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## **Enhancing Culturally Sensitive Curriculum in an Osteopathic Medical School**

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# Enhancing Culturally Sensitive Curriculum in an Osteopathic Medical School

by Gretchen Y. López- Hernández, PhD



**Medical students need to demonstrate their ability to show cultural sensitivity and responsiveness to those non-native English-speaking patients.**



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## Abstract

Considering changing demographics in the United States, future physicians need exposure to specialized training ensuring effective communication with non-native English-speaking patients, particularly Spanish-speaking patients. We examine the impact of a medical Spanish terminology module on the linguistic competence of second-year osteopathic medical students participating in Kansas City University's Score 1 for Health program. Our goal is to enhance Spanish communication in clinical settings and to improving the quality and value of care delivered to patients.

## Introduction

One of the challenges that medical students will face as future physicians is ensuring effective communication with non-native English-speaking patients. Medical students need to demonstrate their ability to show cultural sensitivity and responsiveness to those non-native English-speaking patients. Effective communication needs to be maintained even when health care providers and patients do not share the same language.<sup>1</sup> Incompatible language

skills represent a communication barrier that could negatively impact patient care and health outcomes.<sup>1-2</sup> Enhancing language concordance between physicians and patients can potentially improve doctor-patient communication, patient satisfaction and trust, health outcomes, and reduce health disparities.<sup>3,4,5</sup>

One example that highlights the benefits of enhancing language concordance between physicians and patients was described in the study of Fernández and collaborators.<sup>6</sup> Physician self-rated Spanish-language ability and cultural competence enhanced elicitation and responsiveness of Spanish-speaking diabetic patients at a public hospital outpatient department.<sup>6</sup> This study demonstrates the importance of linguistic and cultural competency in the care of patients with limited English proficiency. Therefore, early training in linguistic competence can enhance medical education and have a positive impact on doctor-patient interactions.

Linguistic training of medical students, with a goal of competence, is of particular importance given the growing population of Hispanics in the United States (U.S.). Between 2000 and 2010, the Hispanic population grew by 43 percent, which was four times the growth in the total population of the U.S.<sup>7</sup> Furthermore,



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the Hispanic population grew in every region of the U.S. during this time period; most significantly in the South and Midwest regions.<sup>7</sup> Hispanics accounted for seven percent of the Midwest's population (10.5 percent of Kansas' population; 3.5 percent of Missouri's population) during 2010.<sup>7</sup> During 2011, in Missouri, six percent of people five-years-old and older reported speaking a language other than English at home; in Kansas, the number was 11 percent.<sup>8</sup> In Missouri, 17 percent of those who spoke a language other than English at home reported speaking English "not well" or "not at all".<sup>8</sup> Whereas in Kansas 22 percent of those who spoke a language other than English at home reported speaking English "not well" or "not at all".<sup>8</sup> While the Hispanic population is growing significantly in the US, Spanish-speaking physicians are underrepresented.<sup>9</sup>

Spanish language training programs already exist within predoctoral medical education.<sup>5</sup> In a national survey of U.S. medical schools, it was found that 66 percent (out of 110 surveyed medical schools) offered some version of Spanish medical curriculum.<sup>5</sup> However, the details about how these programs are incorporated within the medical curricula and the impact of Spanish language training on student medical competencies are not extensively described.<sup>9-10</sup> To address the need for linguistic competency training within Kansas City University, a

basic Spanish medical terminology module was designed for second-year osteopathic medical students participating in Score 1 for Health.

Kansas City University's Score 1 for Health program provides free in-school health screenings to children in the Kansas City area. This program serves an ethnically diverse population of children, of which approximately 36% are Hispanic. Score 1 also provides early experiences in clinical medicine to Kansas City University's first- and second-year osteopathic medical students. Through the participation in Score 1's health screenings, Kansas City University's students have the opportunity to interact with children from diverse ethnic and language backgrounds enhancing their understanding of culturally sensitive clinical care.

