

# A Comparison of Two Instruments to Assess Students in an Interprofessional Health Promotion Course for a Vulnerable Population

Kathleen Packard PharmD, Jennifer Yee MA, Ann Ryan Haddad PharmD, Martha Todd PhD,  
Ann Laughlin PhD, Barbara Harris PhD, Kimberley Begley PharmD, Joy Doll OTD

## Background

- There are over 120 instruments that have been identified to assess the impact of IPE<sup>1</sup>
- It is not clear which of these is most appropriate to utilize throughout a university-wide curriculum to assess knowledge, skills, abilities, and attitudes towards IPE
- This study compared two instruments, the Student Perceptions of Interprofessional Clinical Education-Revised (SPICE-R) and the Team Skills Scale (TSS) in an elective interprofessional health promotion course for vulnerable populations through the context of community engagement.

## Methodology

- In its third offering, 27 students were enrolled in the semester-long course (9 exercise science, 2 nurse practitioner, 6 occupational therapy, 7 pharmacy, and 3 social work)
- 44% of students were undergraduate and 56% were professional
- Students were divided into three teams each and assigned a client with complex health and social issues
- Students engaged in learning activities, discussed team skills, and developed a collaborative agreement
- The TSS and the SPICE-R instruments were administered at the beginning and the end of the course
- Mean pre and post scores were compared using paired student's t tests



## Results

- Mean total TSS scores significantly improved, pre-60.1±10.5 and post-71.1±9.1, p<0.0001 (Table 1)
- The mean total SPICE-R scores significantly improved, pre-45.0±3.5 and post-47.0±3.3, p=0.004 (Table 1)
- There were statistically significant improvements for all independent TSS questions after the course intervention with the exception of two:
  - "I recognize when the team is not functioning well" (Pre 3.6±0.8, post 4.0±0.7, p=0.06) and
  - "I handle disagreements effectively" (Pre 3.7±0.9, post 4.0±0.8, p=0.11)
- While there were trends towards improvement for all of the SPICE-R questions, only two achieved statistical significance (understanding roles of other providers and rotations are the ideal place for IPE student interactions) (Table 2)

**Table 1. Comparison of Total Scores for TSS and SPICE-R Instruments**

Mean Total Score Pre-Course (n=27)	Mean Total Score Post-Course (n=27)	P Value
TSS 60.1±10.5	TSS 71.1±9.1	<0.0001
SPICE-R 45.0±3.5	SPICE-R 47.0±3.3	0.004



## Results

**Table 2. Comparison of Questions for SPICE-R Instrument**

Item	Pre-Course	Post-Course	P Value
Working with students from another health profession enhances my education.	4.8±0.4	4.9±0.3	0.08
My role within an interprofessional healthcare team is clearly defined.	3.7±0.7	4.1±1.1	0.05
Health outcomes are improved when patients are treated by a team that consists of professionals from two or more professions.	4.7±0.5	4.9±0.4	0.10
Patient satisfaction is improved when patients are treated by a team that consists of professionals from two or more professions.	4.6±0.6	4.7±0.5	0.18
Participating in educational experiences with students from another health profession enhances my future ability to work on an interprofessional team.	4.8±0.4	4.8±0.4	1.0
All health professional students should be educated to establish collaborative relationships with members of other health professions.	4.8±0.4	4.7±0.5	0.71
I understand the roles of other health professionals within an interprofessional team.	3.8±0.7	4.5±0.6	0.0003
Clinical rotations are the ideal place within their respective curricula for health professional students to interact.	4.3±0.6	4.6±0.6	0.02
Health professionals should collaborate on interprofessional teams.	4.8±0.4	4.9±0.3	0.42
During their education, health professional students should be involved in teamwork with students from other health professions in order to understand their respective roles.	4.7±0.5	4.9±0.3	0.06

## Conclusions

- Both the SPICE-R, which measures attitudes, and the TSS, which measures students' perceptions of knowledge, skills, and abilities, were effective in detecting improvements after the intervention
- The TSS was more sensitive in detecting changes for individual questions
- The two TSS questions that did not significantly improve suggest that students are still developing conflict resolution skills
- The SPICE-R was less sensitive, potentially because students scored themselves higher at baseline (45.0±3.5 out of a maximum of 50)
- An interprofessional course in caring for vulnerable populations improves students' attitudes and perceptions of their abilities to provide collaborative care