

Medical-Focused Computer Program for Teaching Arabic as a Foreign Language for Medical Purposes

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Abstracts

The study sets out to develop an online course for medical professionals who are not native Arabic speakers. The present study relied on a questionnaire developed by reviewing relevant theoretical literature and prior research in order to apply descriptive and analytical methods to accomplish the study's aims. The researcher sent an online questionnaire to a large number of healthcare workers, including doctors, nurses, lab techs, and radiology technicians. The objective of this survey is to learn about the linguistic communication needs of healthcare workers and to find out when Arabic is useful for communicating with patients and meeting quality standards in healthcare. The study compiled a list of 36 linguistic needs pertaining to various medical settings (e.g., emergency rooms, outpatient clinics, hypnosis rooms, labs, and radiology departments), developed an electronic program to teach Arabic to non-native speakers, and made several suggestions and recommendations.

Keywords: Arabic Language, electronic medium, linguistic competency, Medical care providers, non-native speaker, teaching Arabic language, specific purposes, , Language skills.

Introduction

There are two main categories of Arabic language programs for non-native speakers. One is "Arabic for life," which aims to equip learners with the language for everyday communication. The second category is "Arabic for specific purposes," which caters to learners' specific professional needs (Taima and Al-Naqa 2003, p. 3). A wide variety of academic, professional, diplomatic, medical, and other functional and professional specializations are offered by Arabic language schools (Czech, 2007: 6). An essential subset of Arabic language instruction in the Arab world and Saudi Arabia in particular is medical Arabic language instruction. Because of the profound significance of this matter in the patient's life, it is stated in the Saudi Ministry of Health's list of general patient rights that "the treating physician shall explain the medical condition in the language and manner that patients can understand and provide an interpreter to the patient if the doctor does not speak patient's language" (Saudi Ministry of Health, General Patient Rights). Furthermore, healthcare institutions should provide services that are of the

greatest quality (Al-Adgham, 2003, p.3). In order to improve medical practice and lower health risks, patient-doctor communication has grown in importance as a measure of patient satisfaction with health service. Patients may refuse therapy or have other negative outcomes as a result of a breakdown in doctor-patient communication (Farraj, 2009, p.5).

When it comes to recovering from some diseases, good communication between the doctor and patient is crucial. This was supported by research on the mental and physical impacts of non-verbal communication with patients (Al-Saleh, et al., p.1996). Among the 180 patients from Kuwait who participated in the study, 82% expressed a preference for speaking Arabic as a means to better comprehend their doctors' orders, which in turn improved their mental health and accelerated their recovery. A survey conducted by Al-Dosari in 1991 found that 7.36% of female patients at Saudi hospitals attribute their problems to the challenges they face while interacting with foreign nurses. Researchers have paid attention to the field of language teaching for medical purposes in numerous studies, such as: the study (Al-Adgham, 2003), the study (Majid, 2015), and the study Al-Shaya (1995). However, these programs encounter certain challenges that prevent them from being launched or from improving their work. Research by Taaima (2003, p.3) was in agreement with the former opinion; the author argues that, when designing Arabic language teaching programs' curricula, it is important to pay close attention to the methodology behind the program's approaches, methods of need identification, and study plans, all of which center on the language's instructional approach.

The economic feasibility study of the institute's project (Arabi, 2007, p.52), and the reports of the institute's program marketers, showed that time is a major obstacle in teaching the Arabic language to non-native speakers for medical purposes,. This is because individuals working in the medical sector have long daily and weekend working hours, which completely drain their mental and physical energy. There is no other activity that they manage to fit in. Medical professionals, according to Al-Raddadi (2015), must immediately enroll in online education programs and courses. The need of tailoring Arabic language instruction to the specific requirements and interests of non-native speakers of the Arabic language is also emphasized by Al-Sheikh et al. (2018). According to Al-Sayed (2013), health care personnel in Saudi Arabia strongly feel the necessity to learn Arabic in order to communicate with patients and their families. This is supported by their high overall average response from health sector workers in Saudi Arabia and their strong need to learn the Arabic language for communicative purposes with patients and their families.

