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A Novel Use of an Objective Structured Clinical Examination (OSCE) to Assess Student Learning in a Clinical Spanish Course

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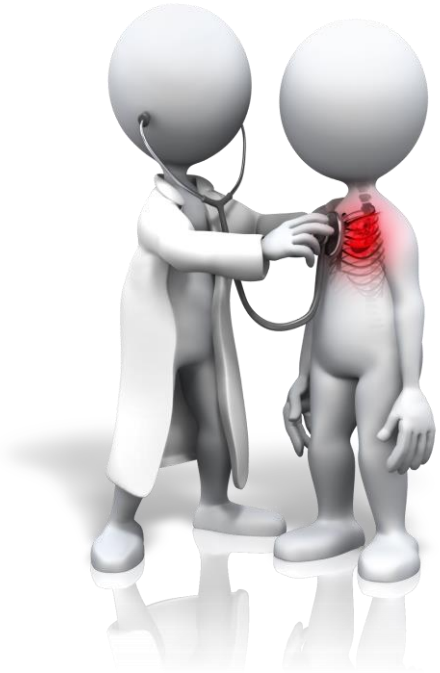
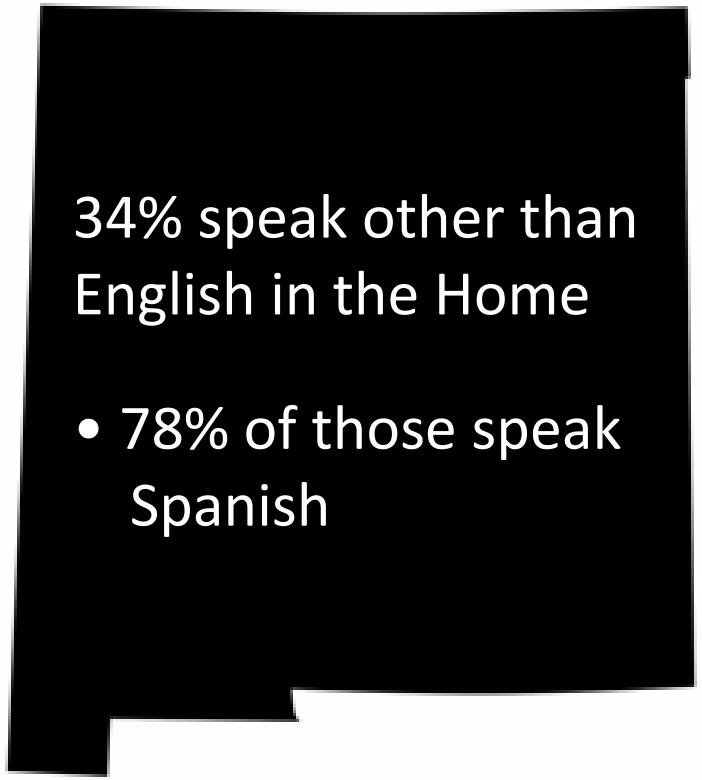
Patients with Limited English Proficiency (LEP) have consistently been shown to receive lower quality healthcare than English-proficient patients

- Decreased understanding of treatment plans
- Decreased understanding of disease processes,
- Decreased patient satisfaction
- Increase in medical errors



Hispanic households are expected to increase from 17.4% to 28.6% by 2060



National Standards for Culturally and Linguistically Appropriate Services in Health & Health Care (DHS)

Overarching Standard

- “provide effective, equitable, understandable and respectful quality care and services that are responsive to diverse cultural health beliefs and practices, preferred languages, health literacy and other communication needs”.

UNM Physical Therapy Program Requires Clinical Spanish

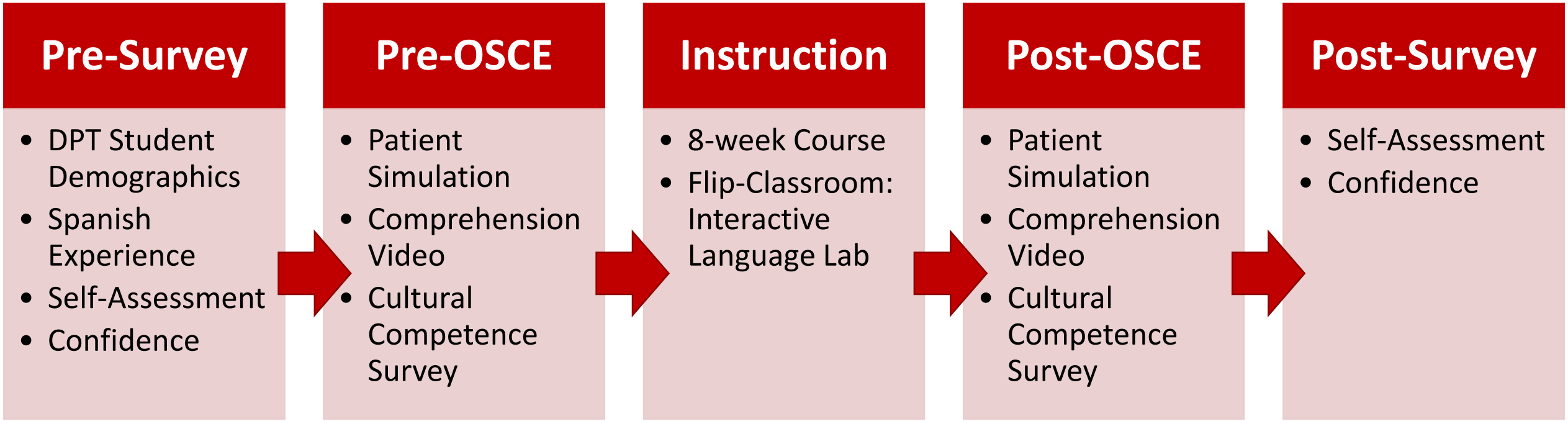
- **To reduce disparities and better serve New Mexicans with limited English proficiency.**

