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Undergraduate Medical Spanish: The Role of Assessment in Teaching and Learning

Abstract: As courses and programs in medical Spanish continue to grow at higher education institutions across the United States, the need for research on the teaching and learning of medical Spanish as a field continues to expand. Acknowledging the importance of more evidence-based research, the current study's purpose is to examine the role of assessment in undergraduate medical Spanish courses. To accomplish this goal, instructors of medical Spanish across the United States were interviewed individually or in focus groups. Interviews were recorded, transcribed, and coded following line-by-line coding. Using constructivist grounded theory methodology, the researchers grouped the resulting codes into categories, and themes were created. Themes that emerged from the data related to the use of rubrics, challenges in assessment, community engagement, diverse language proficiency, and cultural competency. Participants indicate the need for standardized rubrics and assessments that go beyond traditional grammar and vocabulary components and even medical terminology, which expresses the need to include categories on pragmatic, sociolinguistic, and intercultural skills. The results of this study show that medical Spanish assessment at the undergraduate level needs more evidence-based research and collaboration in order to develop standardized evaluation tools to assess students' linguistic and cultural skills. Implications regarding assessment in undergraduate medical Spanish courses are discussed below.

Keywords: assessment, cultural competence, language proficiency, medical Spanish, rubric development, undergraduate education

Introduction

The term "medical Spanish education" refers to the teaching and learning of the Spanish language and relevant Hispanic cultural topics in professional healthcare settings. This definition aligns with Dejbord Sawan's (2020) description of the need for "Spanish medical programs that develop oral proficiency and cultural humility for professionals and staff in the health-related fields, while taking into consideration the different factors that make the attainment of these skills and sensitivity difficult" (p. 1). As the Spanish-speaking population in the United States increases, so has medical Spanish education's foothold in undergraduate university Spanish language and cultures curricula. The country's Hispanic population is estimated at over 60 million, or 19% of the total population (US Census Bureau, n.d.); this number is expected to grow to over 111 million, or 28% of the total population, by 2060 (US Census Bureau, 2018). However, only 8.6% of healthcare practitioners and technicians identify as Hispanic (American

Community Survey, 2018), and there is no data on how many speak Spanish. The resulting language and cultural discordance in healthcare has created an urgent need for quality education in medical Spanish.

Although medical Spanish education is increasingly in-demand, there are still few instructors who specialize in this area (Sánchez-López et al., 2017). There is often only one medical Spanish instructor per institution (Miller De Rutté, Kentengian, et al., 2024) and many of these individuals lack formal training in Languages for Specific Purposes (LSP) (Brown & Thompson, 2018; Sánchez-López et al., 2017). Due to course and program constraints (e.g., limited instructors and/or course offerings, time constraints, student schedule limitations, instructors' lack of professional experience in healthcare and/or LSP as a sub-field), instructors often need to consider an unwieldy range of course modalities, student backgrounds, and linguistic abilities, in addition to both their own lack of a priori healthcare knowledge and that of their students. Furthermore, the growth in medical Spanish education at the undergraduate level has not necessarily resulted in better quality programs or best practice continuity. We are not aware of any clear, research-based guidelines on learning goals or how to assess the effectiveness of medical Spanish courses and programs at the undergraduate level or in medical schools (Brown & Thompson, 2018; Miller De Rutté, Nate, & Galarreta-Aima, 2024; Morales et al., 2015). Therefore, the purpose of this study is to understand the role of assessment in undergraduate medical Spanish courses. The findings, along with the challenges that educators that were interviewed conveyed, lead to suggestions for future directions in medical Spanish assessment.

Literature Review

Wiggins & McTighe (2005) highlight the importance of assessment, the third step in the four-step backward design process, in providing evidence of student learning. They argue that assessment tasks and other learning evidence should provide the foundation for curricular units and guide teaching (Wiggins & McTighe, 2005). Because assessment is paramount in backward design, the topic has triggered rich scholarly dialogue on LSP assessment. Douglas (2000, 2001a, 2001b, 2012), whose work provides a foundation for a principled approach to testing in LSP courses, has examined the differences between testing in language courses and other disciplines. He highlights three important aspects to consider when testing students in LSP courses—task authenticity, a continuum of specificity from general to specific professional context, and inseparability of language knowledge and specific purpose background knowledge (Douglas, 2001a). In another study, Douglas (2001b) argues that LSP assessment criteria should stem from analysis of the target language use situation, and that LSP instructors should use subject-specific criteria when assessing communicative language abilities. Other LSP scholarship examines test usage problems and test localization to build cohesive LSP assessment theories (O'Sullivan, 2012).

In response to this conversation on LSP assessment, English for Specific Purposes (ESP) scholars have developed theory and practice in language needs analysis, test development, and validation and policy to provide a conceptual framework and tools for ESP assessment. In doing so, they have amplified the field to include a range of assessment practices (Knoch & Macqueen, 2019). However, there is a need to validate these practices, particularly in medical English (Elder, 2016), to help improve proficiency and avoid the ethical problems that arise from using general language proficiency rubrics to assess ESP (Douglas, 2012).

Spanish for Specific Purposes (SSP) scholars have also joined the dialogue, emphasizing the need for adequate assessment tools (King de Ramírez & Lafford, 2013; Miller De Rutté, Nate, & Galarreta-Aima, 2024). Most research in medical Spanish has examined the graduate and professional school levels (e.g., medical schools and residency training programs) (Diamond et al., 2012; Diamond et al., 2014; Diamond et al., 2019; Diamond et al., 2023; Lie et al., 2018; Ortega et al., 2019b; Ortega et al., 2021; Ortega et al., 2023; Tang et al., 2011). Ortega et al. (2023) have studied the development and effectiveness of a rater training curriculum for evaluating postgraduate medical student Spanish oral proficiency using the recently created Physician Oral Language Observation Matrix (POLOM). The POLOM defines six categories for rating students' proficiency in medical Spanish: comprehension, fluency/fluidity, vocabulary, pronunciation, grammar, and communication. There are five ordered proficiency levels based on standardized patient encounters. The POLOM, the first assessment tool to provide both a holistic and detailed assessment of clinical Spanish speaking skills contextualized for healthcare, allows for reliable rating of medical Spanish oral proficiency.

