



Electronic Application Models for Teaching Arabic to Non-Native Speakers A Practical Integration of Infographics, Interactive E-Books, and Mind-Mapping Tools

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ABSTRACT:

Language is a system of phonetic symbols and a network of interrelated structures governed by grammatical rules, and at the same time, it is a means of communication. Accordingly, the teaching of Arabic to non-native speakers has traditionally proceeded from these two foundational principles: language as an integrated and cohesive system and language as a communicative tool. Teachers of Arabic have therefore placed particular emphasis on the four linguistic skills: listening, speaking, reading, and writing, to enable learners to practice the language authentically and to acquire linguistic faculty.

This study examines how Arabic can be taught to non-native speakers as a linguistic system that empowers learners to develop their language skills, and explores the extent to which modern electronic educational tools contribute to facilitating the teaching of Arabic and enabling learners to practice it effectively.

The aim of this research is to present electronic application models used in teaching Arabic to non-native speakers, drawing on digital resources suitable for the elementary and intermediate levels. These include the use of interactive infographic-based textbooks, the integration of diverse digital media to develop language skills and grammatical competence, as well as the adoption of digital mind maps that emphasize strategies of digital interaction and encourage learner participation and exploration.

Keywords: language-skills development, electronic instructional tools, infographic textbook, digital mind maps.

Introduction

The teaching of Arabic to non-native speakers, from early times to the present day, has been

grounded in two fundamental principles: the extra-linguistic dimension, which regards speakers as the primary agents of language, hence the emphasis on spoken Arabic and the focus on oral performance (speaking and listening); and the intra-linguistic dimension, which approaches Arabic as a system of internal relations among units operating within context.

Scholars and researchers have long sought to teach Arabic as an integrated linguistic system whose all levels interact, and simultaneously as a medium of communication. Their aim has been to enable learners to engage in actual language use and to understand the linguistic mechanisms that describe language phenomena, thereby helping them interact with their social environment and relate language to diverse communicative situations, ultimately allowing the non-native speaker to attain linguistic correctness and eloquence.

In the modern era, Arab countries have undertaken significant efforts to promote the Arabic language across the world, affirming its distinguished status among global languages and disseminating Arab culture internationally. Consequently, specialists in language pedagogy, and particularly in the teaching of Arabic as a foreign language, have focused on continuously improving instructional methods and integrating digital educational tools into the teaching process to keep pace with technological advancements and facilitate learning. Parallel to this, they have stressed the importance of genuine integration among the various levels of linguistic analysis, as well as the inseparability of the four language skills: listening, speaking, reading, and writing, so that learners may acquire the linguistic faculty through sustained, authentic practice that supports effective communication.

These goals may be achieved through the adoption of e-learning approaches in teaching Arabic, using a range of digital instructional resources. For this reason, the present study, entitled « *Electronic Application Models for Teaching Arabic to Non-Native Speakers* », seeks to address the following questions:

- To what extent do modern electronic educational tools contribute to facilitating the teaching of Arabic?
- How can Arabic be taught to non-native speakers as both a cohesive linguistic system and a communicative tool, through the use of digital resources that develop learners' linguistic skills?

- What is the pedagogical value of interactive educational infographics in teaching Arabic as a second language?
- What role do various forms of mind maps, particularly digital ones, play in teaching Arabic, given their status as some of the most effective active-learning strategies?

This study focuses on selected electronic application models for teaching Arabic to non-native speakers. It begins with a theoretical section that defines relevant concepts, outlines the methods used in teaching Arabic, and examines the role of e-learning and digital educational tools. It also highlights the concept of educational infographics and digital mind maps.

The applied section, in turn, employs educational infographics through the design of interactive infographic-based textbooks for the elementary and intermediate levels. These materials aim to develop the four language skills and support instruction across various linguistic domains, phonology, morphology, syntax, and more. Additionally, the study integrates electronic mind maps, which are among the most effective tools for enhancing memory and developing multiple intelligences, in order to facilitate the learning of Arabic linguistic sciences and reinforce knowledge for learners of Arabic as a foreign language.

1. Didactics: Conceptual Framework

The term didactics has long been used to denote everything related to the processes of teaching and learning. It has been defined as:

«The scientific study of teaching–learning processes with the aim of organizing these processes in ways that enable the learner to acquire concepts, skills, and attitudes toward the self and the surrounding environment.»¹

Our central topic in this study is the teaching–learning situations that focus the mechanisms of instruction, the acquisition of knowledge and skills, and the endeavor to pedagogical tools that enhance the educational process. These situations aim to identify the most effective methods for achieving meaningful learning and fostering constructive interaction among all participants in the educational act, with a particular focus on the learner—now regarded as the core of the instructional act.