- Flipped classroom with emphasis on speaking and understanding Spanish.
  - Traditional written examination did adequately assess speaking and understanding.
  - Clinical Spanish OSCE was hypothesized to better assess Spanish speaking and understanding.

Study Aim

Aim	Hypothesis
To determine if an OSCE testing format can be used to assess learning in student ability to speak and understand Spanish	Students will demonstrate improvements in learning how to speak and understand Spanish via the use of an OSCE testing format

Study Design



OSCE Design

Clinical Simulation (Speaking)

- Introduction
- Pain/Dizziness Inventory
- Commands #1
- Commands #2

Video (Comprehension)

- Subjective Exam
- Follow Up Appt.

OSCE Design: Clinical Simulation

Room 1: INTRODUCTION

This is the first time you are meeting this patient. Please do the following:

1. Greet the patient and tell them your name.
2. Let the patient know that you are a physical therapy student.
3. Inform the patient that your clinical instructor is Dr. Rose Vallejo
4. Ask for permission to work with the patient by asking: "Is it okay, if I work with you today?"
5. Ask the patient if they would like **free** interpreter services in Spanish.
6. After the patient responds "yes", tell them that you will go get them a Spanish interpreter and then EXIT THE ROOM.

OSCE Design: Clinical Simulation Rubric

Simulation Type:	Not Completed	Beginner	Intermediate	Proficient	Advanced
Spoken Interaction: Introduction/Consent/Interpreter Services					
– Provides an appropriate initial greeting					
– Effectively introduction of self & CI					
– Effectively obtains informed consent					
– Effectively offers interpreter services					
– Effectively communicates that the interpreter services are free.					
– Responds appropriately to patient's response					

- **Beginner** = make many mistakes and not likely it will be understood; relies heavily on demonstration to make up limited speaking ability.
- **Intermediate** = make some mistakes and probably be understood; relies some on demonstration to make up for limited speaking ability.
- **Proficient** = make minimal mistakes and likely to be understood by the patient; uses demonstration to supplement communication.
- **Advanced** = make no mistakes and no doubt it will be understood by the patient; uses demonstration to supplement communication.

OSCE Design: Video Comprehension

Clinical Spanish OSCE
Video Case #1

1. Why is the patient seeking physical therapy services? In other words, where is his pain?
2. When did the problem/pain start?
3. When asked, how did he describe the pain?
4. While sitting in the chair, what did he rate the pain?
5. When his pain is at its worst, what did he rate the pain?
6. What makes his pain better?
7. What is his occupation?
8. What is his goal for physical therapy?

OSCE Design: Video Comprehension Rubric

Listening Comprehension: Video Interaction of Subjective Exam					
– Understands the general context of the conversation.					
– Understands what the clinician says to the patient.					
– Understands what the patient says to the clinician.					