The conventional wisdom about schools, students, and education has shifted due to technological advancements. Lectures, one-on-one interactions, and tangible objects were the only means of instruction prior to the invention of digital technology. As a result, the traditional "triangle" of a teacher, a student, and a curriculum has given way to a more modern "electric triangle" consisting of a digital instructor, a digital student, and a digital curriculum. Digital e-books and other appealing educational tools are at the disposal of both teachers and pupils. Thus, the objective of this study is to develop an electronic program that will help non-native speakers of Arabic learn the language for medical purposes. The application will cater to the specific linguistic demands of non-native speakers so that they may better communicate with native speakers in everyday medical circumstances.

The Problem of the study,

The current research intends to address the professional demands by creating an online program to teach Arabic for medical purposes. The research aims to provide answers to the following questions in order to tackle this issue:

How can those who work in the medical field best communicate with patients?

In order to educate non-native speakers of Arabic for medical purposes, what are the essential components of an e- program?

The Objectives of the Study

1-Determining what medical professionals require in terms of communication language skills.

2-Creating an online course for medical professionals who are not native Arabic speakers

The Significance of the Study

The current study is important since it aims to accomplish the following:

1- High-quality medical care that builds trust and confidence between patient and physician via the use of language that is easy for the patient to understand.

2-Providing a digital curriculum for non-native Arabic speakers to learn the language for medical applications.

3-Determining what medical professionals require in terms of communication; this will help encourage medical professionals to acquire Arabic language skills.

4-Making it easy for medical professionals to learn Arabic through an online program by letting them chooses when and where they study.

The Limitations of the Study:

Objective limitations: Determining the linguistic needs of non-Arabic speakers in the health sector for communicative purposes and creating an online program to teach non-Arabic speakers medical Arabic so that they can improve their listening and speaking abilities and thus their ability to communicate professionally in the medical field with Arabic speakers.

Human Limitations: This study only covers non-native speakers of Arabic who are learning the language in the healthcare industry. This includes medical professionals such as physicians, nurses, radiology technicians, and laboratory technicians.

Spatial limitations: this research only included healthcare professionals in Saudi Arabia, including physicians, nurses, and laboratory and radiology technicians.

Time limitation: the research was conducted in the year 2023 A.D.

Study terminology:

A computer-based program is a collection of interconnected building blocks that, when put together, comprise a course or unit of study (Salama and Apuria, 2002, p.265).

Shalbaya and Murad (2003) defined the electronic program as an academic unit that aims to develop the linguistic skills of doctors and nurses who speak other languages. The program includes a set of objectives, educational experiences, activities, educational methods, videos, and evaluation methods. Arab medical students whose native language is not Arabic: "one of the areas of teaching English for special purposes that seeks to facilitate communication, whether with patients or co-workers in an effort to provide safe patient care," Allum (2012, p.10) characterized medical Arabic instruction.

The researcher provides a procedural definition of teaching Arabic to non-native speakers for medical purposes: it is a system that includes outputs, content, strategies, methods, activities, and evaluation. It is designed to help doctors and nurses who speak languages other than Arabic improve their professional communication skills with Arabic speakers in everyday medical situations.

Review of Literature

The present study reviews a number of studies pertaining to the study's subject from the most current date onwards, in chronological sequence, from the educational literature. These studies include:

Abdul-Baqi et al (2022) identified the language requirements for various communication scenarios experienced by those employed in the medical field, such as physicians, nurses, laboratory technicians, and radiology technologists. To accomplish their aims, the researchers relied on a descriptive technique. Seven hundred and twenty-two medical professionals working in Saudi Arabia who do not speak Arabic made up the study's sample. The study found a number of things, but the most essential ones are as follows: first, that non-Arabic speakers working in the medical field (e.g., radiologists, nurses, and laboratory workers) have linguistic demands in their communicative settings. According to the study, it is necessary for physicians, nurses, and laboratory technicians to utilize their listening and speaking abilities in order to communicate linguistically with Arabic speakers. The study's authors emphasized the need of a communicative strategy when instructing non-native speakers of Arabic and suggested that this method be incorporated into health-related Arabic language courses. Radiology is a crucial level in this field.