Language Didactics

Language didactics refers to:

«The body of discourses produced on the teaching of languages—whether native languages or second/foreign languages. It initially emerged in close relation to applied linguistics and has been concerned with the methods of language instruction, including the teaching of Arabic in particular.»².

Researchers in this field have oriented their efforts toward mechanisms that facilitate the teaching of Arabic, both to non-native speakers and native speakers, as well as to learners of foreign languages, because language didactics is an applied pedagogical practice whose purpose is to enable learners to acquire linguistic skills in a functional, operational manner.

2. Methods Used in Teaching Arabic to Non-Native Speakers

Researchers in Arabic language didactic have attempted to develop new approaches that make learning the language more accessible. Among the most prominent methods are:

2.1 The Grammar-Translation Method

This method focuses on: *«Teaching the language through the learner's understanding and memorization of grammatical and morphological rules and applying them deductively. It presents the rule first, followed by reinforcing example»³.*

Although this is one of the oldest methods in language teaching, it largely encourages rote memorization, limits learner creativity, and minimizes learner engagement in the instructional process.

2.2 The Direct Method

Developed as a reaction to the previous method, it relies on imitation and role-playing to teach the language. It places strong emphasis on speaking skills in order to generate a wide range of Arabic sentences. It assumes that:

«A language can be learned without translation through acting, movement, pictures, and illustrations.»⁴.

However, it overlooks systematic instruction in Arabic sentence structure because it focuses on teaching fixed, everyday expressions. Consequently, it does not fully address the other skills learners need to master Arabic.

2.3 The Audio-Oral Method

This approach emphasizes memorization, simulation, and repetitive pattern drills in language acquisition. It is grounded in the belief that:

*«Language is speech, not writing, and that the first thing a learner must acquire is the language itself...».*⁵

2.4 The Communicative Method

This method is based on the principle that language is a tool for effective communication, and therefore seeks to:

*«Create real and meaningful situations for authentic language use...»*⁶.

2.5 The Eclectic (Integrative/Transitional) Method

This approach combines diversity and integration, drawing on various instructional methods and merging several modern pedagogical strategies:

*«There is no ideal method; instructional approaches complement rather than contradict one another...»*⁷What matters most in teaching Arabic to non-native speakers is selecting what best suits the learner from cognitive, psychological, social, and cultural perspectives, while employing instructional tools that support Arabic language learning and contribute to the development of curricula and teaching methodologies. This is why teaching Arabic has become increasingly intertwined with electronic learning.

3. Learning and the Didactics of Teaching Arabic to Non-Native Speakers

E-learning has become indispensable in the teaching of Arabic in light of the current revolution in information technology and the widespread use of digital tools to facilitate both learning and teaching. It is defined as:

*«the use of the various media encompassed within the electronic environment—such as the World Wide Web, the Internet, satellite services, radio, video films, television, magnetic discs, email-based conferences, or real-time chats across global information networks, in the teaching, learning process».*⁸

It is also described as:

*«a mode of instruction that employs modern communication technologies, such as computers, networks, and multimedia, to deliver information to learners in the shortest time and at the lowest cost.»*⁹.

Electronic instructional tools have been extensively integrated into the teaching process because e-learning helps transform abstract or complex concepts into visual representations or structured diagrams through educational infographics and digital mind maps.

3.1 Digital Tools Used in Teaching Arabic to Non-Native Speakers

In today's digital world, the image has become one of its most defining features across various fields, including education, journalism, media, business administration, and marketing. A single image may replace a thousand words, expressing meanings concisely while stimulating visual thinking and engaging multiple senses. For this reason, visual tools have become central in e-learning, especially in teaching Arabic to non-native speakers, unlike traditional methods that relied heavily on rote memorization and passive reception.

Among the most widely used digital tools in language didactics are educational infographics and digital mind maps.