Other studies that have explored health care providers' self-reporting of language proficiency have shown that some methods of self-rating language proficiency appear to work while others do not (Diamond, et al., 2014). Research concludes that self-assessment of non-English-language proficiency using the Adapted Interagency Language Roundtable (ILR) Scale for Physicians and the Clinician Cultural and Linguistic Assessment (CCLA) correlates to tested language proficiency, particularly on the low and high ends of the scale. However, participants who self-assess in the middle may require additional testing, as there is more variance between self-assessment and oral proficiency scores. This incongruity may give some clinicians an inaccurate sense of their proficiency skills (Diamond et al., 2012).

Despite this research, scholars agree that standardized medical Spanish assessments are still lacking (Ortega et al., 2021). Previous studies recommend assessing oral and aural skills and cultural competence (Hardin, 2012, 2015; Hardin & Hardin, 2013; Miller De Rutté, Kentengian, et al., 2024; Miller De Rutté, Nate, & Galarreta-Aima, 2024; Ortega et al., 2019a), using multiple evaluation methods (Hardin & Hardin, 2013), such as existing standardized assessments like the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL) and including community engaged learning (CEL), standardized patient (SP) encounters, and other role-plays (Martinez, 2010; Miller De Rutté, Kentengian, et al., 2024; Miller De Rutté, Nate, & Galarreta-Aima, 2024; Ortega et al., 2019a; Reuland et al., 2008). However, the OPI and other general assessment tools may not sufficiently assess medical Spanish proficiency (Ortega, 2018). Furthermore, many assessments used in postgraduate medical education are not appropriate for undergraduates, as they often entail medical knowledge that undergraduates lack.

One study on undergraduate medical Spanish includes Pérez's (2020) implementation of an intensive, two-week nursing Spanish course. The main assessment activity that she examined was a Spanish language nursing interview that included taking a patient history, collecting vital signs, and performing a physical exam. This study discusses assessment of Spanish language abilities via a pretest and posttest, as well as vocabulary quizzes, and highlights the need to develop more precise medical Spanish assessment tools for advanced second language (L2) and heritage language learners (HLL).

Evidently, recent language teaching scholarship emphasizes the need for research on LSP assessment and clear standards for assessing student linguistic and cultural gains (Brown & Thompson, 2018; Sánchez-López et al., 2017). While the previous studies have made rich

contributions to the fields of LSP, SSP, and medical Spanish, relatively few publications examine medical Spanish assessment specifically at the undergraduate level. This study aims to bridge that gap in medical Spanish literature. The research questions guiding this study were: 1) what types of assessment tools, measures, and guidelines do medical Spanish educators implement at the undergraduate level in the United States?[1] And, 2) what are the challenges that instructors face when assessing medical Spanish in the United States?

Methods

Study Design

Constructivist grounded theory guided this qualitative study (Charmaz, 2014). Increasingly prevalent in applied linguistics, qualitative research allows for researchers to "hear participants' voices" (Dewaele, 2019, p. 71). One way to collect data is through focus groups and individual interviews, where either one participant or small groups share experiences on a topic. Constructivist grounded theory allows researchers to understand how individuals and groups construct meaning from their experiences within a given context (Charmaz, 2014). This type of qualitative data analysis is rooted in credibility, originality, resonance, and usefulness (Charmaz & Thornberg, 2021) and does not produce counts or frequencies of codes nor a number or percentage of participants. The quantitative element (number or percentage of participants) is not central to this approach, but rather may provide a foundation on which to create categories and themes that encompass all individual codes. In this study, the only use of quantitative data appears when the researchers counted medical Spanish course characteristics (i.e., course level, mode of delivery, status as a clinical course or elective, etc.).

Participants

To recruit participants for focus groups or individual interviews (based on participant preference), the researchers emailed medical Spanish instructors affiliated with the National Association of Medical Spanish (NAMS), and attendees registered for the 2022 International Symposium of Languages for Specific Purposes (ISLSP), and the 2022 Kentucky Foreign Language Conference's (KFLC) LSP session. We also recruited via social media platforms. All participants were US-based instructors of undergraduate medical Spanish. We held six focus groups and two individual interviews, with 19 participants total (group 1: n=4, group 2: n=4, group 3: n=1, group 4: n= 1, group 5: n=3, group 6: n=2, group 7: n=3, group 8: n=1). Eighteen participants (95%) were female, and one participant (5%) was male. Each session lasted 20 to 60 minutes.

Procedure

Most interviews occurred over Zoom, with one occurring in person at the ISLSP Conference, in Chicago, Illinois in April 2022. All interviews were recorded and occurred over a three-week period in April 2022. Members of the research team—university faculty of SSP who hold PhDs in Hispanic Studies or Applied Linguistics—facilitated each interview. Before beginning the interview, the research team read an informed consent script and asked participants

[1] In this study, the term "undergraduate" refers to the bachelor's degree level.

to express verbal consent to participate in the study. We collected no identifying information about the participants.

Interview questions were semi-structured to help facilitate discussion ("Semi-Structured Interview Questions"). Questions were designed to gain basic information about the medical Spanish courses, types of assessments used, decision-making process in evaluating assessments, and challenges in assessing language proficiency and cultural competence. After the interviews, each participant received a $30 gift card. Interviews were conducted until data saturation.

Data Analysis

The researchers used NVivo transcription software to transcribe the interviews, then imported transcriptions into Taguette, a web-based coding software for qualitative data. Taguette does not code the data on its own. Rather, this program provides a platform for researchers to code data. Following the norms of qualitative data analysis and Grounded Theory methodology, the research team coded interviews independently using line-by-line coding, and at least two researchers coded each interview. This qualitative coding that the researchers performed entailed close reading the interviews to find significant and frequently repeated terms and phrases and providing "tags," or codes, for those terms and phrases. The researchers then met to review all codes, discuss any discrepancies, and agree on a resolution before organizing codes into categories and themes that were representative of all the collected data. For this project, medical Spanish course characteristics were counted using frequencies. These results are reported in the following section using numbers as these questions were asked to elicit background information from participants about their medical Spanish courses and were not part of the qualitative data analysis. All other data analysis followed the qualitative data coding process already described.