Al-Sheikh et al. (2018) set out to find out how well a program based on this approach could help non-native speakers of English improve their medical literacy. With a single group of non-Arabic speaking medical students from Malaysia, the researcher depended on the quasi-experimental method. Twelve sub-skills, grouped into four categories, make up the reading and writing abilities:

1. During the course of therapy and subsequent follow-up,
2. The use of language in the context of volunteer work,
3. Communicating linguistically with medical facility managers and staff, communicating linguistically for professional and personal growth,

Statistical analysis revealed that when comparing the study group's average pre- and post-application scores on a medical reading and writing test, there were statistically significant differences in favor of the post-application scores among speakers of other languages in the study's fields and sub-skills.

Ghazali bint Zain al-Din (2010) conducted a descriptive-analytic study dealing with teaching Arabic for specific Purposes for nursing students at the International Islamic University College in the wilaya of Salé Njour. The study has determined Determine the cultural and linguistic needs of male and female student nurses in order of importance as follows:

- 1- Medical terms in Arabic.
- 2- Dialogue methods.
- 3- Simplified Arabic words
- 4- Simplified Arabic grammar
- 5- Foundations of reading
- 6- Foundations of writing
- 7- Knowledge of Arab culture.

Their skill needs are ranked in order of importance in the following descending order:

- 1- Speaking skill.
- 2- Reading skill.
- 3- Writing skill.
- 4- Listening skill.

With a total of 90.7% of respondents expressing an interest in working in the Kingdom of Saudi Arabia, the United Arab Emirates came in second with 30.8%, while Saudi Arabia ranked highest among their preferred holiday destinations.

Providing a set of medical terminology and common linguistic patterns in Arabic was the goal of Ibrahim's (2006) research. Ibrahim (2006) aimed to assist students studying medical sciences who spoke languages other than Arabic. The study's goals were accomplished through the use of a descriptive methodology. Among the study's many outcomes was the publication of a book covering medical jargon and providing insight into Islamic and Arab cultural traditions. The study concluded that more research pertaining to medicinal applications is warranted.

Al-Shaya's (1995) conducted a research project tackling the language of the health field and how they are taught to teach medical language in Arabic language for non-speakers of Arabic language. The study is divided into three parts: a theoretical analysis, a field investigation, and the creation of classes using the common language. Importantly, the study's most important finding is that there is a dearth of research in this area; the researcher used a descriptive technique to determine the language really used in the health profession. In order to better equip health care workers with the Arabic language, the current study emphasized the importance of determining

what students need, developing programs and curriculum to meet those requirements, and creating dialogue-based Arabic language courses.

Reflection on prior research by the author:

Regarding the instruction of Arabic to non-native speakers for medical purposes, prior research has concurred with the present study. These studies include: Al-Abd, Abdul-Baqi, and Al-Mukhlaf, Hassan Ali (2022), Ibrahim (2006), Al-Sheikh et al. (2018), and Zain Al-Din (2010). With the exception of the research by Al-Sheikh et al. (2018), which utilized a quasi-experimental technique and differed in its use of an electronic software to teach non-native speakers of Arabic for medical purposes, Al-Shaya (1995) employed a descriptive approach. Previous research also differed from the present study in terms of the study population; most of the aforementioned studies targeted pre-licensure medical and nursing students, while Al-Sheikh et al. (2018) focused only on improving the literacy skills of non-English speaking medical professionals.

The relevance of previous research to the current study:

Previous studies have helped this one with many things: finding relevant references and sources; developing a theoretical framework; selecting a research methodology; creating tools; reporting and analyzing results; and illuminating the language requirements of healthcare workers in various communication contexts. The primary contribution of this work is the development of an online curriculum for medical professionals who are not native Arabic speakers. Improving their ability to listen and talk professionally in order to better interact with Arabic speakers in everyday medical settings is the main goal.