3.1.1 The Concept of Infographic

«A set of visually represented information that liberates data from the constraints of written words. Visually appealing information simplifies content, making it easier for students to understand.»¹⁰

3.1. 2 Educational Infographic

The primary aim of educational infographics is to deliver information to the learner in an engaging and clearly structured manner. It is among the most widely used instructional tools in the teaching of Arabic. It is defined as:

« a visual representation of knowledge and ideas that facilitates learning. It is not merely a tool for transmitting information but also a means for constructing knowledge, grasping ideas, and understanding relations and phenomena through diagrams, icons, static and interactive visuals. It strengthens students' retention of concepts and makes learning more appealing and effective.»¹¹

Educational infographics align with learning theories that consider visual learning among the most effective instructional approaches, as the mind processes and retrieves visual information more rapidly and efficiently than textual information. Accordingly, its use in teaching Arabic enhances visual-thinking skills, memory retention, and speed of recall, serving as an effective communicative and skill-development tool.

3.1. 3 Characteristics of Educational Infographics

The principal characteristics of educational infographics may be summarized as follows:

- Their ability to encode information and concepts into visual symbols, in addition to their efficiency in reducing learning time; they are suitable for all fields and disciplines.
- They clarify ambiguous information and enrich learners' cultural and cognitive backgrounds, enabling comparison and analysis.
- They can be easily shared across electronic learning networks.
- They simplify large or complex information, making it more accessible, while relying on visual stimuli for meaning-making.
- They convert dull numerical and textual data into appealing and engaging visual representations.
- They maintain learners' attention throughout the learning process and foster intrinsic motivation toward the subject.¹²

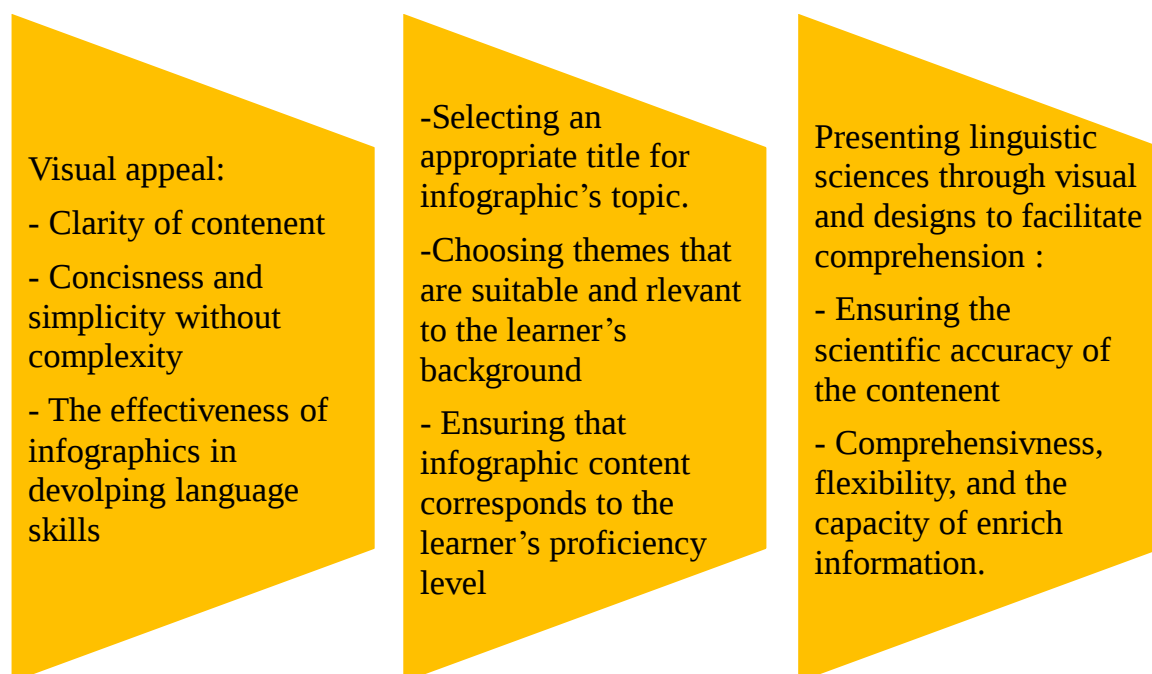
3.4 Design Criteria for Educational Infographics in Teaching Arabic

The most important principles and criteria applied by teachers when designing educational infographics include:

- Visual appeal, clarity of content, and conciseness.
- Selecting topics appropriate for infographic design and aligned with learners' background knowledge.
- Identifying the linguistic domains of Arabic to be taught to non-native speakers while ensuring simplicity, explicitness, and avoidance of ambiguity.
- Ensuring alignment between content and learners' proficiency levels, maintaining logical sequencing of ideas, and verifying accuracy, comprehensiveness, and flexibility.
- Choosing visually appealing color palettes suitable for the material and for the learners' age and proficiency.
- Ensuring the infographic's effectiveness in developing the four language skills in teaching Arabic as a second language.