Findings and Discussion

Medical Spanish Course Characteristics

When asked to indicate the level of their medical Spanish course, all participants (n=19, 100%) replied that their classes were intermediate and/or advanced. This finding indicates that the medical Spanish courses taught by participants in this study were offered for students with at least an intermediate proficiency and aligns with recommendations that medical Spanish courses start at the intermediate level (Hardin, 2012; Miller De Rutté, Kentengian, et al., 2024) with the goal of students reaching advanced proficiency (Hardin, 2015).

When discussing the level of their courses, participants said that they often encounter a range of proficiency levels in one course and that students hail from many different backgrounds, including first generation, L2 learners, heritage learners, and native speakers. Additionally, students have varying medical knowledge: some are pursuing health-related majors, some are undecided, and others have not yet taken courses related to health and/or medicine. Participants did not specify whether medical background knowledge allowed students to perform better, nor did they comment on how helpful prior medical knowledge was to attainment of course objectives.

When asked about how participants deliver their courses (e.g., in-person, online, hybrid), responses varied widely. All participants (n=19, 100%) mentioned that they taught online or hybrid during the COVID-19 pandemic. Once restrictions were lifted, most participants'

universities resumed teaching in-person; but, according to participants, COVID-19 radically changed how classes were offered. At the time of the interviews, the majority of participants (n=15, 79%) were teaching their medical Spanish courses fully in-person. However, eight of the 15 (53%) indicated that they had a major online component (e.g., online activities, e-textbooks, etc.). One participant taught in a synchronous, hybrid modality. Another taught their class in a hybrid modality with one synchronous and one asynchronous class per week. One participant taught synchronously online, and another taught online with two synchronous days and one asynchronous day per week. Four participants (21%) mentioned that while they were teaching fully in-person courses, they were either developing, or in discussions about developing, an online version of the course.

Participants were asked to describe the categorization of their courses in relation to the larger language program. For example, participants were asked if their medical Spanish course was a clinical course (one that included clinical skills or components - procedural knowledge, underlying basic science knowledge and/or clinical reasoning [Michels et al., 2012]), a major or minor requirement, a certificate requirement, an elective, etc. Most participants (n=10, 53%) responded that their classes were electives that counted towards a general Spanish major and/or minor. Six participants (32%) stated that their classes were part of an SSP or Spanish for Healthcare certificate, and five participants (26%) shared that their institutions offered a minor in LSP or Spanish for Healthcare. Six participants indicated that their classes were required, core courses for other minors or certificates. Additionally, courses and programs varied. Some focused on medical translation/interpretation, while others guided students to work directly with Spanish-speaking patients in the target language. Still, other courses focused less heavily on learning the Spanish language and more on content, CEL, or research.

Forms of Assessment

Participants underscored the importance of aligning assessments with learning objectives, indicating that they used multiple assessment forms, which demonstrate a wide-ranging, comprehensive approach to medical Spanish evaluation. Creative projects and cultural assessments, which encompass activities like cultural event reporting and acquiring cultural certificates, allow students to showcase originality and cultural understanding. Instructors shared that they commonly assessed interaction and peer engagement through discussion posts and group assessments, including projects and presentations, which were used to foster collaborative learning. Individual assessments, such as homework and performance-based tasks, were also employed to gauge individual progress outside collaborative environments.

Language skill assessment, with focus on speaking, fluency and pronunciation, was another area that emerged from the data. Language skills were often assessed through projects and presentations. Additionally, grammar and vocabulary quizzes and final exams allowed evaluation of other language skills. Written assignments, such as essays and final papers, assessed comprehension, critical thinking, writing, and language proficiency. Research suggests that one-semester Medical Spanish courses should focus on oral and aural skills, unless students are at the advanced level or above (Hardin, 2012, 2015; Hardin & Hardin, 2013; Miller De Rutté, Kentengian, et al., 2024). Previous research has found that the assessment of reading and writing skills is common in undergraduate medical Spanish courses (Hardin, 2015; Miller De Rutté, Kentengian, et al., 2024) but is not often incorporated into postgraduate medical education (Hardin, 2015).

Reflections and self-evaluation, or self-reporting methods that allow students to reflect on their learning, were also included as an assessment form. Previous research has found that self-assessments and reflections are used in undergraduate medical Spanish education (Miller De Rutté, Kentengian, et al., 2024), and self-assessment is already a common practice in graduate-level medical education (Hardin, 2015; Reuland et al., 2009). However, medical Spanish educators should not solely rely on self-assessments, as students may overestimate their abilities (Lion et al., 2012).

Interviews or role-plays were another assessment form described, with most interviews being a simplified medical interview, a standardized patient encounter, or a clinical simulation. This is in line with previous research that demonstrates the importance of simulated patient encounters in medical Spanish education (Hardin, 2012, 2015; Miller De Rutté, Kentengian, et al., 2024; Miller De Rutté, Nate, & Galarreta-Aima, 2024; Ortega et al., 2019a).

Another focus of participants was translation and interpretation assessments that included simultaneous, consecutive, and sight interpretation, as well as projects relating to translation and interpretation. Focusing on translation and interpretation proves beneficial, especially if the course trains future medical interpreters; although it is equally important for future health professionals to understand the interpreter's role, not because they should play that role, but because they should know how to work with interpreters when necessary (Ortega et al. 2019).