Theoretical Framework:

According to Ashari (1983, p.216) and Hutchinson Waters (1987), teaching the Arabic language to non-native speakers for special purposes is a curriculum that is primarily based on analyzing the communicative needs of the learner. Waters believes that the best way to define English language instruction is to answer the following question:

Why is it necessary for the student to acquire a second language? First and foremost, the student themselves, the language pattern to be acquired, the learning environment, and the demands dictated by the student's language learning goals all factor into the answer to this issue. Taima, and Al-Naqa, (1997, p.106) adopted a similar method of teaching Arabic to learners whose first language is not Arabic is also described. They define the method of teaching Arabic for non-native speakers as a type of Arabic language teaching directed to students who learn a language other than their mother tongue, speaking languages other than Arabic. It is determined by the linguistic needs of learners associated with a particular specialization, and aims to satisfy the linguistic needs of the learners to use language in their workplace (1997, p. 106).

Teaching a language with a goal in mind is no longer seen as an input, but as a method, according to Taima (2003, p.27). Within the context of language instruction for a particular goal, there are

three distinct pedagogical stances to consider, each of which is informed by a distinct set of scientific and philosophical assumptions:

1-The linguistic method seeks to discover language usage contexts in order to ascertain suitable language content.

2. Two, the skill approach seeks to determine what steps students may take to become proficient in a language.

3. The learner-centered approach aims to develop ways for the learner to acquire the essential abilities. This third approach is significant since there has been a huge transition in the area of education from a teacher-centered to a student-centered model.

Both Al-Taher (1996) and Jameel (2006) compiled a list of the most popular curricula for teaching Arabic for various reasons, including:

1- Form-based curricula, in which the language is broken down into smaller units according to the gradation principle of ease of acquisition, might fail to provide the desired result since the learner is unable to acquire a functional ability.

2-Content-based curricula focus on the student's academic or professional requirements by centering on the context and the subject.

3. Programs that center on honing students' abilities in the four language skills: listening, speaking, reading, and writing.

There are also other approaches that emphasize communication, which are further subdivided into:

A-A method predicated on the fact that language is primarily a medium of communication for purposes such as greeting, informing, etc.

B-The curriculum is built on ideas. Ideas like time, space, amount, and location are central to this approach.

According to Taima (2003, p.37), the following are the procedural steps for preparing an Arabic language course for specific purposes: Teaching Arabic for specific purposes primarily involves skills-focused curricula.

1- Identifying learners, i.e. precisely assessing their qualities.

2- Determining the pedagogical and theoretical underpinnings of learning might create a unique vision for education, and help clarify the role of both the student and the teacher.

3- Analyzing the learning situations, i.e. analysis of the tasks performed by the learner to reveal the extent of his learning.

4-Studying the intended context to determine what kinds of communication tasks (report writing, research, teamwork) will be most useful to the students.

5- Identifying the language theoretical underpinnings; that is, what language will be taught in relation to the current curriculum?

6-Determining the goals and perspectives of the learners, how they intend to study, their scientific aptitude, their history, and their linguistic experiences.

7- Determining the requisite language skills.

8, Drafting the study schedule (including the goals of the course, the language, culture, science, and math material covered, and the total amount of time allotted).

9. Schedule

The Importance of Medical Arabic Education:

Improving patient care is one of the most obvious reasons why non-native speakers of Arabic should pursue medical education in Arabic language. This is because, among other benefits, improved communication among patients, physicians, and nurses leads to better overall health outcomes. These benefits can include the following:

1- Providing a correct diagnosis by gathering more precise data.

2-Ensuring that patients are happy with the medical treatment they received.

3-Encouraging Arab patients to know their rights, which include being able to communicate with healthcare providers in their own language about their symptoms and concerns in order to get a proper diagnosis and effective treatment.

4-Mandating those healthcare facilities in Arab nations adhere to international quality standards that require staff to speak with patients in their own tongue.