Maintaining balance across the content without overemphasizing one skill at the expense of others.

Standards for Designing Educational Infographics in Teaching Arabic to Non-Native Speakers — Figure 1



3-2-1. Types of Infographics According to Mode of Presentation

In the context of e-learning, we highlight the main types of infographics according to their mode of display:

A. Static Infographic:

«It consists of fixed designs whose content is selected either by the designer or the producing institution. It presents information on a specific topic through images and visual illustrations that are easy to understand and come in multiple forms.»¹³

B. Animated Infographic: This category includes two subtypes:

Standard video that incorporates embedded infographic elements.

Motion-graphics design: *«a fully animated design of information and explanatory content.»¹⁴*

B. Interactive Infographic:

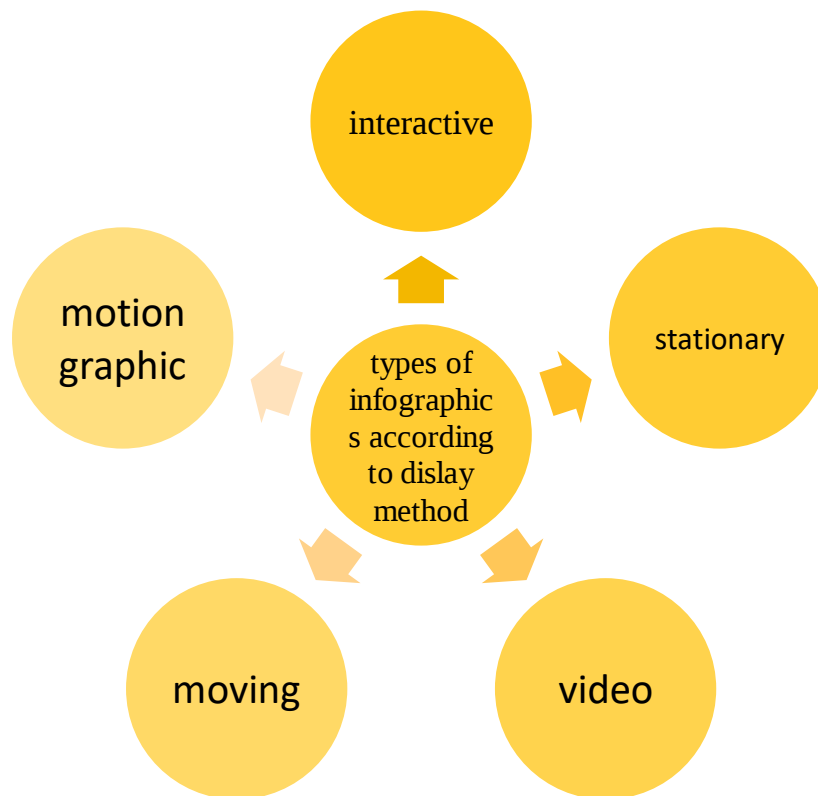
«It is controlled by the user through specific buttons and programmed functions embedded within the design»¹⁵

All forms of infographic have been used to present scientific content in the teaching of Arabic to non-native speakers.

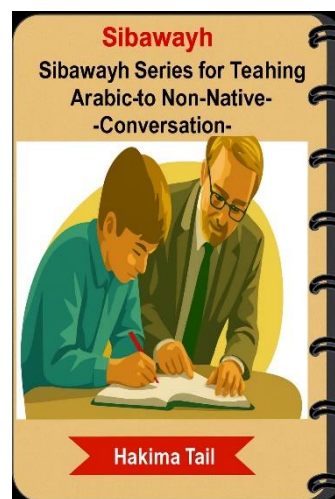
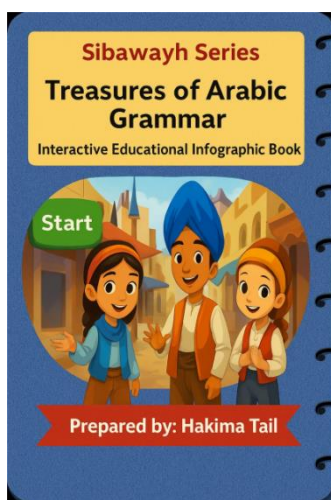
Types of Educational Infographics According to the Learning Material

– Figure

2.