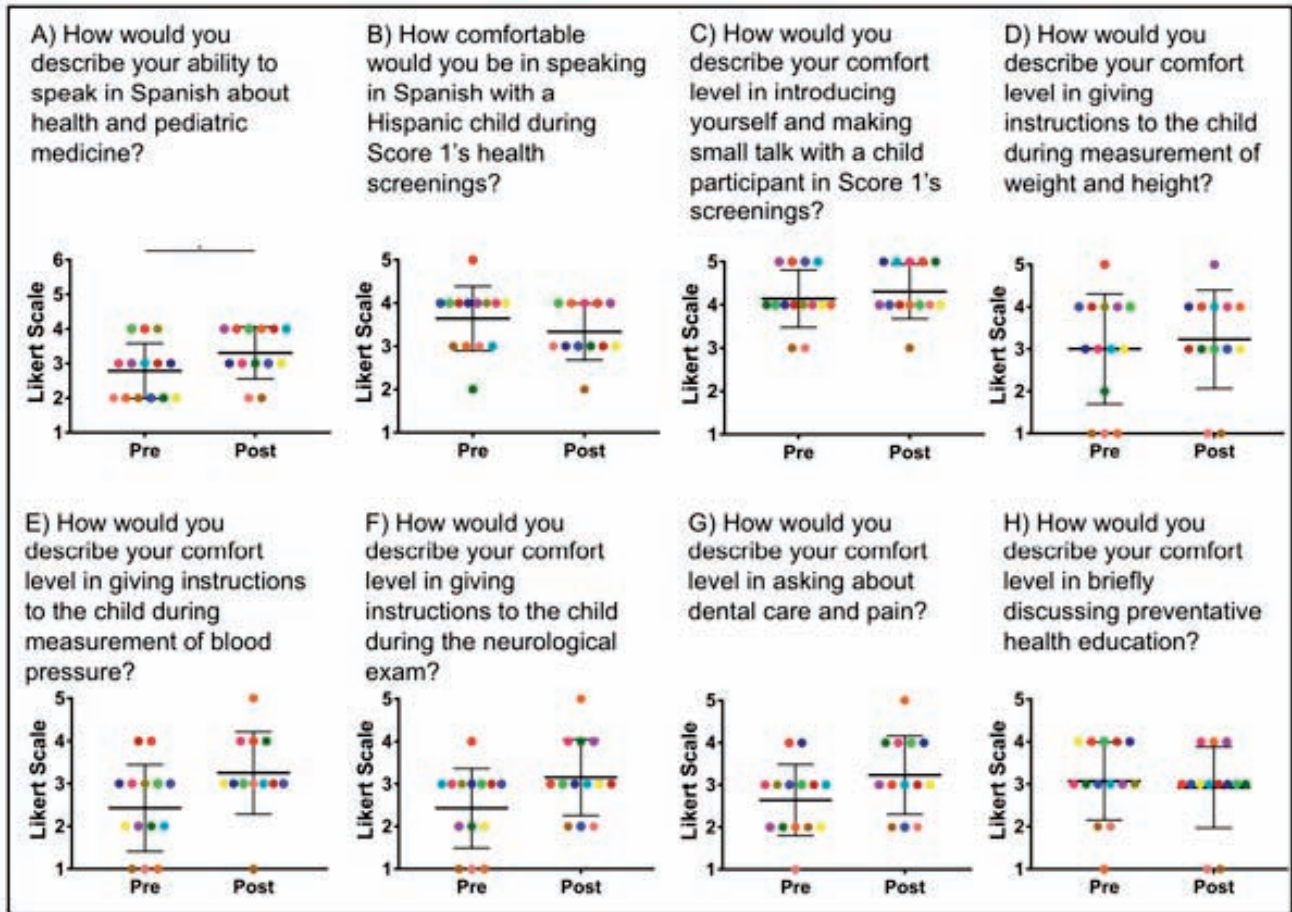
School-aged children from the Hispanic population in the Kansas City area represents one of the three major race/ethnicity groups participating in Score 1's health screenings. According to the 2008-2010 Community Report from Kansas City University's Score 1 for Health, one of the biggest obstacles identified by parents for accessing health services is a language barrier.<sup>11</sup> Using Score 1 for Health's screenings as a study setting for this module provides a unique opportunity to examine how Spanish linguistic enhancement of Kansas City University's osteopathic medical students will promote patient-student doctor interaction, patient satisfaction, and patient trust within the Hispanic population of Kansas and Missouri. Our goal is for the students who participate in the Spanish module to be encouraged to speak Spanish and use Spanish medical terms with the Hispanic patient population with which they are interacting. This will likely enhance doctor-patient communication and trust, thus strengthening the overall experience during the Score 1 screening for Spanish-speaking children.

## Methods

### Study Participants

Twenty volunteers were recruited from Kansas City University's Class of 2020 who, at the time of the study, were entering their second year of osteopathic medical education. This sample size represents approximately 10%

Figures 1A-1H. Likert scale for figure A: 1) None, 2) Rudimentary; 3) Basic; 4) Conversational; 5) Proficient; 6) Fluent. Likert scale for figures B – H: 1) Not at all; 2) Slightly; 3) Moderately; 4) Very; 5) Extremely. A total of 14 study participants submitted both pre- and post-questionnaires. Thirteen study participants reported using Spanish in their interactions with children during the Score 1's health screenings (1 participant did not answer).



of the Class of 2020. This research was conducted under an IRB approved protocol.

**Inclusion Criteria**

The study participants were student-volunteers self-identifying as possessing an intermediate or advanced Spanish speaking skillset, who were in good academic standing, and achieving a minimum cumulative grade point average of 2.0 after the completion of their first year of medical school. The module was focused on a short introduction to medical terminology in Spanish, rather than teaching basic Spanish, so participation in the study was limited to students that self-identified as intermediate or advanced Spanish speakers.