The theme of community-engaged learning, another form of assessment in the data, emerged in the discussion of medical Spanish courses. Participants indicated assessing students on their participation in CEL activities, such as internships or volunteering in free clinics or with nonprofits. One participant described their CEL component:

> Students are matched with the community partner. They have to complete 15 to 20 hours with that community partner. And they have several checkpoint reflections throughout the semester, one to make sure they're actually doing their hours, of course, but also to reflect on the experience. So they do three reflections throughout the semester. And then it culminates in a service-learning portfolio in which they kind of put everything together and do a final reflection. So that's one big assessment.

CEL, a recommended component to enhance medical Spanish instruction (Brown & Thompson, 2018; Hardin, 2015; Hardin & Hardin, 2013; Martinez, 2010; Reuland et al., 2008), appears in previous research on medical Spanish (Miller De Rutté, Kentengian, et al., 2024). In fact, Lafford et al. (2014) stated that through CEL:

> Students gain improved linguistic skills and self-confidence, more positive attitudes toward the target language and culture, personal satisfaction, more knowledge about professions and the community it serves, professional experience, and in-depth understanding of the dynamics of the extant power structures in the communities with which they interact. (p. 175)

Furthermore, students were sometimes permitted to choose the way in which they were assessed. For example, one participant said:

> I have a total of six mediums that they can use. So for their final presentation, they can do a regular research essay. They can create an Instagram page to educate the community on

> health issues. They can do a series of TikToks to educate the community. They can do a video. They can do a PowerPoint recording, presenting like an academic paper, or they can do an actual academic poster. I not only let them choose the medium, I also let them choose the language, so they need to pick their audience. If they're speaking to other healthcare professionals that will require a certain register, or they're making the materials for the community that's going to require a different register. So they choose the medium and they also choose the register and justify it based on what they know about what they're going to do.

Other participants stated that they allowed students to choose a topic but did not give them a choice in the assignment type. Such diverse assessment underscores the comprehensive and multifaceted nature of medical Spanish content and skills. These varied assessments also show that medical Spanish courses do not teach linguistic competency alone, but also cultural awareness in a healthcare setting and self-evaluation capabilities. These results corroborate previous research that has shown the importance of multiple evaluation methods (Hardin & Hardin, 2013).

Rubrics

Rubrics were a common assessment tool, which suggests that medical Spanish instructors seek to standardize evaluation, and that rubrics are integral to this process. While some instructors preferred holistic assessment methods (providing feedback on content and/or grading on completion) over rubrics, others commented that rubrics are vital in their assessment of language proficiency and intercultural competence, a construct attributed to Byram (1997). While standardized rubrics are used, such as ACTFL proficiency guidelines, Can-Do statements, and the Common European Framework of Reference for Languages (CEFR), some instructors prefer departmental-specific rubrics that examine content and form and apply to all assessments, from homework, to written and performative assignments, to speaking and role-plays.

Significant to point out, however, was the lack of consistency in rubric use and the need to continuously revise and adapt rubrics to meet student needs and course goals, as well as the need to reassess as courses progress. Participants also contended for open-ended rubrics that allowed for comments and ambiguity between and across categories. Instructors agreed that no single, standardized rubric met the specific needs of their medical Spanish students. As such, participants often created rubrics for individual courses and assignments by expanding existing rubrics to include additional areas of assessment. For example, one participant explained their adaptation of the CEFR problem-solving category by assessing students on problem-solving in Spanish in "real-life" clinical contexts in a professional setting. Other participants adapted ACTFL categories by limiting grammar to that needed for certain tasks, such as nursing assessment interviews or standardized patient encounters, which is a practice explored in previous research (Pérez, 2020). Other rubric modifications involved replacing or simplifying ACTFL vocabulary with healthcare-specific vocabulary and included replacing speaking about everyday activities with situations that a healthcare professional might encounter. Such revisions and clarifications are necessary, because language used in professional settings is only mentioned at the advanced and higher levels on the ACTFL scale, whereas mention of this is made at the intermediate levels and above in the CEFR scale.

A common concern among participants was the need to assess cultural themes, social justice, civic engagement, empathy, and tolerance, and lamented the lack of these themes in standardized rubrics. One participant exemplified this need:

> For the 3000 level class, when we do an oral interview, we do use ACTFL standards for intermediate low. For written assignments, in that class [I use a] self-made rubric. And then for the 4000 level class, I created a rubric that is a combination of ACTFL standards and completion and reflections so the skills come from ACTFL. For the final product assignment, it's very similar where the language [assessment] comes from ACTFL, but there is also a category for community impact—how they demonstrate that they were in fact responding to a community need and how connected that is with their community partner and the community.

Similarly, another instructor noted: "I have created my own rubric based on ACTFL, and depending on whether it is oral work or written work, one of the main things is: are they going beyond just responding to the questions? Are they adding information?" Another participant shared a similar example of needing to integrate intercultural competence in their Medical Spanish course with a 40-hour CEL component. They described their rubric as evaluating students' healthcare knowledge, interpretive function, knowledge of interpreter ethics, interpretation skills and methods, and language proficiency. This self-made rubric has allowed this participant to assess language skills and cultural knowledge while guiding students to navigate ambiguity and remain open-minded when working with Spanish-speaking patients.

Medical Spanish Course Content

Medical Spanish course content emerged as an area in the data, even though participants were not prompted on this topic. This type of result, typical in constructivist grounded theory methodology, allows researchers to conclude results from emerging themes, even without direct, related questions. Therefore, conclusions about topics that medical Spanish courses commonly teach can be supported by the following data (see Table 1). Although there is no standardized curriculum in undergraduate medical Spanish education, there does appear to be commonality in course topics.