3-3. Applied Models of Interactive E-books Designed and Developed by Us



Author-designed interactive digital books for teaching Arabic to non-native speakers, incorporating visual and audio content, instructional videos, educational games, and practice-based activities.

4. Concept of the Mind Map

A mind map is an organizational thinking tool and one of the most effective methods for retaining information. It is both efficient and creative in the learning process. Tony Buzan defined it as:

«Mind maps are colorful visual patterns for note-taking. They may be produced by an individual or a group. At the center of the shape lies a main idea or image, which is then explored through branches representing major ideas that all link back to the central concept.»¹⁶

Mind mapping is one of the most effective active-learning strategies. It enables learners to take notes, summarize, revise, and engage all mental skills. It organizes the learning material, facilitates retention, and enhances imagination and creativity.

4-1. The Electronic Mind Map

Mind maps vary from binary maps to compound and multi-category maps. Here, however, we focus on the electronic mind map, defined as:

«A type generated by the computer using specific software capable of producing various forms of mind maps according to previously programmed structures»¹⁷.

Digital mind maps assist both teacher and learner in organizing information and generating creative ideas. They are widely used in teaching Arabic because they rely on imagination and respect the logical sequencing of ideas, which strengthens learners' cognitive abilities. They are especially valuable in teaching the various branches of Arabic, since they allow one or more learners to collaboratively design and interact with mind maps. They also help teachers identify individual differences among learners.

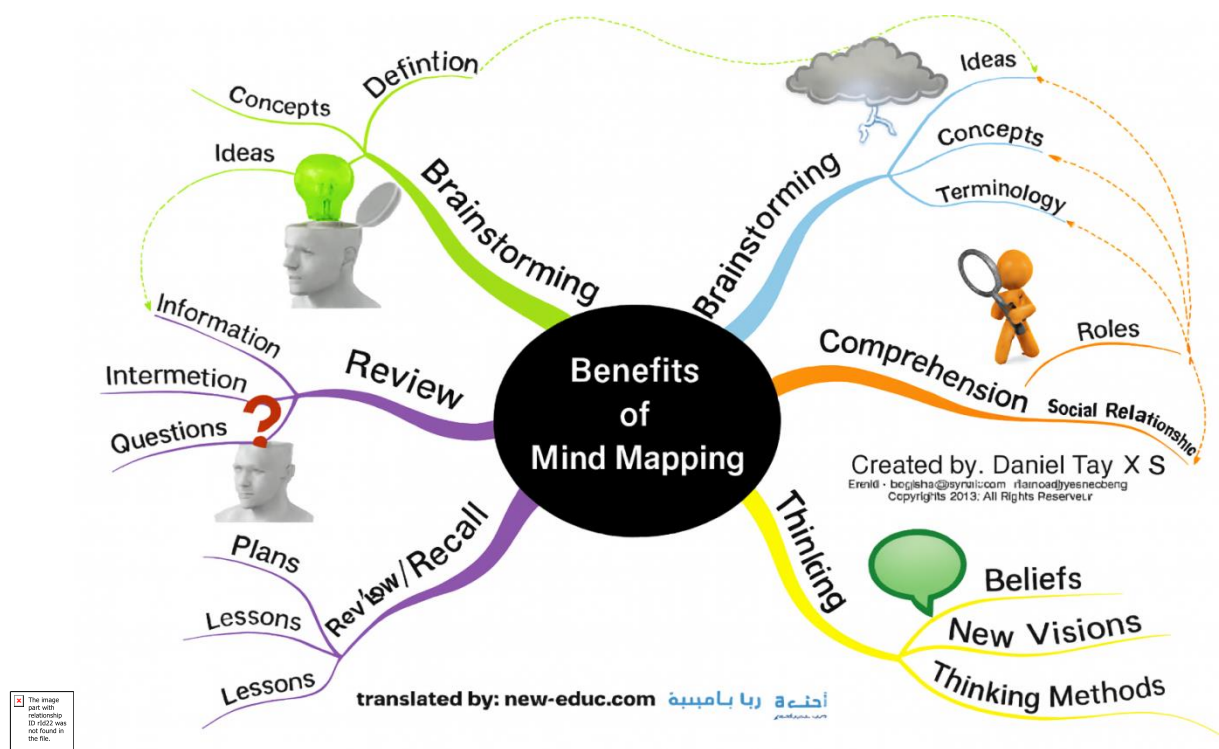
4-2. Characteristics of the Mind Map

Mind maps are distinguished by the clarity of the central idea and its connection to sub-ideas that support brainstorming, recall, and comprehension while addressing forgetfulness. They stimulate multiple intelligences as they are: *«A graphic technique that provides the learner with keys enabling the use of the mind's potential by engaging most of its abilities, through words,*

