for the convergence between computers and language to:

-The significant development in linguistics, with its aspects undergoing mathematical, logical, and statistical processing.

-The emergence of information theory, which laid the mathematical foundations for measuring data.

-Advances in computer science (programming languages, automata theory).

-Progress in mathematical statistics, and the penetration of its methods into linguistic analysis fields.

-The emergence of high-speed computers and the expansion of artificial intelligence systems, with language processing mechanisms being a major component.

-The beginning of the emergence of expert systems that simulate expert tasks.

-The introduction of computer applications into the humanities, and the spread of computer use as a tool for teaching and learning in general, and specifically in the field of teaching languages.

The reasons that led to the increased connection between language and

computers can be summarized as the development of language-computer-application triad. (Nabil Ali, 1988, pp.114-116)

As a result, the field of Arabic language education has been influenced by modern technologies, especially computers, which have become a necessity, due to the need to keep pace with the changes and developments taking place. This could lead to the development and improvement of the quality of this field. Computer is the best and most suitable tool for teaching and presenting information and topics. It is a developed source for transmitting and storing data on disks and multiple media, and displaying it when needed. Some of its applications include: Drill and Practice Software, Simulation Software, Tutorial Instruction Software, Dialogue Software, Problem-Solving Software, Inquiry Software, Texts Processing Software, Hypermedia Software, and Virtual Reality Software.

(Mohammed Abd Hamed Ammar and Nadjwane Hamid Alqabai, 2011, p.294)

Thus, teachers have started to invest in what specialists in computational linguistics have achieved in designing software that deals with natural languages used in machine translation, text understanding, automatic reading, voice recognition, automatic speech generation, spelling and grammar checking, and other software in teaching Arabic.

In teaching Arabic, focus is placed on teaching it through dialogue using a virtual environment that simulates reality, such as dialogue in school or a restaurant, among others.

Computer is particularly used in teaching languages to learn language skills, whether it is the mother tongue or a foreign language. Its technologies are used as an educational tool to help language teachers develop their language skills, serving as a complementary element alongside other teaching methods, creating an active and linguistically rich environment. (Safia Ben Zina, 2015, p.150)

Additionally, computers can be used in teaching the sounds of Arabic, as "the importance of speech sounds comes from the fact that they represent

the practical side of language and provide the means of communication between humans, regardless of their level of education". (Ahmed Mokhtar Omar, 1997, p.13)

From this perspective, computer applications, educational websites or platforms, aim at teaching Arabic, have been used to "distinguish between the sounds of letters and their points of articulation through sound spectrum analysis, generating speech and storing voice patterns of the speaker, and automatically converting them into their corresponding sounds in the computer. The sound is articulated with vowels and consonants, and repeated until the learner comprehends it. The program includes exercises that help the learner form words from different letters, both reading and writing, relying on the analytical method that starts from the sentence, to the word, to the syllable, and to the sound within the word, enabling the learner to recognize the pronunciation of the letter and its writing in different forms".

(Abd Elkhaliq Fadel Rahmat Allah Ali, 2014, p.6)

Furthermore, educational software has been designed for non-native Arabic speakers to "help in learning vocabulary by linking it with pictures and sounds, displaying it in a way that allows the word to appear on the screen and then disappear, or selecting it from a list on the screen through drag-and-drop. The software also provides options for word construction and arranging words alphabetically". (Ibid, p.7)

This has created an active environment that allows the learner to listen to Arabic linguistic sounds, vocabulary, and words through:

- Repetition multiple times.
- Progressing from the lower level to the higher level.
- Providing practical exercises for each level that the learner answers to move to a higher level.
- Linking sound with letters or words.
- Linking sound with images.
- Listening to audio recordings and distinguishing between segments.
- Voice conversations through local or international networks.

-Making the learner simulate what is on the virtual reality.

.3The Role Played by Presentation Software in Teaching Arabic:

Today, Computer software has a strong presence in the educational and learning arena, becoming one of the most attractive and interactive tools. This technical reality has opened the door for those interested in teaching Arabic to use advanced technical applications in teaching, making them an effective tool in teaching this language.

To demonstrate some of the technologies that clearly show the significant contribution of computer applications and programs in teaching Arabic, and which every learner can practically engage with, we present the PowerPoint software, also known as presentation software.

Microsoft PowerPoint is used to present scientific programs and ideas in the form of presentations containing slides with content that is intended to be conveyed to learners.

This software can be utilized in Arabic language education by creating interactive presentations for lessons.

Theoretically speaking, here are some examples:

-The first slide contains alphabet letters interactively, where pressing buttons allows hearing the correct pronunciation of letters.

-The second slide allows the learner to learn how to write the letter correctly according to the standards of letter writing. The slide offers interactive letter writing at the beginning, middle, and end of the word.

Here is a sample of reading lesson:

The slides contain sentences or paragraphs with pictures related to the text, where the learner can hear the text by clicking on the image or any other part of the slide. The learner can repeat the listening process as many times as they wish. Additionally, the software allows inserting interactive activities at the end of the lesson, such as:

- Multiple-choice questions related to the text read.
- Matching sentences with pictures.
- Drag-and-drop activities where the learner arranges sentences or words in the correct order.

Moreover, presentation software is not limited to teaching reading only; it can be used in teaching various aspects of the Arabic language, such as grammar, morphology, and rhetoric. It also allows the teacher to add video clips, sound effects, and animations that make learning more engaging and interesting.

Here is a theoretical demonstration:

- The software can be used to present grammar rules interactively. A slide may contain a rule with an example sentence. The learner clicks on the sentence to identify the grammatical elements, which are then highlighted or colored differently.

- In morphology, the learner can interact with a root word and see its derived forms, thus helping to understand the relationship between the base word and its derivations.

- For rhetoric, slides may contain figures of speech where clicking on a phrase explains the rhetorical device used.

Presentation software also facilitates differentiated instruction by allowing the teacher to prepare slides that cater to different learning styles and paces.

The learner can interact with the content at their own speed, go back to previous slides if needed, and choose the activities that best suit their learning preferences.

Conclusion:

Finally, presentation software has proven to be an effective tool in teaching Arabic. It helps in developing the four language skills, provides a platform for differentiated learning, and enhances the overall educational experience. The interactive and multimedia elements of the software capture the learner's attention and make the learning process more engaging.

In sum, the use of computer software, particularly presentation software, in teaching Arabic, has significant potential to improve teaching and learning outcomes. Through providing interactive multimedia-rich content, these tools can enhance the learning experience, support differentiated instruction, and help learners develop their language skills effectively. The integration of technology in language education is no longer a luxury but a necessity to keep pace with the ever-evolving educational landscape. As

teachers, it is essential to embrace these tools and continue exploring their potential to enrich the act of teaching Arabic.

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