Review

Addressing Language Competence in Pharmacy Education: Spanish and Arabic Languages as an Example

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Addressing Language Competence in Pharmacy Education: Spanish and Arabic Languages as an Example

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Abstract: Effective communication is key for healthcare providers to provide optimal care for patients. Pharmacists' fluency in a patient's native language is vital to communicate effectively. Additionally, language concordance improves patients' trust and ensures health equity. In the United States (US), Hispanics are the largest minority group, but only 36% of the pharmacy schools in the US offer Spanish courses in their curriculum. Conversely, Middle Eastern countries have implemented English as the language of instruction in pharmacy schools, though the native language of the patient population is Arabic. The discrepancy between the language of education and the language used by patients might lead to communication problems, thus limiting a pharmacist's role in practice. This review aims to describe the efforts of pharmacy schools both in the US and Middle Eastern countries to incorporate second language (Spanish and Arabic, respectively) in their curriculum. Spanish language content has scarcely been introduced into the pharmacy curriculum in the US either as didactic elements (elective courses, lab sessions, modules within a course, or co-curricular programs) or as language immersion experiences (rotations and internships nationally or abroad). In Arabic-speaking countries, an Arabic course was introduced to the pharmacy curriculum to enhance students' communication skills. This review provides an overview of what has been done in various pharmacy programs to prepare students for adequate multilingual speaking. The findings reveal the need for additional strategies to assess the impact of language courses on student performance and patient experience, as well as language competence in pharmacists and pharmacy students.

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Introduction

In the healthcare field, effective and efficient communication is vital. This is especially relevant for pharmacists, who are often portrayed as the most accessible health care professionals in the United States (US)[1]. A report from the World Health Organization (WHO) about the role of the pharmacist, which was published over 20 years ago, pointed to the key position that the pharmacist holds between physicians and patients and stressed the communicator role as part of what they named the "seven-star pharmacist"[2]. As the role of pharmacists continues to transform and expand, the communicator role remains a pivotal one. Effective communication with patients, caregivers, and healthcare providers is an expected skill in pharmacists. Therefore, effective communication skills should be included in the training of pharmacy students. Indeed, the Center for the Advancement of Pharmacy Education (CAPE) includes Communication (subdomain 3.6: *Effectively communicate verbally and nonverbally when interacting with an individual, group, or organization*) in its 2013 Educational Outcomes[3]. Similarly, the Canadian Council for Accreditation of Pharmacy Programs (CCAP) focuses on providing students with the experiences required for acquiring communication skills with both patients and other healthcare providers in the medical field (Standard 6)[4].

In an effort to provide inclusive health care to a diverse patient population, certifying bodies also emphasize the importance of training health professionals to exhibit cultural competence. For example, the CAPE Educational Outcomes include cultural sensitivity (subdomain 3.5: *Recognize social determinants of health to diminish disparities and inequities in access to quality care*)[3]. Also, the AFPC (Association of Faculties of Pharmacy of Canada) Educational Outcomes emphasize and define the communicator role of pharmacists: "As Communicators, pharmacy graduates communicate effectively in lay and professional language, using a variety of strategies that take into account the situation, intended outcomes of the communication and diverse audiences"[5].

Providing language-concordant care is not directly addressed in the CAPE or AFPC Educational Outcomes, but language also constitutes a social determinant of health[6,7]. Molina et al. suggested that language concordance is fundamental to gaining trust, optimizing health outcomes, and for advancing health equity, and, hence, made a call to health professional schools to provide language courses in order to prepare students to deliver language-concordant care[8]. One of the important issues that prevent effective communication between pharmacists and patients is the language barrier and earlier studies suggested that higher rates of medication errors, lack of patient adherence, and lower patient health literacy are associated with existence of language barriers [9-12]. And while cultural competency has become an essential part of the health care professional education, language competency is still in its infancy, particularly in pharmacy education[13,14].