Table 1.
Content that Participants included in Medical Spanish Courses (in alphabetical order)

Topic	**Description**
Diseases	Alzheimer's, COVID, dementia, diabetes, Grave's, hypertension, lung cancer, neurodegenerative, Parkinson's
Grammar in context	scaffolded, task-based or project-based grammar lessons (e.g., grammar needed for a certain project or for completing a patient interview)
Healthcare system	healthcare, insurance

Health practices	in US border states, Central America, Peru, South America
Immigration/migration	border theory, detention centers, migrant workers, migrants, migration, North American Free Trade Agreement (NAFTA), Title 42
Indigenous people	culture, language, traditional medicine
Language usage	bilingualism, Spanglish, language access, language choices, language ideologies, linguistics, linguistic patterns, register
Latino culture	cultural competence, cultural differences, cultural humility, intercultural competence
Medical interview	chief complaint, basic medical info, medical history, symptoms
Medical terminology	anatomy, body systems
Mental health	depression, stress, trauma
Nutrition	diabetes, hypertension, diet and culture
Pediatrics	children's health
Social determinants of health	health barriers, lack of insurance, migration status, health literacy
Traditional medicine	vertical birth, Latino medicine, ancestral medicine
Translation/interpretation	sight translation, code of ethics for interpreters, simultaneous interpretation, role of the medical interpreter, interpretation ad hoc
Treatments and medical breakthroughs	medical intake call, diagnostic tests and diagnoses in formal and lay terms, exit interview, assessment plan, anatomy, systems of the body, Western medicine, ancestral/alternative treatments, distinct medical concepts, different Latino cultural groups in the United States and how they arrived, basic causes and treatments of diseases or conditions that disproportionately affect the Latino community in the United States
Vaccines	COVID, vaccination-related behaviors
Women's health	birthing traditions, doulas, gynecology, hysterectomy, sterilization

Participants discussed covering many of these topics in one course, which is also corroborated in previous research (Hardin, 2012, 2015; Martinez, 2010; Miller De Rutté, Nate, & Galarreta-Aima, 2024) and shows that medical Spanish courses focus on linguistic and cultural

competency in the context of health-related issues. Furthermore, participants indicated that they used a wide variety of materials from different sources to better illustrate these content areas by including textbooks, online resources, such as Center for Disease Control and Prevention (CDC) publications, newspaper and research articles. One particular challenge that participants described in this area was finding peer-reviewed articles on medical issues in Spanish, because "the actual research articles, almost all of these, are written in English." Additionally, instructors noted the need to create and adapt course content materials to specific student needs.

Skills

While there was no explicit interview question about skill development, this theme also emerged from the data. Participants discussed assessment skill areas, which the authors categorized into the following areas: communication skills, cultural skills, language and literacy skills, and collaboration and problem-solving skills.

Communication skills entail speaking, listening, pronunciation, presentational, and interpersonal skills. These skills, which are fundamental for interacting and conveying information, encompassed abilities related to active listening, clear articulation of thoughts through speech, presentation of information, and effective interaction. Included, too, are medical communication skills as participants cited specific areas such as "medical history," "family history," "chief complaint symptoms," "history of the present illness," and others, while conveying "compassion" and "empathy." Previous research discusses the importance of communicative skills, such as those that this study highlights (Hardin, 2012, 2015; Hardin & Hardin, 2013; Miller De Rutté, Nate, & Galarreta-Aima, 2024; Ortega et al., 2019a, 2019b).

Cultural skills, with a focus on intercultural competence and skills related to cultural humility and sensitivity, involved understanding and appropriately responding to different cultural contexts and perspectives. They also encompassed the ability to effectively interact with individuals from diverse cultural backgrounds and adapt behaviors and attitudes according to cultural norms. Participants cited "teaching techniques appropriate to family dynamics in a multicultural environment," "cultural issues," "intercultural competence," "cultural humility," and "Latino culture and healthcare" as important areas in which to build cultural skills. This area is commonly described as essential in medical Spanish, especially at the undergraduate level (Hardin & Hardin, 2013; Miller De Rutté, Kentengian, et al., 2024).

Language and literacy skills incorporated reading comprehension, writing clarity and accuracy, grammar, and the ability to review classmates' writing or speech. Participants discussed having students "read critical articles," "debate," "discuss readings," "present oral projects," use "grammar in context," complete "skits" and "role-plays," and "peer review" to demonstrate these skills. While research suggests that medical Spanish courses should focus on oral and aural skills (Hardin, 2012, 2015; Hardin & Hardin, 2013; Miller De Rutté, Kentengian, et al., 2024), developing reading and writing skills may help build general Spanish language proficiency.

Collaboration and problem-solving skills included team work, problem-solving, and critical thinking skills. More specifically, this area involved working effectively and efficiently with others while solving problems and applying critical thinking skills to analyze, evaluate, and synthesize information. Participants often discussed these skills as group project focus areas. For example, one participant described a final project in which students focus on teamwork and apply problem-solving skills by "proposing a couple of ideas for solutions to problems." These

students also used critical thinking skills to synthesize information "identified throughout the course within the healthcare setting for Latino communities." Research suggests that medical Spanish courses can "induce critical thinking" (Martinez, 2010, p. 8), and thus, it is imperative to teach these skills in these courses.

In sum, each participant indicated that they focused on multiple skill areas in their medical Spanish courses, as corroborated in previous research (Miller De Rutté, Kentengian, et al., 2024). One participant exemplifies this approach:

> The other thing, too, is that we have to remember that these courses are not just vocational. I feel like one of my bigger missions is cultural understanding, critical thinking skills, multi-literacy. That's what I think. I feel it's really important that we're teaching critical thinking skills. And if we're not, then, you know, I don't think it's undergraduate work.

This participant also referred to the difference between undergraduate medical Spanish courses and graduate-level medical Spanish courses. They indicated that at the undergraduate level "we give [students] enough of a foundation" in medical Spanish skills, which they can enhance with other professional or vocational skills once in graduate school. Other participants throughout the different interviews also discussed differences between undergraduate and graduate-level Medical Spanish skill development, indicating that undergraduate medical Spanish courses should focus on "cultural skills," "communication skills," "listen[ing] to the patient and understand[ing] their individual stories," "aural skills," and "intercultural competence." Participants agreed that students should learn technical skills (e.g., those needed for patient triage) from health professionals (Hardin & Hardin, 2013).