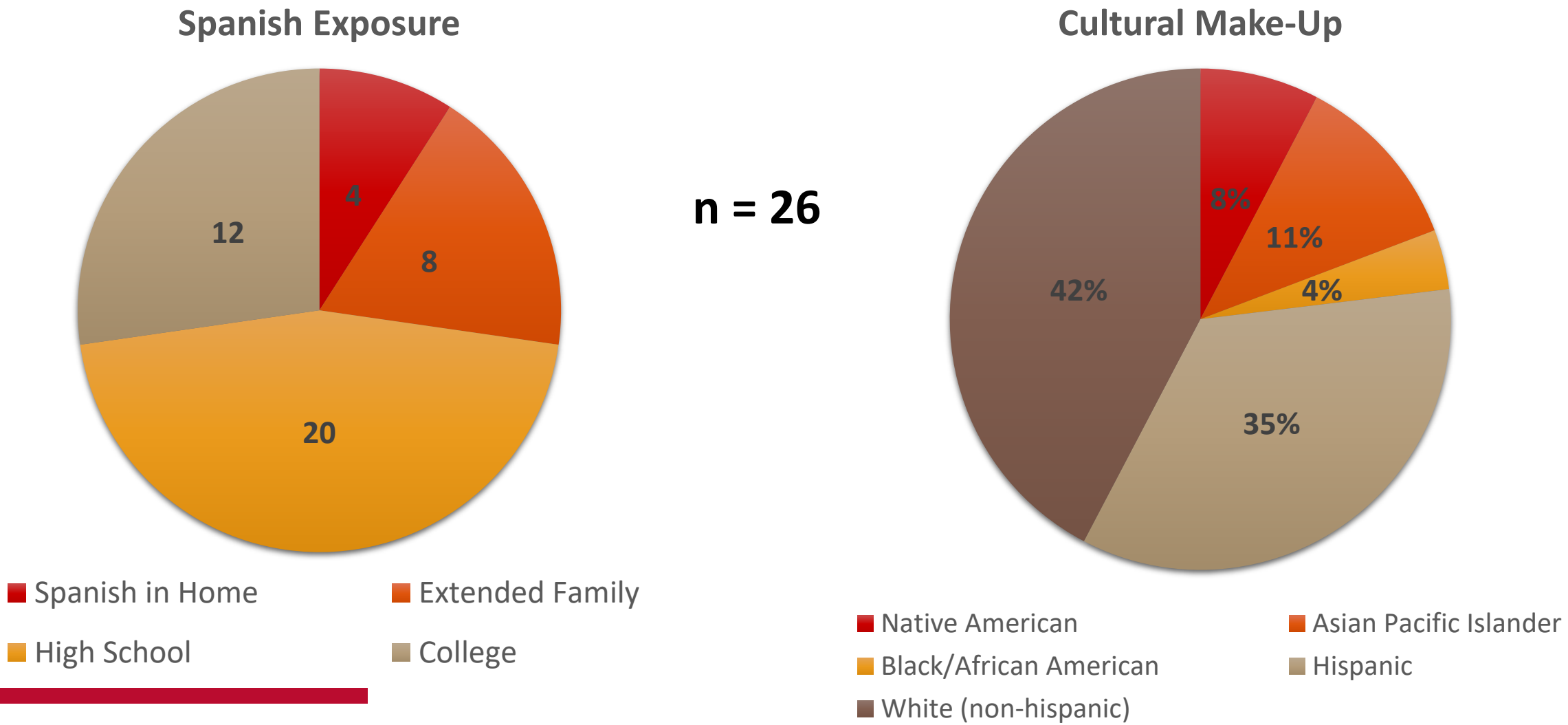
Beginner = Able to understand some words but does not understand the general context of the verbal interaction, unable to provide details.

Intermediate = Able to understand the general context of the interaction and able to pick up on some of the general details.

Proficient = Able to understand the full context of the interaction and able to pick up on most of the details.

Advanced = Fully understands the context of the interaction and picks up on all details accurately.

Demographics and Spanish Exposure



Results: Improvement in student confidence with speaking Spanish

Speaking in Clinical Setting

estimate	1.15
SE	0.181
df	25
t-ratio	-6.361
p value	<0.0001

Speaking in Non-Clinical Setting

estimate	0.808
SE	0.176
df	25
t-ratio	-4.600
p value	<0.0001

Results: OSCE

	Paired Differences Estimate	SE	df	t ratio	Significance p value
Introduction	1.69	0.162	23	10.441	**<.0001**
Pain /Dizziness Inventory	1.14	0.113	23	10.087	**<.0001**
Commands #1	1.33	0.166	23	8.029	**<.0001**
Commands #2	1.34	0.153	23	8.781	**<.0001**
Listening Subjective Exam	0.542	0.147	23	3.680	**0.0012**
Listening Follow Up Appt.	0.458	0.134	23	3.412	**0.0024**

Conclusion

An OSCE assessment format measured learning in DPT students enrolled in an 8-week Clinical Spanish Course

Curriculum that uses a flipped classroom and emphasizes speaking and comprehension is an effective approach to teaching clinical Spanish in a DPT program

References:

1. Colby SL, Ortman JM. Projections of the size and projection of the US population: 2014-2060. U.S. Census Bureau. March 2015; Accessed May 22, 2021 https://www.Census.gov/content/dam/Census/library/publications/2015/demo/p25-1143.pdf
2. U.S. Census Bureau. Detailed Languages spoken at home and ability to speak English for the population 5 years and over: 2019. Accessed May, 23, 2021. https://data.census.gov/cedsci/table?q=spanish&tid=ACSST1Y2019.S1602
3. Wilson E, Chen AH, Grumbach K, Wang F, Fernandez A. Effects of limited English and physician language on healthcare comprehension. Journal of General Internal Medicine. 2005; 20(9):800-806.
4. Atchison KA, Black EE, , Leathers R, et al. A qualitative report of patient problems and post-operative instructions. Journal of Oral Maxillofacial Surgery. 2005;63(4);449-456.
5. Baker DW, Hayes R, Fortier JP. Interpreter use and satisfaction with interpersonal aspects of care for Spanish speaking patients. Medical Care. 1998;36(10):1461-1470.
6. Divi C, Koss RG, Schmaltz SP, Loeb JM. Language proficiency and adverse events in US hospitals: a pilot study. International Journal of Quality Health Care. 2007; 19(2)60-67.
7. The Office of Minority Health. The National CLAS Standards. US Department of Health and Human Services Office of Minority Health website. Accessed on May 25, 2021 https://www.minorityhealth.hhs.gov/omh/browse.aspx?lvl=2&lvlid=53

References:

8. Reuland DS, Fraiser PY, Slatt LM, Aleman MA. A longitudinal medical Spanish program at one US medical school. Journal of General Internal Medicine.2008;23(7):1033-1037.
9. Valdini A, Early S, Augart C, Cleghorn GD, Miles CH. Spanish language immersion and reinforcement during residency: a model for rapid acquisition of competency. Teaching and Learning in Medicine. 2009;21(3):261-266.
10. VanTyle WK, Kennedy G, Vance MA, Hancock B. A Spanish language culture initiative for a doctor of pharmacy curriculum. American Journal of Pharmaceutical Education.2011;75(1):1-8. doi:10.5688/ajpe7514.
11. Cesari WA, Brescia WF, Singh KH, et al. Medical Spanish. MedEdPORTAL.2012;8:9171. https://doi.org/10.15766/mep_2374-8265.9171
12. Rampal A, Wang C, Kalisvaart J. Pediatric medical Spanish vignettes. MedEdPORTAL. 2009;5:5110.https://doi.org/10.15766/mep_2374-8265.5110
13. O'Rourke K, Gruener G, Quinones D, Stratta E, Howell J. Spanish bilingual medical student certification. MedEdPORTAL. 2013;9:9400.https://doi.org/10.15766/mep_2374-8265.9400.
14. York FP, Davalos D Nusbaum MR, Skinner B. Mini immersion in medical Spanish for family practice residents. Lear Learn Med. 2005;17(3):292-296.

References

15. Ortega P, Lopez-Hinojosa I, Park YS, Girotti JA. Medical Spanish Musculoskeletal and Dermatologic Educational Module. MedEdPORTAL. 2021,8:1101. https://doi.org/10.15766/mep_2374-8265.11071

16. Dinkins MM, Solano KL. A Spanish language module in a first year pharmaceutical care laboratory course. American Journal of Pharmaceutical Education.2012;76(4):1-5. Doi:10.5688/ajpe76470.

17. Pechak C, Diaz D, Dillion L. Integrating Spanish language training across a doctor of physical therapy curriculum: a case report of one program's evolving model. Physical Therapy 2014;94(12):1807-1815.

18. Dawson AL and Patti B. Spanish Acquisition Begets Enhanced Service (S.A.B.E.S.): A Beginning-Level Medical Spanish Curriculum. MedEdPORTAL 2011,8:0507. https://doi.org/10.15766/mep_2374-8265.9057

19. Masin H and Tischenko AK. Professionalism, attitudes, beliefs and transformation of the learning experience: cross-cultural implications for developing a Spanish elective for non-Spanish-speaking physical therapy students. Journal of Physical Therapy Education. 2007, 21(3)40-46.

20. Bybee RF, Carlson, M. Proficiency in clinical Spanish: a pilot study. J Physical Therapy Education. 2004, 18(2):87-90.

21. Gooding HC, Mann K and Armstrong E. Twelve tips for applying the science of learning to health professions education. Medical Teacher. 2017; 39(1): 26-31, DOI: 10.1080/0142159X.2016.1231913

22. Rohrer D and Pashler H. Recent Research on Human Learning Challenges Conventional Instructional Strategies. Educational Researcher 2010; 39: 406-412.

23. Transcultural C.A.R.E. Associates About the IAPCC_SV. Retrieved on May 19, 2021, from http://transculturalcare.net/iapcc-sv/.

24. Palombaro, KM, Lattanzi JB. (2012). Calculating the minimal detectable change for a cultural competence tool. PTJ-PAL, 12(1), J1-J7.

25. Fitzgerald, E., Cronin, S. and Campinha-Bacote, J. (2009). Psychometric Testing of the Inventory for Assessing the Process of Cultural Competence Among Healthcare Professionals-Studen

26. https://www.migrationpolicy.org/data/state-profiles/state/language/NM