Hispanics represent 18.5% of the US population, constituting its largest minority group, according to the US census in 2019[15]. However, recent studies indicated that while 66% of US medical schools offer a medical Spanish curriculum, only 36% of pharmacy schools reported offering a Spanish curriculum[16,17]. As a result, pharmacists are often forced to use interpreters (including non-professional interpreters, such as a patient's family member), communicate non-verbally, or write directions in Spanish, which results in ineffective interactions with Spanish-speaking patients[13,18]. Dilworth et al. suggested that curricular strategies should be implemented in pharmacy programs to improve the ability of future health professionals to provide quality health care to their diverse patient population[19].

In Middle Eastern countries, the majority of pharmacy programs are taught in the English language except for Syria where the language of instruction is Arabic[20]. In addition, French is the predominant language of teaching in Arab countries located in North West Africa and in some universities in Lebanon. The difference between the language of instruction and the language spoken by patients challenges pharmacists' ability and confidence in communicating effectively with their patients[21]. Furthermore, the variability of Arabic dialects, which sometimes differ even from one region to another in the same country, makes the communication between patients and pharmacists even more difficult[22]. This issue is more prevalent in multicultural Middle Eastern countries such as the Gulf countries, in which Arab expatriates represent a significant sector of the population[23,24]. Therefore, the need for including the Arabic language within the pharmacy curriculum in Middle Eastern countries has been highlighted by both pharmacy students and pharmacists[25,26]. In particular, pharmacists indicated that teaching the management of chronic illnesses and common ailments such as cold and flu in the Arabic language is necessary. Pharmacists also stressed the importance of enhancing students' communication skills in different situations using the Arabic language. Furthermore, pharmacists recommended delivering Continuing Education programs for pharmacists in Arabic. The significance of communication in Arabic was also demonstrated in other studies that highlighted Arabic patients' preference for communicating with Arabic-speaking healthcare providers[27,28].

The teaching and learning of a second language can be integrated into health-related programs in different ways. In this review, we describe different ways for the inclusion of a language curriculum in pharmacy education and we present the current status of language inclusion in pharmacy schools' curricula, focusing primarily on two scenarios: the teaching of Spanish in pharmacy schools in the US, and the teaching of Arabic in pharmacy schools in Middle Eastern countries. The first scenario represents an example of the teaching of a second language due to the growing demand from patients who speak that language. The second scenario represents an example

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of teaching pharmacy where there is a discrepancy between the country's official language (Arabic) and the language of instruction (English). For both scenarios, a language curriculum in pharmacy school allows students to develop the skills necessary to provide language-concordant care to their patients. The following sections of this review will explore how language initiatives have been incorporated into the pharmacy curriculum, with a special focus on the Spanish language experience in the US and the Arabic language in the Middle East. The assessment of these language initiatives is summarized in **Table 1**.

Second language education in pharmacy programs: Spanish in US schools of pharmacy

Given the growing Spanish-speaking population in the US, this section focuses on the teaching and learning of Spanish in schools of pharmacy in the US. It is worth noting, however, that there are at least 350 spoken languages in the US[29], and the lessons learned can easily be applied to any other language in order to provide equitable health care to all patients.

Didactic Courses

Didactic courses provide the theoretical knowledge of the target language with varying levels of practice and interaction. These are used in medical or pharmacy curricula in the form of elective courses, core courses, or lab sections. However, the most commonly reported barrier to offering medical Spanish courses in the schools of pharmacy in USA is the lack of instructors with a dual experience in the Spanish language and in pharmacy[16]. Other barriers include lack of space in the curriculum, perceived low demand due to a low Hispanic population in the institution's area, or low student interest[16].