Challenges in Medical Spanish Assessment

Participants in this study were explicitly asked about the assessment challenges that they faced. Participants mentioned teaching students with diverse levels of language proficiency and varied medical knowledge. Such disparities, found in previous studies, can create difficulties when designing curriculum and deciding on assessment (Miller De Rutté, Nate, & Galarreta-Aima, 2024). One participant described relying on self-assessment to help address the variety of language levels in their class: "I'd say the most challenging is the variety of levels, and this semester has been the biggest span. We've always been big on self-assessment. You know, an honest assessment of your ability is key." Instructors often use self-assessments due to the lack of standardized tools that adequately and appropriately measure medical Spanish proficiency. Nevertheless, because self-assessment may lead students to overestimate their abilities (Lion et al., 2012), medical Spanish classes should include caveats about students' linguistic limitations, as well as information about working with medical interpreters.

In addition, participants mentioned the need for a medical Spanish class specifically for HLLs, as Spanish heritage students are increasingly enrolling in their courses. One instructor's statement represented this group notion by saying, "I would love to have a class just for heritage speakers because they have very different needs, because their Spanish in general is excellent, so they have to learn other things." There is a clear demand for SSP courses for HLLs given the sociolinguistic profile of these students and their connections to Spanish-speaking communities. The fact that participants mentioned teaching HLLs underscores the need to develop specific

curricula, learning materials, and evaluations for these learners (Llosa, 2013; Malone et al., 2014). Research suggests that medical Spanish courses are beneficial in integrating heritage language programs with heritage language communities in which HLLs can build their linguistic skills (Martinez, 2010).

Participants recognized CEL as beneficial for their students. However, participants also recognized that finding appropriate community partners in medical contexts, matching students' linguistic levels and professional preferences to organizations that fit those needs, and assessing CEL activities was very time-consuming for faculty. One instructor mentioned:

> It becomes challenging when we're pairing [students] with community partners. And so we do our best to meet with every student before we match them up to try to get a sense of their level and also their interest, their availability in terms of scheduling. But it's not always a perfect match between the student's skills and what the community partner is asking of them.

Participants also described the lack of standardized rubrics or other assessment tools in undergraduate medical Spanish education, a common finding in previous research (Miller De Rutté, Nate, & Galarreta-Aima, 2024). Consequently, participants often created their own evaluation guidelines for each assessment, which can lead to faculty burnout. One participant said:

> Every time there's a new project, I have to make up a new rubric. And so I don't know how standardized this is across all our, you know, even in our own classes. But, you know, I have to make modifications because I have L2 learners and I have native speakers in the same class. So that is always a challenge.

This concern echoes what medical Spanish assessment scholarship describes as a lack of consistency of evidence-based evaluation instruments to measure students' linguistic and intercultural abilities (Ortega et al., 2021). This gap may result in future health professionals using varying language skills with their Spanish-speaking patients, which may negatively affect healthcare communication and quality of care for this already vulnerable population (Ortega et al., 2019b).

In addition to the lack of standardized linguistic assessment tools, several participants highlighted difficulties in evaluating cultural competence. One participant said,

> I think the hardest thing for me to assess is intercultural competence. How do you assess if somebody is more culturally humble without relying on self-reporting? Right? A lot of the models rely on self-reporting. 'I think Latinos are blah blah blah.' And then ten weeks later, 'Now, I don't think so.' I don't feel comfortable assessing cultural competency growth. So I pretty much do completion because I feel like I'm planting seeds and I'm exposing them to a different point of view. And I don't want to rely on self-reporting. So that's an aspect that I try to stay away from assessing and I have to be OK with.

This response reaffirms the need to assess intercultural competence. Yet, without adequate tools, this participant settled for completion grades. Throughout participants' responses, there was a general consensus about the need for cultural elements in medical Spanish education, as this is a

critical component to patient–clinician communication. Therefore, it is imperative to develop effective assessment tools to evaluate learner's (inter)cultural competence when working with patients from different Spanish-speaking communities in medical contexts.

Implications

While medical Spanish education is growing in demand across the United States, most research focuses on graduate-level medical education. This study's findings provide valuable insights into medical Spanish assessment at the undergraduate levels. Based on these results, we recommend the following:

1. The creation of evidence-based evaluation tools that standardize linguistic and cultural assessment in the field of medical Spanish at large and especially at the undergraduate level that include clear assessment standards of CEL activities, intercultural competence, and professional skills in the target language. This will eventually help to evaluate the efficacy and validity of undergraduate medical Spanish classes and programs across the United States.
2. Multiple evaluation methods (such as roleplays, community engagement projects, etc.), due to diverse levels of language proficiency and/or cultural knowledge, varied medical knowledge, and the many content and skill areas that are assessed in medical Spanish classes.
3. The creation of communities of practice who are interested in medical Spanish assessment in order to share evaluation tools, rubrics, and ways to collaborate on interdisciplinary projects. We also propose a more direct collaboration between the assessment work that is happening in medical school and residency training levels and the work that needs to be done at the undergraduate level.
4. More empirical investigation on best practices for medical Spanish education at the undergraduate level, with emphasis on assessment.
5. The development of more than one, standalone medical Spanish course.

Limitations and Future Research

This study is not without its limitations. While data saturation occurred with 19 participants, this study only looked at a cross-sectional view of medical Spanish assessment practices. Future studies should be longitudinal to measure assessment practice efficacy. Moreover, future research could include a mixed method approach to gather data from different sources (e.g., survey data from a larger number of participants and interviews with a subset of those participants). Future research also could be tailored to assessment for specific groups of learners, such as advanced L2 learners, HLLs, native speakers, pre-med students, etc. Finally, additional research on medical Spanish students' and college administrators' perspectives on assessment at the undergraduate level could enrich the results found in this study. Future studies should also take a critical approach to ICC assessment (CCA and CLA).