**Pre-Questionnaire**

The survey assessed participants' current opinions regarding their Spanish speaking abilities and their comfort and interest in utilizing the language in a clinical setting,

that being Score 1's health screenings. The questionnaire was a hybrid survey based on published studies by Lion, K. C. et al. and Burbano, S. C. et al.<sup>1-2</sup>

**Basic Medical Spanish Terminology Module**

The module duration was a total of four hours divided equally over two days.

**Score 1's Health Screenings**

Participation in the Score 1's health screenings is a required element of the College of Osteopathic Medicine's (COM) curriculum and is not part of the study procedures. COM students participated in eight curriculum-based health screenings after the training module.

**Post-Questionnaire**

The survey assessed the participant's current opinions regarding their Spanish speaking abilities and their subsequent comfort in utilizing Spanish in the clinical

setting after completing the training module and after having had the opportunity to utilize Spanish and Spanish medical terminology in the Score 1's health screenings.

### Data Analysis

For each student, both questionnaires were compared to determine if there were changes in the responses prior to, and after, completion of the basic medical Spanish module. Most responses were recorded using either a five-point (1-5) or six-point (1-6) Likert scale. Statistical analyses were performed using GraphPad Prism (GraphPad Software Inc., San Diego, CA, USA). Wilcoxon matched-pairs signed rank test was used to analyze the data from pre- and post- questionnaires. Statistical significance was designated at  $p < 0.05$  and most of the data are presented as mean  $\pm$  standard deviation.

### Results and Conclusion

The desired outcome of this study is the enhancement of the linguistic competency of the participant osteopathic medical students through the introduction of the basic Spanish medical terminology module. The four-hour Spanish medical terminology module significantly enhanced the perceived ability to speak in Spanish about health and pediatric medicine of those medical students participating in this study (Figure 1A).

The survey also addressed students' perceived comfort level while performing the health screening while participating in Score 1 for Health. During the health screenings the osteopathic medical students interacted with Spanish-speaking children to gather general information (Figure 1C), measure weight/height (Figure 1D) and blood pressure (Figure 1E), perform basic neurological examination (Figure 1F), and assess dental care and pain (Figure 1G). The perceived comfort level of the medical students when performing these assessments showed increasing trends following participation in the basic Spanish medical terminology. A longer duration module as well as refresher sessions during the time period of the health screenings would potentially enhance the perceived comfort level when communicating in Spanish in different non-clinical and straightforward clinical scenarios related to Score 1's health screenings.

Currently, another cohort of study-participants was recruited from Kansas City University's Class of 2021 who, at the time of the second year of this study, were entering their second year of their medical education. This new cohort of volunteer students had an additional two-

hour refresher session that included both a review of basic Spanish medical terminology as well as more interactive activities where the students could practice the use of Spanish while performing Score 1 clinical encounters. This refresher session was offered during the time period when the students were participating in the Score 1's health screenings. It is anticipated that the addition of the refresher session will further enhance the perceived comfort level when communicating in Spanish in both non-clinical and clinical scenarios related to Score 1's health screenings. One of the long-term goals of this study is to generate a validated model for the incorporation of Spanish medical terminology as a modality of linguistic competency training within Kansas City University's medical education curriculum.

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### References

1. Lion KC, Thompson DA, Cowden JD, et al. Impact of language proficiency testing on provider use of Spanish for clinical care. *Pediatrics*. 2012;130(1):e80-87.
2. Burbano O'Leary SC, Federico S, Hampers LC. The truth about language barriers: one residency program's experience. *Pediatrics*. 2003;111(5 Pt 1):e569-573.
3. Mazor SS, Hampers LC, Chande VT, Krug SE. Teaching Spanish to pediatric emergency physicians: effects on patient satisfaction. *Arch Pediatr Adolesc Med*. 2002;156(7):693-695.
4. Barkin S, Balkrishnan R, Manuel J, Hall MA. Effect of language immersion on communication with Latino patients. *North Carolina Medical Journal*. 2003;64(6):258-262.
5. Morales R, Rodriguez L, Singh A, et al. National Survey of Medical Spanish Curriculum in U.S. Medical Schools. *J Gen Intern Med*. 2015;30(10):1434-1439.
6. Fernandez A, Schillinger D, Grumbach K, et al. Physician language ability and cultural competence. An exploratory study of communication with Spanish-speaking patients. *J Gen Intern Med*. 2004;19(2):167-174.
7. Ennis SR, Ríos-Vargas M, Albert NG. The Hispanic Population: 2010. In: Bureau USC, ed: *Census.gov*; 2011:1-16.
8. Ryan C. Language Use in the United States: 2011. In: Bureau USC, ed: *Census.gov*; 2013:1-16.
9. Hardin K. An Overview of Medical Spanish Curricula in the United States. *Hispania*. 2015;98(4):640-661.
10. Reuland DS, Frasier PY, Slatt LM, Aleman MA. A longitudinal medical Spanish program at one US medical school. *J Gen Intern Med*. 2008;23(7):1033-1037.
11. Campbell A, Joyce J, Megie R, et al. KCUMB Score 1 for Health. 2008-2012 Community Report. Kansas City University of Medicine and Biosciences;2014.

### Disclosure

None reported.

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