a. Elective courses

Elective courses are the most commonly used format to integrate medical Spanish in the US pharmacy curriculum, with 62% of the schools' Spanish offerings falling under this format[16]. Elective elements provide the advantage of being easily implemented without the need for formal curricular modification. The fact that students choose to take the course implies intrinsic motivation, which is usually associated with a higher level of commitment compared to required core courses[30]. One challenge to the implementation of a single elective course is determining the prerequisites for enrollment. In order to adequately prepare students to provide health care to Spanish-speaking patients, students need to develop skills in patient counseling that expand beyond simply learning Spanish medical terminology. Therefore, ideally, a student would take basic Spanish courses in the first years of their college education and would then take a "medical Spanish for pharmacists" course at an intermediate level that favors a more patient-focused approach to teaching. However, many schools of pharmacy do not include a second language in the pre-pharmacy required coursework, depending on the geographical area of the institution[31]. Even if students complete several years of high school Spanish, the time elapsed without practice until they take Spanish in the professional program is often enough to place them back in the beginner's category[32]. Mospan et al. reported in 2016 that 60% of the pharmacy students enrolled in a medical Spanish elective entered the class at the beginner level [16]. The accessibility of the course to the highest number of students (i.e., with zero or few prerequisites) needs to be carefully balanced with the available time to reach the desired course outcomes. If no prerequisites are in place, then it is likely that students with varying levels of Spanish language competence co-exist in the same course. Therefore, if a specific level of Spanish competence is expected to ensure that students benefit from the course, a competency evaluation might be provided before allowing students to enroll. In US medical schools, only 21% of schools offering medical Spanish require previous language proficiency; however, 59% offer multiple levels of medical Spanish curricula[17]. The offering of multiple levels of medical Spanish courses, although more complex and time- and resource-consuming, will likely be of greater benefit to pharmacy students and has been used in the Butler University College of Pharmacy and Health Sciences[31].

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VanTyle et al. suggested offering a Spanish/PharmD certificate program when such an approach is taken[31].

The elective nature of the course, the need for prerequisites in order to enroll in the course, and the lack of awareness of the need for culturally responsive care might be the reason for a small class size, which seems to be a constant in the courses of this nature in the US[30,33,34]. Generally, Spanish for pharmacists is designed as a one- or two-credit elective course focused on acquiring the skills to be able to obtain patient information and provide medication counseling in Spanish. The detailed structure of elective Spanish courses for pharmacists was published by Mueller, and by Griffiths et al [30,33].

b. Module within a laboratory course

In the University of North Carolina Eshelman School of Pharmacy, Dinkins et al. reported the implementation of a Spanish language module in a first-year required Pharmaceutical Care Laboratory course[35]. This approach exposed the whole cohort of students to a lecture on medical Spanish and Hispanic culture, and included a 6-week module related to medication label and administration instructions, patient information questions, patient counseling, and medication side effects. While a short exposure to the language might not result in significant improvement in communication skills, it could, however, increase interest and confidence to pursue further language training in a large proportion of the students. Ninety-seven percent of the students in the Dinkins et al. study, reported being interested in future Spanish language learning opportunities[35].

c. Other approaches for a multilingual education

Some universities mandate enrollment in the target language courses and make the language training courses mandatory. These are programs within universities that serve communities with an exceptionally large Hispanic population, such as the Doctor of Physical Therapy program at the University of Texas at El Paso[34], or universities in countries with more than one official language.

Some universities opted for co-curricular training programs that involve didactic components. At Western University of Health Sciences College of Pharmacy in Pomona, California, a faculty mentor prepares Spanish-speaking students to act as facilitators in a co-curricular training program[36]. In these programs, the training sessions are led by students and are scheduled at times that do not conflict with other curricular components. The training sessions are offered at different levels: beginner (most attended), intermediate, and advanced. Such an approach is valuable for schools that wish to offer students a profession-specific language training, but have limitations in faculty availability for all sessions and for all skill levels[36]. A recognition should be provided for faculty members for their mentorship of student facilitators, for student facilitators for their time and effort, and for student learners for the completion of the training.

Experiential Learning Through Language Immersion Programs

Either as a component of a course or as a stand-alone initiative, the didactic learning of a language is often paired with experiences that enhance the language acquisition and the cultural competency of the students. One example of such experiences is service-learning opportunities by providing free health screenings/care to Spanish-speaking patients[30,31,37]. If the students are located in an area with strong Hispanic influence, a shadowing experience in a pharmacy that serves a primarily Spanish-speaking population can provide students with real-world scenarios. The anticipation of such experiential events may magnify the student's sense of responsibility and motivate them to learn the language beyond what a single didactic course might achieve.

a. Pharmacy rotations and internships:

