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School of Pharmacy

# Using A Mixed Methods Approach to Explore Perceptions of Early Learners in Classroom-Based Interprofessional Education Experiences

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## BACKGROUND

- Interprofessional education (IPE) is a global imperative<sup>1</sup>
  - Health profession education programs, motivated by accreditation requirements<sup>2</sup>, have added IPE activities into their required curricula.
- Curriculum development varies considerably across institutions and debate exists regarding appropriate timing for introducing learners to IPE in order to optimally improve health outcomes<sup>3,4</sup>
- Some evidence shows benefit of early learner IPE in professional identity development, interprofessional socialization and positive attitude development toward interprofessional practice<sup>5,6</sup>
- At Virginia Commonwealth University (VCU), IPE is integrated longitudinally through the curriculum for several of the health professions programs via IPEC courses

	IPEC 501	IPEC 502
<b>Course Focus</b>	Core competencies of interprofessional collaborative practice <sup>7</sup>	Quality and safety through interdependent healthcare collaboration
<b>Participants</b>	Early learners from seven health professions: dentistry, dental hygiene, health administration, nursing, occupational therapy, pharmacy, physical therapy	Early learners from medicine, nursing and pharmacy

## OBJECTIVES

- To explore attitudes and learning outcomes among early-level health professions students who completed foundational IPE courses at VCU

## METHODS

- Mixed methods approach to examine assessment and evaluation data from two one-credit, semester long IPE courses taught in 2017

	Quantitative	Qualitative
<b>Participants</b>	N=243 from IPEC 501	N=88 teams from IPEC 501 & 502
<b>Data Sources</b>	Student Perceptions of Interprofessional Clinical Education (SPICE-R2) <sup>8</sup> survey	Four team-based reflections, two course evaluation surveys
<b>Data Analysis</b>	<ul style="list-style-type: none"> <li>• Total scores and subscores for retrospective pre- and post-test</li> <li>• Paired samples t-test used to determine significant difference between two tests</li> <li>• Change scores evaluated using one-way ANOVA</li> </ul>	<ul style="list-style-type: none"> <li>• Investigator dyads completed thematic analysis through data reduction and compilation</li> <li>• Consensus and saturation achieved within data categorization</li> </ul>