5-The aspiration of medical professionals to acquire patient languages in order to secure employment, circumvent the challenge of communicating through non-verbal cues, and prevent patients from expressing dissatisfaction with their lack of comprehension (Al-Abed and Al-Mukhlaf, 2022, 4).

The steps involved in developing the online curriculum for medical Arabic instruction:

The researcher determines the following phases in the electronic program developed to teach Arabic to non-native speakers for medical purposes, which encompasses a variety of stages in the field of education:

Analysis Stage: using and selecting suitable electronic programs. This step seeks to identify educational requirements, establish specific educational objectives, conduct content analysis, and examine learner characteristics and the educational situation.

Design Stage: The design phase is where the overarching goals of the content are drafted. It also involves creating educational content, establishing learning activities and tasks, creating an educational environment, developing learning strategies, methods, and how to implement them, gathering information about the learner's prior requirements, creating evaluation tools, creating a website map, a map for electronic content, a content programming scenario, and designing site interaction.

Development stage: Programming instructional content, creating a programming calendar, and creating electronic exams are all part of the development process. Other interactive multimedia components needed for program learning include composing texts, graphics, animation, video, presentations, and programming.

Presentation Stage: During the presentation phase, you will select an appropriate software title, upload it to operating systems, and register your intellectual property rights.

Assessment Stage: Reviewing the program's structure and getting it approved (Al-Adwan, Al-Khawaldeh, 2012, 28)

Quality criteria in the electronic software for teaching Arabic language for medical Purposes

The following criteria were proposed by Al-Hudaybi (2023) and Al-Sayed (2018) for the purpose of designing educational electronic resources in accordance with quality standards that offer stakeholders a pleasurable teaching experience:

1-The following elements contribute to the well-designed appearance of the website:

- A Welcome message of to the users,
- pictures and forms pertaining to the study of Arabic,
- suitable layout for the web pages
- typefaces that work well on the web,
- Colors that work well together on the webpage.

The intellectual property in the software

The program provides an overview of the website and its administrator, who is an expert in Arabic language instruction. The program also details the website's structure, which allows for easy and simple communication with the administrators.

The website's instructional content:

The website is well-titled and explains its purpose. The language content is accurate and detailed, and it's proportional to the level of language it aims to teach. The information is presented in an objective way, and it's organized in a logical way. The academic content is relevant to the field of teaching Arabic for medical purposes, and it's sufficient to achieve the desired scientific outcomes.

Speaking Arabic at a level appropriate to the audience:

Written in Modern Standard Arabic, the website avoids using ambiguous or vague Arabic dictionaries. The texts used on the website must be free of grammatical and syntactic errors, as well as spelling and punctuation mistakes. The website should not contain any typos or misprints. The lexical items are linked to the phonemes. The website provides a variety of exercises that enhance listening and speaking abilities.

Providing easy access to resources for Arabic language instruction:

There are internal links on the website that go to the various sections, and there are also external connections that go to other sites that deal with the same subject. These links are kept up to date and are in keeping with the goals of the site.

Website is user-friendly:

There is no downtime for users; all sections of the website are easily accessible

Individuals can access the website either for free or at a nominal cost.

You can find all the necessary details on the website.

7-The following factors should be considered while making changes to the website:

Information on the website is kept current since the date of the most recent change is clearly shown.

Data on the website is updated on a regular basis.

There is a degree of confidentiality and security for the users of the website in terms of:

Those interested in seeing the website's data are required to provide a username.

Every user has their own password, and only those users may receive private communications.

9-Regarding the learner's attributes, the website considers:

There is an appropriate area on the webpage for the student's name.

There are a variety of language options on the website, ranging from very easy to very tough,

Learners of all ages and language levels will find something useful on this website.

A summary of the student's performance is provided on the website.

10-The website's instructions are well-written in regard to:

The website's accompanying instructions are well-written,

The website's directions are straightforward and easy to follow.

To learn more about how to use it, you may find a tutorial on the website.