images, logic, or color. It is a powerful method that grants full freedom in activating the mind's capacities.»¹⁸.

It is thus a tool for creative thinking, brainstorming, problem-solving, and training learners to design maps.

Benefits of the Mind Map — Figure 3.



4-3. Applied Use of Digital Mind Maps and Infographic Books

In the applied section of this study, we sought to employ digital mind maps in teaching morpho-syntactic grammar (naḥw and ṣarf) to non-native speakers of Arabic. These tools may also be utilized in phonetic instruction and in teaching the rules of tajwīd for Qur’anic recitation. In addition, we designed interactive educational infographic books for teaching the various branches of Arabic language studies.

4.3 Clarifying the Difference between Infographics and Mind Maps

Aspect of Comparison	Infographics	Mind Maps
Founder of the Idea	Christoph Scheiner	Tony Buzan

Concept	The art of transforming complex information and ideas into images and visual illustrations that can be clearly and engagingly understood. It is a method characterized by presenting difficult and complex information in a smooth and clear manner through visual stimuli, often in a narrative or storytelling form.	A concrete visual representation of a topic or idea centered in the middle, where subtopics and subsidiary ideas are linked using symbols, lines, images, and shapes in order to reorganize knowledge in a creative manner.
Primary Function	The detailed presentation of ideas and subtopics and their relationship to the main topic through a sequential presentation of events.	Presenting ideas or subtopics in a creative and fluid way within a particular field.
Benefits / Uses	– Presenting precise details of a specific idea to learners. – Presenting an idea or topic in a sequential or story-like manner.	– Drawing a personal conceptualization of a given topic by learners. – Conveying a creative idea from the teacher to learners. – Taking notes during the review of topics. – Constructing new conceptualizations of ideas and topics in a creative manner.
Time of Use	Displaying important and precise details in an engaging way.	Used by both teachers and learners to take notes and organize the main content of an idea or topic and its relation to subtopics in a non-linear way.

Elements Used in Creation	Photographic images, drawings, shapes, colors, lines, animations, geometric drawings, and charts.	Images, drawings, shapes, lines, colors, and text.
Reading Direction	Free	Centered, radiating from the inside outward.
Design Method	Free-form	Begins with a central idea in the middle (topic head) and branches out into sub-ideas or subtopics, using illustrative images, shapes, lines, and colors to show the connections between them.
Flexibility	Adapts dynamically to needs during the design process.	Relatively flexible and resembles a radiant star pattern.

Conclusion

Arabic is one of the richest and most flourishing languages in the world. In order for it to attain its distinguished status and to promote and teach it globally, it is necessary to:

- Keep pace with the technological era and employ digital educational tools in teaching Arabic to non-native speakers.
- Develop educational curricula and use electronic tools that rely on the development of multiple intelligences in learners, in order to enhance their language skills in an integrated manner.
- Ensure the continuous training of teachers of Arabic for non-native speakers in the use of digital tools and their integration into educational curricula.
- Establish electronic platforms for teaching Arabic as a second language and clearly define learning objectives in accordance with the domain of instruction.

- Ensure that content is aligned with learners' proficiency levels, placing the learner at the center of the educational process, and avoiding the separation of levels of linguistic analysis in teaching Arabic.
- Maximize the use of educational infographics of all types in teaching Arabic as both a system and a means of communication.
- Employ interactive infographic-based books in teaching Arabic sciences, especially at the primary level.
- Use digital mind maps as a strategy for active learning by involving learners in their interactive design, in order to facilitate the teaching of Arabic.
- Create interactive and dynamic learning environments that correspond to learners' interests and are supported by visual stimuli.
- Foster cooperation between researchers in the field of Arabic language teaching and experts in programming and digital technologies to design multiple electronic programs for developing curricula and teaching tools and for disseminating Arabic worldwide.

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