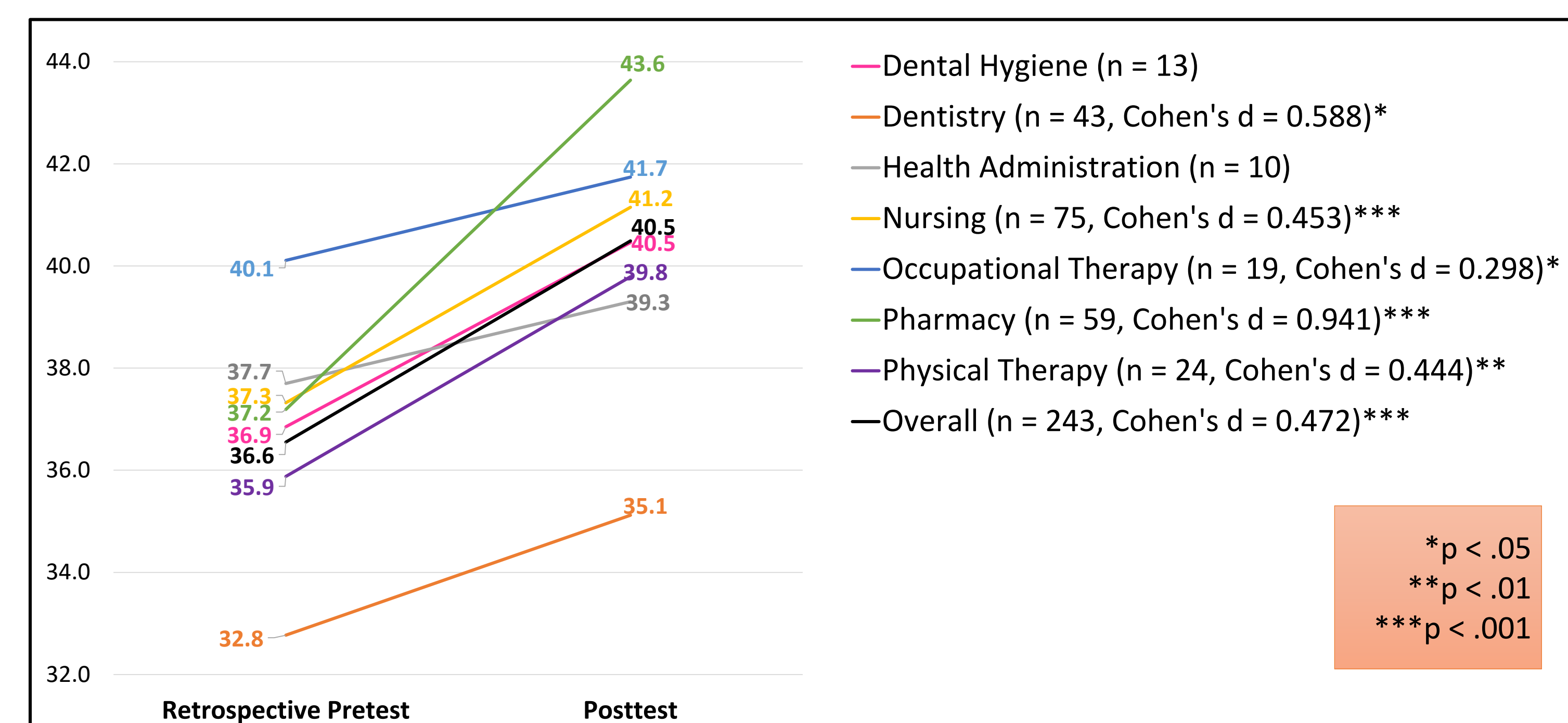
## RESULTS

- 506 students completed IPEC 501; 490 students completed IPEC 502

### QUANTITATIVE

- Students reported having significantly more positive perceptions about IPE after completing IPEC 501 than prior to the course,
  - Moderate effect size
  - Greatest change in attitude about roles and responsibilities

Overall SPICE-R2 Score Change by Program (on a scale of 0-50)



One-Way ANOVA for Effect of Program on Change for Overall Scale

	Source	df	SS	MS	F	p
Overall Scale	Between-group	6	641.18	106.86	3.05	0.007*
	Within-group	236	8272.89	35.05		
	Total	242	8914.07			

\*Post-hoc tests show significant differences between (a) Pharmacy & Dentistry students and (b) Pharmacy & Occupational Therapy students.

### QUALITATIVE

- Five themes emerged reflecting facets of interprofessionalism:

**Interprofessional Attitudes**  
"Our stereotypes of the other professions were changed, and we saw how important it could be in the future to rely on other health care professionals instead of just our own understanding."

**Communication/Feedback**  
"We learned how to effectively communicate and collaborate as team, respecting each other's questions, concerns, and input. This course helped teach us to navigate these often difficult conversations with our colleagues."

**Professional Identity**  
"We realized that although our roles seem to be different, there are many similarities, and ultimately we are all working toward the same goal to provide the best care for the patient."

**Interprofessional Behaviors**  
"Be an open-minded interprofessional collaborator that allows professionals in all health fields to interact in a manner that is fluid and efficient with patient care at the core of the interaction."

**Health System**  
"One way we can prevent mistake[s] is by understanding the cause and effect relationship, this should be a key tool in every healthcare professional's mind. We can follow the chain of events and see how different things that lead to one another in medicine to find the cause for a lot of the problems, solve them, and prevent future mistakes in medicine."

- Common sub-themes across reflections included: patient-centered care and a culture of safety

## DISCUSSION

- General attitudes toward IPE are more positive following a foundational IPE course
  - Variations exist between professional degree programs that may be related to differences in degree progression at time of exposure to IPE courses
- Qualitative analysis indicated students' emphasis on patient-centered care and a culture of safety as driving factors for interprofessional development and practice
  - Reflections identified a need for role/identity understanding and open and honest interprofessional communication
- Course evaluation comments revealed that students perceived real-life application of course concepts as the best way to learn interprofessional behaviors
  - Desire for content relevance presents a curricular challenge when designed as a first-semester, early-learner course

## CONCLUSIONS

- Student attitudes toward interprofessional learning are more positive following a foundational IPE course
- Qualitative analysis of reflections indicated presence of learning related to several key concepts of interprofessionalism and collaborative care which may help shape future interprofessional curricula for early learners
- Further research is needed to explore variations in learning and attitudes related to individual professional degree programs

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