The directions can be either read aloud or given verbally.

11-The following features make the website user-friendly:

Students can access the website on their own.

Logging in and out of the website is a breeze for students.

The lessons on the website are presented in a way that is relevant to the topic; you have the option to select certain portions of the website's material.

Multiple Windows or other operating systems can launch the webpage simultaneously.

12- follows is a presentation of the intended learning outcomes:

At the very beginning of the website, in an appropriately academic language, are outlined the targeted learning goals that are in need of some sort of enhancement. These outcomes cover knowledge, cognition, and emotional skills.

13-Learners can choose from a range of materials on the website that differ in:

In addition to linguistic resources available on sub-screens, the website provides links to associated Internet resources for teaching Arabic, which can lead learners to books or references that might enhance their learning experience.

14-Some of the ways in which the website's educational features differ are in terms of:

The website makes use of appropriate educational activities. It also offers both individual and group learning opportunities.

15-Learners will find the website user-friendly in regards to:

Control keys for learning aspects (repetition, reading, and speaking) allow the user to adjust the website's display pace, navigate between its components, change the text size, and more.

At any moment, you can log out of the website.

16-Here are a few ways in which many interaction patterns are utilized:

When the student gets it right, he gets encouragement; when he gets it incorrectly, he gets an explanation of why he was wrong. What's more, he may record his comments in a variety of textual audio forms.

17-In scientific evaluations of learning outcomes, the following are considered:

This website uses a variety of question types, including true/false, complete/match, short answer, multiple choice, and more. It gives an evaluation at the end of each topic section and uses both written and oral questions. After each subject, the website gives a progressive assessment.

Study Procedures:

Study Methodology:

In order to accomplish the research goals, this study used a descriptive and analytical approach. The former helps to describe the situation as it actually is, while the latter involves interpreting the data collected. Descriptive research is best done in a field study, where data is collected using various methods and tools like interviews, tests, and observation (Morsi, 1994, 280).

Study Population:

One hundred thirty-five Saudi Arabian healthcare professionals who do not speak Arabic but work in the fields of medicine, nursing, laboratory science, and radiology make up the study population.

Study Tool:

The study's questions were addressed by developing and administering a questionnaire to healthcare workers in the non-Arabic speaking medical sector. The purpose of the questionnaire was to gather data on the communicative linguistic needs of medical professionals in this sector, including doctors, nurses, laboratory technicians, and radiology technicians, and to track these needs over time. The researcher reviewed the relevant literature, including studies by Ibrahim (2006), Sheikh et al. (2018), Zain al-Din (2010), Al-Shaya (1995), Al-Abed, and Al-Mukhlif (2022). The questionnaire has two parts:

Section I: Baseline information about the study's subjects, including demographics (gender, country of origin, occupation, and native language).

Here is a table that displays the sample distribution based on the research variables:

The study's participants were distributed according to the following variables: gender, nationality, specialty, workplace, and mother language (Table 1).

Gender	Number	Specialization	Number	Nationality	Number	Mother tongue	Number
Male	83	Physician	62	America	5	English	104
Female	52	Nurse	43	Spain	4	Spanish	4
Total	135	Laboratory technician	22	Austria	7	Urdu	27
		Radiology technician	8	Britain	22	Total	135
		Total	135	Philippines	63		
				India	22		
				Nepal	8		
				Pakistan	5		

Section II: The following table summarizes the responses to the questionnaire about the language requirements of medical professionals who do not speak Arabic. The questionnaire included five different communication scenarios, and 36 language requirements were identified as a result.

Table 2: Typical medical-related communication scenarios

	Linguistic situations	Linguistic need
1	Emergency department	8
2	Outpatient Clinics	9
3	Department of Inpatient	8
4	Laboratory Department	5
5	Radiology Department	6
Total		36

The reliability and validity of the study tool

First: Verifying the reliability of the study tool through:

Content Reliability: the survey was piloted with a small group of experts in applied linguistics and Arabic language instruction before being sent out to a larger group of reviewers for feedback. Feedback from all nine reviewers was carefully considered and used to inform revisions and deletions made to the survey's axes, bringing it up to its final version.