Conclusion

As the SSP discipline grows, we need to understand curricular decisions and implementation, assessment, and learning activities for medical Spanish courses. This study's goal was to learn about the evaluation tools that medical Spanish instructors implement at the undergraduate level. We also learned about the experiences and challenges that instructors face when evaluating students' linguistic and cultural abilities and were able to make suggestions for future directions in medical Spanish assessment. While many graduate-level medical Spanish courses lack language assessments (Morales et al., 2015; Ortega et al., 2019b), this is not the case in undergraduate medical Spanish. This study highlights the diverse assessments that US medical Spanish educators use and confirms what other scholars describe as a lack of consensus regarding a standard curriculum for medical Spanish courses (Hardin, 2015). Based on this study's findings, medical Spanish instructors are making concerted efforts to create effective evaluation tools to assess their students' abilities, which may help clinicians avoid future errors and miscommunication. Thus, we need further analysis and comparison of different evaluation tools (e.g., rubrics, SP encounters, self-assessment, etc.) that build on this study's results in order to establish uniform, evidence-based, undergraduate medical Spanish assessment.

References

American Community Survey. (2018). *Detailed Occupations by Race and Hispanic Origin: 2018 ACS*. Census.Gov. https://www.census.gov/data/tables/2018/demo/industry-occupation/acs-2018.html

Brown, A. V., & Thompson, G. L. (2018). *The changing landscape of Spanish language curricula: designing higher education programs for diverse students*. Georgetown University Press.

Byram, M. (1997). *Teaching and assessing intercultural communicative competence*. Bristol, UK: Multilingual Matters.

Charmaz, K. (2014). *Constructing grounded theory* (2nd edition). SAGE Publications.

Charmaz, K., & Thornberg, R. (2021). The pursuit of quality in grounded theory. *Qualitative Research in Psychology, 18*(3), 305–327. https://doi.org/10.1080/14780887.2020.1780357

Dewaele, J. M. (2019). The vital need for ontological, epistemological and methodological diversity in applied linguistics. In C. Wright, L. Harvey, & J. Simpson (Eds.), *Voices and practices in applied linguistics: diversifying a discipline* (pp. 71–88). White Rose University Press. https://doi.org/10.22599/BAAL1.e

Diamond, L., Bejarano, M. T., Chung, S., Ferguson, W., Gonzalez, J., Gazon, M. G., Mujawar, I., & Gany, F. (2019). Factors associated with accuracy of self-assessment compared to tested non-English language proficiency among primary care providers. *Medical Care, 57*(5), 385–390. https://doi.org/10.1097/MLR.0000000000001105

Diamond, L. C., Gregorich, S. E., Karliner, L., González, J., Pérez-Cordón, C., Iniguez, R., Alberto Figueroa, J., Izquierdo, K., & Ortega, P. (2023). Development of a tool to assess medical oral language proficiency. *Academic Medicine, 98*(4), 480. https://doi.org/10.1097/ACM.0000000000004942

Diamond, L. C., Luft, H. S., Chung, S., & Jacobs, E. A. (2012). "Does this doctor speak

my language?" improving the characterization of physician non-English language skills. *Health Services Research*, *47*(1 Pt 2), 556–569. https://doi.org/10.1111/j.1475-6773.2011.01338.x

Diamond, L., Sukyung, Ferguson, W., Gonzalez, J., Jacobs, E. A., & Gany, F. (2014). relationship between self-assessed and tested non-English language proficiency among primary care providers. *Medical Care*, *52*(5), 435–438. https://doi.org/10.1097/MLR.0000000000000102

Douglas. D. (2000). *Assessing Languages for Specific Purposes*. Cambridge: Cambridge University Press.

Douglas, D. (2001a). Three Problems in Testing Language for Specific Purposes: Authenticity, Specificity and Inseparability. In C. Elder, A. Brown, E. Grove, K. Hill, N. Iwashita, T. Lumley, T. McNamara & K. O'Loughlin (Eds.) *Experimenting with Uncertainty: Essays in Honour of Alan Davies* (pp. 45–52). Cambridge University Press.

Douglas, D. (2001b). Language for Specific Purposes assessment criteria: Where do they come from? *Language Testing*, *18*(2), 171–185. https://doi.org/10.1177/026553220101800204

Douglas, D. (2012). ESP and assessment. In B. Paltridge & S. Starfield (Eds.), *The handbook of English for Specific Purposes* (1st ed., pp. 367–383). Wiley. https://doi.org/10.1002/9781118339855.ch19

Elder, C. (2016). Exploring the limits of authenticity in LSP testing: The case of a specific-purpose language test for health professionals. *Language Testing*, *33*(2), 147–152. https://doi.org/10.1177/0265532215607397

Hardin, K. (2012). Targeting oral and cultural proficiency for medical personnel: An examination of current medical Spanish textbooks. *Hispania*, *95*(4), 698–713. https://www.jstor.org/stable/41756421

Hardin, K. (2015). An overview of medical Spanish curricula in the United States. *Hispania*, *98*(4), 640–661. https://www.jstor.org/stable/24572228

Hardin, K. J., & Hardin, D. M. (2013). Medical Spanish programs in the United States: A critical review of published studies and a proposal of best practices. *Teaching and Learning in Medicine*, *25*(4), 306–311. https://doi.org/10.1080/10401334.2013.827974

King de Ramírez, C., & Lafford, B. (2013). Spanish for the professions: Program design and assessment. In L. Sánchez-López (ed.) *Scholarship and Teaching on Languages for Specific Purposes* (pp. 31-41). Birmingham, AL: University of Alabama Digital Collections.

Knoch, U., & Macqueen, S. (2019). *Assessing English for professional purposes*. Routledge.