1. International service-learning trips

Advanced pharmacy practice experience (APPE) rotations during the final year of pharmacy school comprise an essential part of the curriculum in the majority of pharmacy schools in the US[38]. Under the mentorship of a preceptor, the four- to six-week APPE provides students with unique opportunities to discover and experience different types of pharmacy services in diverse settings. Besides participating in required APPEs (community, clinical, or institutional sites), students are allowed to participate in several elective APPEs. Several pharmacy programs in the US offer opportunities to participate in international medical mission trips or international service-learning trips (ISLTs) during elective APPEs[39-45]. These trips help students improve their clinical skills, experience personal and professional growth, and serve underserved populations while expanding specific language skills[46]. Although interest in this type of elective experience is increasing, students may express initial concerns about participating[40,41]. Chuang et al. conducted a study to identify student concerns before and after an ISLT to different countries in Latin America. Prior to the trip, students were more concerned about disease/epidemics, language barriers, financial issues, food, or travel issues. Interestingly, all these concerns significantly decreased during the trip, except for the language barriers. For students who did not speak Spanish, language was the only concern that increased after the trip, even with the use of language aids, which includes medical translators, smartphones, and bilingual dictionaries. However, students who spoke Spanish at a conversational or fluent level (34%) experienced a decrease in language concerns after the trip[40]. The authors suggested that pharmacy and medical schools could offer courses in basic medical Spanish to help students address this concern[40]. Although language proficiency before and after the ISLT was not assessed in this study, a decrease in language concerns might be indicative of skills improvement in Spanish speakers. For those students who didn't speak Spanish, the increase in language concerns could be interpreted as a "wake-up call" that might act as motivation to learn the language.

In preparation for an ISLT, the participants usually dedicate time to team-building exercises, familiarization with the destination country's geography, culture, and common diseases, and reviewing medication counseling[39,41]. In terms of language, the preparation is highly variable among programs; The University of Mississippi, Palm Beach Atlantic University, or Mercer University, for example, offer a "Spanish for pharmacists" elective course that is useful for students participating in trips to Spanish-speaking countries[41,45,47]. Similarly, at North Dakota State University (NDSU), the ability to speak Spanish was desired but not required, and the APPE preceptor provided students with medical and introductory Spanish lessons for 60 to 90 minutes on a daily basis for one week before the trip[39]. It is worth noting that the majority of studies indicated that even when interpreters are available during the ISLTs, language barriers continue to be reported as a common struggle[39,40,44].

2. Sponsored summer programs

In the US, pharmacy students have the opportunity to apply for a Spanish Immersion Summer Internship program, which is usually sponsored by one of the major retail pharmacies[48]. In this Summer Internship program, students enhance their Spanish language skills while serving at locations where the majority of patients are Spanish-speaking. Besides the immersive experience of serving mostly Hispanic patients, students receive training in Spanish, Hispanic culture, and prevalent disease states in the Hispanic community.

3. Student exchange programs

The International Pharmaceutical Students' Federation (IPSF) is an advocacy organization that connects pharmacy and pharmaceutical science students across 92 countries. In the US, IPSF membership is automatically included in student membership to the American Pharmacist Association (APhA-ASP). IPSF offers professional pharmacy internship opportunities at

international levels to student members through a program called the *Student Exchange Programme* (SEP)[49]. Currently, there are 88 countries that offer SEPs, which are usually between two weeks to three months in duration. These internship opportunities allow students to choose between community, hospital, clinical, industry, research, or governmental settings. There are various language requirements for SEP in different countries; for example, students placed in Colombia are required to speak intermediate Spanish when placed in research settings and fluent Spanish when placed hospital and industry settings[49]. Each exchange program is a unique experience and allows students to enrich their knowledge and skills about new cultures and languages, while developing their knowledge and skills in specific domains of pharmacy.

4. Short study abroad programs

Several schools across the US offer short study abroad programs as part of the PharmD curriculum. These courses are usually offered as electives that provide students with the opportunity to engage in international pharmacy experiences for about two to three weeks. This offering is ideal for students who prefer traveling to other countries for a shorter period, rather than completing an international APPE or IPSF SEP internship. The University of Florida (UF) College of Pharmacy and the NDSU School of Pharmacy usually offer their short study abroad programs in mid-May, when professional classes are completed for the Spring semester and before offering IPPEs and APPEs in the Summer semester[50]. For eligibility, UF requires students, who are strong academically, to complete an application essay and rank their top preferred countries for the short study program. NDSU, however, requires students to take a prerequisite course in Global Health to orient students to various models of pharmacy practices in countries other than the US[51]. In addition to learning about various pharmacy practice settings and health care delivery systems in other countries, students are given the opportunity to engage with and explore the country's language, culture, and communities[50,51].