The Internal Content Reliability: By computing the Pearson correlation coefficient between the degree of each statement and the total degree of the axis to which it belongs, we can see that the questionnaire has a high degree of internal consistency. All correlation coefficients were statistically significant at the level of significance (0.01).

Second: the tool validity. Cronbach's alpha equation was used to measure the tool validity.. The overall stability coefficient of the validity axes was 0.877 for all questionnaire statements, and the stability of the axes ranged from 0.750 to 0.804. This means that the questionnaire is very stable and can be used to achieve the study's objectives. The Nanly scale used a minimum stability of 0.70 to determine credibility.

Results and Discussion:

In order to address the research questions and derive the results, the researcher used a weighted method to extract the frequencies representing the questionnaire responses from participants. Then, the responses were categorized according to the following table:

The first section	Extremely important	Very important	Somewhat important	Unimportant
Frequency rate	100-85%		%75-%84	%55-%74
Description	High		Average	Low

In order to address the first question, which states: "What are the communicative linguistic needs necessary for workers in the health sector?", the following tables show the percentage and frequency of responses for each communicative situation and the communicative linguistic needs of medical sector workers as extracted through the (SPSS) program for the study population:

Table No. (4) shows the communicative linguistic needs of health sector workers in the emergency department.

	The linguistic need	Order in terms of significance	Frequency rate	Description
1	Ask the patient about his name and age...	1	%99	High
2	I speak to the patient with reassuring words (Greetings, it's okay).	4	%96	High
3	I talk to the patient about some of the symptoms, headache, shortness of breath, dizziness.	2	%98	High
4	I talk to the patient about chronic diseases (diabetes, asthma, blood pressure)	5	%92	High
5	I talk to the patient about the correct posture he should follow	3	%97	High
6	I talk to the patient to measure vital signs.	6	%91	High
7	I determine the position of the pain in the patient's body	7	%89	High
8	I talk to the patient's family kindly and calmly	8	%81	Average
	Average rate		92.8	High

In the emergency department, Table No. (4) reveals that the communicative linguistic needs of medical sector workers were generally high, with a general arithmetic mean of 92.8 on this axis. This finding confirms the urgency of meeting these demands by medical sector workers in the emergency department and is in line with the World Health Organization's (2005, p. 490) statement on the importance of doctors' and nurses' roles in communicating with patients and their families and showing empathy for them.

Table No. (5) shows the communicative linguistic needs of medical sector workers in the outpatient department.

	The linguistic need	Order in terms of significance	Frequency rate	Description
1	I call the patient by name and welcome him (God bless you, please)	6	84%	Average
2	Explain to the patient the nature of the x-rays and how long they take.	3	92%	High
3	Instruct the patient on how to physically position himself on the X-ray machine	1	99%	High
4	Ask the patient about diseases that are not suitable for X-rays (pregnancy, internal metal devices) and others	2	98%	High
5	Revealing the patient's' pain using reassuring phrases	5	88%	High
6	I direct the patient to go to the doctor to find out the results of the x-ray General average	4	%91	High
	Average rate		%92.8	High

The general arithmetic average for this axis reached 92%, as shown in Table No. (5), indicating that the communicative linguistic needs of medical sector radiology department workers were generally high. This result shows the severity of the need for these needs among radiology department workers.

From the aforementioned, we may deduce the following about the communication requirements of healthcare workers:

- 1- The need to communicate effectively with patients regarding explaining their diagnoses and proposed treatment plans.
- 2- The need to communicate effectively with colleagues in the medical field to determine appropriate treatment plans for patients.
- 3- The need to actively listen to the problems of patients and families and provide them with psychological and emotional support.
- 4- The need to simplify medical terminology and explain it in an easy and understandable way to patients.

5- The need to communicate with patients' families to provide support and provide the necessary information regarding the patient's health condition.