Lafford, B. A., Abbott, A., & Lear, D. (2014). Spanish in the professions and in the community in the US. *Journal of Spanish Language Teaching*, *1*(2), 171–186. https://doi.org/10.1080/23247797.2014.970361

Lie, D. A., Forest, C. P., & Richter-Lagha, R. (2018). Evaluating medical Spanish proficiency: A comparison of physician assistant student self-assessment to standardized patient and expert faculty member ratings. *Journal of Physician Assistant Education*, *29*(3), 162–166. https://doi.org/10.1097/JPA.0000000000000211

Lion, K. C., Thompson, D. A., Cowden, J. D., Michel, E., Rafton, S. A., Hamdy, R. F., Killough, E. F., Fernandez, J., & Ebel, B. E. (2012). Impact of language proficiency testing on provider use of Spanish for clinical care. *Pediatrics*, *130*(1), e80–e87. https://doi.org/10.1542/peds.2011-2794

Llosa, L. (2013). Assessing Heritage Language Learners. In A. J. Kunnan (Ed.), *The Companion to Language Assessment* (1st ed., pp. 440–453). Wiley. https://doi.org/10.1002/9781118411360.wbcla121

Malone, M., Peyton, J., & Kim, K. (2014). Assessment of heritage language learners: Issues and directions. In T. G. Wiley, J. K. Peyton, D. Christian, S. C. K. Moore, & N. Liu (Eds.), *Handbook of Heritage, Community, and Native American Languages in the United States: Research, Policy, and Educational Practice* (pp. 349-358). Routledge.

Martinez, G. (2010). Medical Spanish for heritage learners: A prescription to improve the health of Spanish-speaking communities. In S. Rivera-Mills & J. A. Trujillo (Eds.), *Building communities and making connections* (pp. 2-15). Cambridge Scholars Publishing.

Michels, M. E. J., Evans, D. E., & Blok, G. A. (2012). What is a clinical skill? Searching for order in chaos through a modified Delphi process. *Medical Teacher, 34*(8), e573-581. https://doi.org/10.3109/0142159X.2012.669218

Miller De Rutté, A., Kentengian, I., Perez, M., & Ortega, P. (2024). The current state of undergraduate medical Spanish: Results of a national survey. *Foreign Language Annals, 57*(1), 27-47. https://doi.org/10.1111/flan.12731

Miller De Rutté, A., Nate, A., & Galarreta-Aima, D. (2024). Assessment in medical Spanish: Challenges and ideas. *Hispania, 107*(1), 35-42. https://doi.org/10.1353/hpn.2024.a921459

Morales, R., Rodriguez, L., Singh, A., Stratta, E., Mendoza, L., Valerio, M. A., & Vela, M. (2015). National survey of medical Spanish curriculum in US medical schools. *Journal of General Internal Medicine, 30*(10), 1434–1439. https://doi.org/10.1007/s11606-015-3309-3

Ortega, P. (2018). Spanish language concordance in US medical care: A multifaceted challenge and call to action. *Academic Medicine, 93*(9), 1276–1280. https://doi.org/10.1097/ACM.0000000000002307

Ortega, P., Iñiguez, R., Gregorich, S., Pérez-Cordón, C., Figueroa, J., Izquierdo, K., González, J., Karliner, L., & Diamond, L. (2023). Development and effectiveness of a rater training curriculum for evaluating student medical Spanish oral proficiency using the Physician Oral Language Observation Matrix. *Global Business Languages, 23*, 14–39.

Ortega, P., Moxon, N. R., Chokshi, A. K., Pérez-Cordón, C., & Park, Y. S. (2021). Validity evidence supporting the Comunicación y Habilidades Interpersonales (CAI) scale for medical Spanish communication and interpersonal skills assessment. *Academic Medicine, 96*(11S), S93–S102. https://doi.org/10.1097/ACM.0000000000004266

Ortega, P., Pérez, N., Robles, B., Turmelle, Y., & Acosta, D. (2019a). Strategies for teaching linguistic preparedness for physicians: Medical Spanish and global linguistic competence in undergraduate medical education. *Health Equity, 3*(1), 312–318. https://doi.org/10.1089/heq.2019.0029

Ortega, P., Pérez, N., Robles, B., Turmelle, Y., & Acosta, D. (2019b). Teaching medical Spanish to improve population health: Evidence for incorporating language education and assessment in U.S. medical schools. *Health Equity, 3*(1), 557–566. https://doi.org/10.1089/heq.2019.0028

O'Sullivan, B. (2012). Assessment issues in Languages for Specific Purposes. *The Modern Language Journal, 96*(S1), 71–88.

Pérez, M. E. (2020). Integrated curriculum design: Outcomes of a two-week Spanish intensive course for nursing students. *Global Business Languages*, *20*. https://doi.org/10.4079/gbl.v20.8

Reuland, D. S., Frasier, P. Y., Olson, M. D., Slatt, L. M., Aleman, M. A., & Fernandez, A. (2009). Accuracy of self-assessed Spanish fluency in medical students. *Teaching and Learning in Medicine, 21*(4), 305–309. https://doi.org/10.1080/10401330903228489

Reuland, D. S., Frasier, P. Y., Slatt, L. M., & Alemán, M. A. (2008). A longitudinal medical Spanish program at one US medical school. *Journal of General Internal Medicine, 23*(7), 1033. https://doi.org/10.1007/s11606-008-0598-9

Sánchez-López, L., Long, M., & Lafford, B. (2017). New directions in LSP research in US higher education. In M.K. Long (Ed.), *Languages for Specific Purposes: Trends in Curriculum Development* (pp. 13-34). Georgetown University Press.

Sawan, P. T. D. (2020). *Beginning Medical Spanish: Oral Proficiency and Cultural Humility*. Routledge.

"Semi-Structured Interview Questions." Iris Database. https://www.iris-database.org/details/KrRKU-DmFft

Tang, G., Lanza, O., Rodriguez, F., & Chang, A. (2011). The Kaiser Permanente Clinician Cultural and Linguistic Assessment initiative: Research and development in patient–provider language concordance. *American Journal of Public Health, 101*(2), 205–208.

US Census Bureau (n.d.). *Quick Facts: United States*. Retrieved July 21, 2023, from https://www.census.gov/quickfacts/fact/table/US/RHI725221#RHI725221

US Census Bureau (2018). *Hispanic Population to Reach 111 Million by 2060*. Retrieved July 21, 2023, from https://www.census.gov/library/visualizations/2018/comm/hispanic-projected-pop.html

Wiggins, G. P., & McTighe, J. (2005). *Understanding by Design* (2nd ed.). ASCD.