A critical student-reported barrier for enrollment in the short study abroad experiences is the associated expenses of the program. Owen et al. indicated that while 90% of students studying abroad reported their inability to pay the costs of participation in the international study program, more than 50% of students emphasized that the lack of knowledge of the foreign language negatively influenced their studying abroad experiences[52]. Most students indicated that their familiarity with the host country language greatly influenced their interest, with English-speaking regions attracting the majority of students. However, some students reported their motivation to have their study abroad program in specific regions of the world, such as Latin America, because they are interested in learning the native language and expand their language skills. To overcome the language barrier, Owen et al. suggested orienting students to study abroad opportunities in the early years of their pharmacy education in order to give students the time to improve their foreign language skills through pharmacy electives or language courses offered by the university[52].

Options for Training in a Native Language: Arabic Counseling in Middle Eastern Countries

In non-English-speaking countries, English is still used as the language of instruction in many pharmacy programs in an effort to prepare students to use the universal scientific language[20]. This applies to several programs in European and Middle Eastern countries, which presents a challenge because of the discrepancy between the language of program delivery and assessment and the primary language of practice. This discrepancy places non-English-speaking patients at a higher risk of medication errors and/or inappropriate use of medications, as a result of inadequate provision of medication counseling in their native language[53].

The introduction of the Arabic language in pharmacy schools is still new. The only documented implementation is from the University of Sharjah's College of Pharmacy in the United Arab Emirates, where Arabic topics were introduced into a pharmacy practice course in the third professional year[54]. In each session of pharmacy practice course, a specific topic is delivered as a

lecture; thereafter, students are expected to practice the topic through a roleplaying activity representing the patient and pharmacist.

Researchers at the University of Sharjah College of Pharmacy have simulated patient assessment to evaluate student Arabic skills after the introduction of Arabic courses into the curriculum[54]. They argued that including Arabic language content in courses as well as simulated patient assessments enhanced student communication skills, with students scoring similarly in the Arabic assessment and English assessments within the course, and with students favorably rating the Arabic content as useful and adequate[54].

Limitations to Foreign Language Training

Pharmacy schools are investing time and effort to prepare and graduate culturally and linguistically competent pharmacists who can provide quality care for a diverse population, but it is important to recognize that ensuring adequate communication between patients and pharmacists will likely require more than a language elective course or internship program during pharmacy education. Post-graduate training and practice opportunities should be provided so that pharmacy graduates may continue to improve on their language skills through Continuing Education programs that focus on the acquisition and practice of an additional language. Additionally, the level of language proficiency required to provide linguistically competent patient care should be standardized and evaluated before a pharmacist offers bilingual consultations[55]. Several studies highlighted the potential health risk associated with underutilization of medical interpreters by healthcare providers due to a false feeling of language proficiency[11,55-58]. Even if no direct medical harm results from deficient communication, patient trust in their provider may be affected[59]. The implications of overestimating language skills and underutilization of interpreters might be discussed with students as part of their orientation and training on an additional language. Students should always be aware of their language limitations and be taught how to work with interpreters[58].

Conclusions

Effective pharmacist-patient communication is a cornerstone of pharmaceutical care. Given the unique accessibility of pharmacists among health care professionals, language competency should be ensured, encouraged, and, indeed, introduced as a key component of pharmacy education. Through this inclusion, pharmacy schools will contribute to improving patients' trust in their pharmacist, optimize therapeutic outcomes for the patient, and advance health equity. There are multiple options available to help achieve the goal of language competence among pharmacists, including elective courses in the pharmacy curriculum, co-curricular experiences, or immersion programs. Future studies are needed to explore best practices for language instruction in pharmacy schools according to the needs of the patient population they serve, and best practices for assessment of language competence.

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