6- The need to communicate effectively with other doctors and nurses regarding evaluating patients' conditions and determining appropriate treatment plans.

In response to the second question, "What are the components of an electronic program to teach Arabic to non-native speakers for medical purposes?" the researcher developed the program using the study's findings in conjunction with pertinent literature and prior research. The program covers the following areas:

First, teaching Arabic to non-native speakers for medical purposes

1. Improving the student's verbal and nonverbal communication skills so that they can interact appropriately with Arabic patients and their loved ones.

2. Learning to listen attentively so that one can follow discussions about one's job in the medical industry.

3. The electronic program uses a number of medically-related Arabic vocabulary to assist students communicate correctly in Arabic-speaking medical settings.

4. To meet the language demands of learners, an online curriculum was developed with medical professionals' communication requirements in mind.

5. Helping healthcare personnel reach their goals of professional growth and language proficiency so they may better serve their patients, prevent complaints from those patients about their inability to comprehend them, and secure stable employment.

6. Gaining the confidence and integration of Arab patients and their families requires learning a variety of idiomatic terms from Arab culture.

7. Teaching students the fundamentals of medicine by introducing them to the human anatomy, physiology, pathology, and pharmacology.

Second: the electronic program's quality standards:

When creating an online course, it's important to follow quality standards that will make the course engaging and useful for students.

The researcher based the program on many primary factors, including the following:

1. Clean layout, intuitive controls.

2. Stay true to the content's and audience's intended color scheme.

3. Highlight the most crucial features and make them easy to find.

4. Clear and understandable function expression is achieved by the use of symbols and images.

5. Making it possible for the user to alter and personalize the interface to their liking.

6. Making the program's features and capabilities clear to the user through the provision of a user guide.
7. Offering a variety of language choices and other configuration features to cater to various user requirements.
8. Making the work he does more efficient by giving users an interface that is both easy to use and comprehend.

Third: Details of the software application:

The following procedures can be used to instruct non-native speakers of Arabic in the medical field:

1. Ascertain the student's present language proficiency and the extent to which he will require Arabic language skills for medical communication.
2. Providing the student with a simplified and easy-to-understand introduction to the medical terminology and phrases that they will need for their future careers based on their frequency of use in real-world texts and the depth of their connections to the subject.
3. Restrictive to a set of commonly used grammatical rules in medicine, chosen from a list of health-related language structures.
4. Giving the student several opportunities to practice and improve their Arabic language skills in a variety of medical settings, such as reading medical papers and conversing with doctors and nurses.
5. Implementing state-of-the-art instructional strategies and technological tools.

Electronic program procedure manual:

Name of the program:

"Medical Arabic language instruction for non-native speakers"

In regards to the course:

Medical professionals such as physicians, nurses, lab techs, and radiologists, who may not be native Arabic speakers, can benefit greatly from this program's instruction in medical Arabic. The program's primary goal is to improve the communication abilities of these professionals so that they can better assist patients and their families.

The following units will convey it:

- Initial Assessment: (at the ER)
- Section Two: (clinics for outpatients)
- Section Three: (Hypnosis Section)
- Section Four: (Working Within)

- Fifth Unit: (Radiology Division)

Recommendations:

Based on the study's findings, the researcher recommends the following:

1. Encouraging medical professionals to participate in online courses that teach Arabic to non-speakers of Arabic language. This will help ensure that patients receive high-quality care.
2. Pay close attention to the communication method while instructing non-native speakers of Arabic for specific reasons, especially those pertaining to medicine.
3. There should be a focus on tailoring curriculum and educational programs for non-native speakers of Arabic to meet the specific requirements and objectives of those students.

Proposals:

In light of the results and recommendations of the study, the researcher proposes the following proposals:

- 1-Methods and strategies for teaching the Arabic language to non-native speakers for medical purposes.
- 2.Measuring the impact of the electronic program among learners of Arabic as non-native speakers for medical purposes.
- 3-An electronic program to teach the Arabic language to non-native speakers for diplomatic purposes

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