Students' Reflective Writings within Assessment for IPE: mixed-methods and quasi-experimental analyses

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Learning Objectives

1. Recognize a role for formative assessment in fostering students' IPE development
2. Outline a method for fostering students' growth in IPE
3. Summarize qualitative reflective-writing findings for quality-improvement

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Background: Assessment Approaches

Assessment OF Learning

- *Summative* Assessment
- **Traditional** model of assessment
- Assessment to measure learning **accomplished (OF)**
- May inform changes for next course iteration
  - But not this one

Assessment FOR Learning

- Much of "**formative** assessment"
- Assessment gives feedback **FOR** that student's learning

- *Development…*

Background: Development

- **How can we assess development of IPE?**
  - A. **Change with *quantitative* instrument**
    - ***Assessment OF Learning***

  - B. **Change with *qualitative* reflective-writing**
    - ***Assessment FOR Learning***
    - ➢ **Prior literature has shown an *Assessment FOR Learning* approach for documenting and fostering PharmD students' uni-*professionalism development***

      Peeters, Am J Pharm Educ, 2016

Background: *Reflective Writing*

- *"Reflection is a metacognitive process that creates greater understanding of self and situations to inform future action"*

<div align="right">Sandars, Med Teach, 2009</div>

- Written reflections can have a "backwash effect" for this students' further learning

<div align="right">Olupeliyawa, Med Educ, 2015</div>

  – Embedding reflective tasks within assessment structure may better illustrate educational intentions for students

<div align="right">Olupeliyawa, Med Educ, 2015
Heeneman, Med Educ, 2015</div>

Background: IPE

- **Medical errors are 3rd-leading cause of death in US**

  Makary, BMJ, 2016

- **Interprofessional education (IPE) is one method to improve patient safety**   *IPEC, 2016*

- *U.S. Core Competencies for IP Collaborative Practice:*

    A. **Teams & Teamwork**

    B. **IP Communication**

    C. **Roles/Responsibilities**

    D. **Values/Ethics for IP Practice**   *IPEC, 2016*

- **Note: Health-professions education *accreditors require* IPE**

   Does IPE have development?

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Context: Our *Interprofessional Approach to Patient Care* Course

- An interprofessional faculty team was formed
- The committee developed **learning objectives**
- Experiential instructional strategies, activities, and assignments were created
- The program was presented to *senior administrators*, who supported it by:
  - Requiring programs to clear **Friday afternoons** of other classes
  - Requiring programs to **mandate** attendance by all 1st year **healthcare** students
- Over 550 students were divided into **48 IPE teams** of **11-12** students.
  - Clinical psychology, medicine, nursing, occupational therapy, pharmacy, physical therapy, physician assistant studies, respiratory therapy, social work, speech-language pathology

Sexton, Metz, Hasbrouck, Peeters, Curr Pharm Teach Learn, 2017

Context: IPE Sessions

- **Vital Sign Training**

- **Roles/Responsibilities Student Presentations**

- **Social Determinants of Health**

- **Patient Interviewing A & B**

- **Patient Safety**

Sexton, Metz, Hasbrouck, Peeters. Curr Pharm Teach Learn, 2017

Context: Our Assessment Strategies

- **Student self-assessment of course objectives**
  - **Pre & post**

- **Student perceptions of other professions**
  - **Word Cloud; pre & post**

- **Student satisfaction with IPE course**
  - **From end-of-course evaluation**

- **Student reflections on Interprofessionalism**

Sexton, Metz, Hasbrouck, Peeters, Curr Pharm Teach Learn, 2017

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Research Questions

A. *Does* **reflective-writing** *nurture* **health-professions students' development within IPE**? *Phase 1*

B. *How* **do these students perceive their development**? *Phase 2*

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Methodology

National Academy of Medicine *(IOM)*

- ## Recommendation 2
  - "Health professions educators and academic and health system leaders *should adopt a mixed-methods research approach* for evaluating the impact of interprofessional education (IPE)"
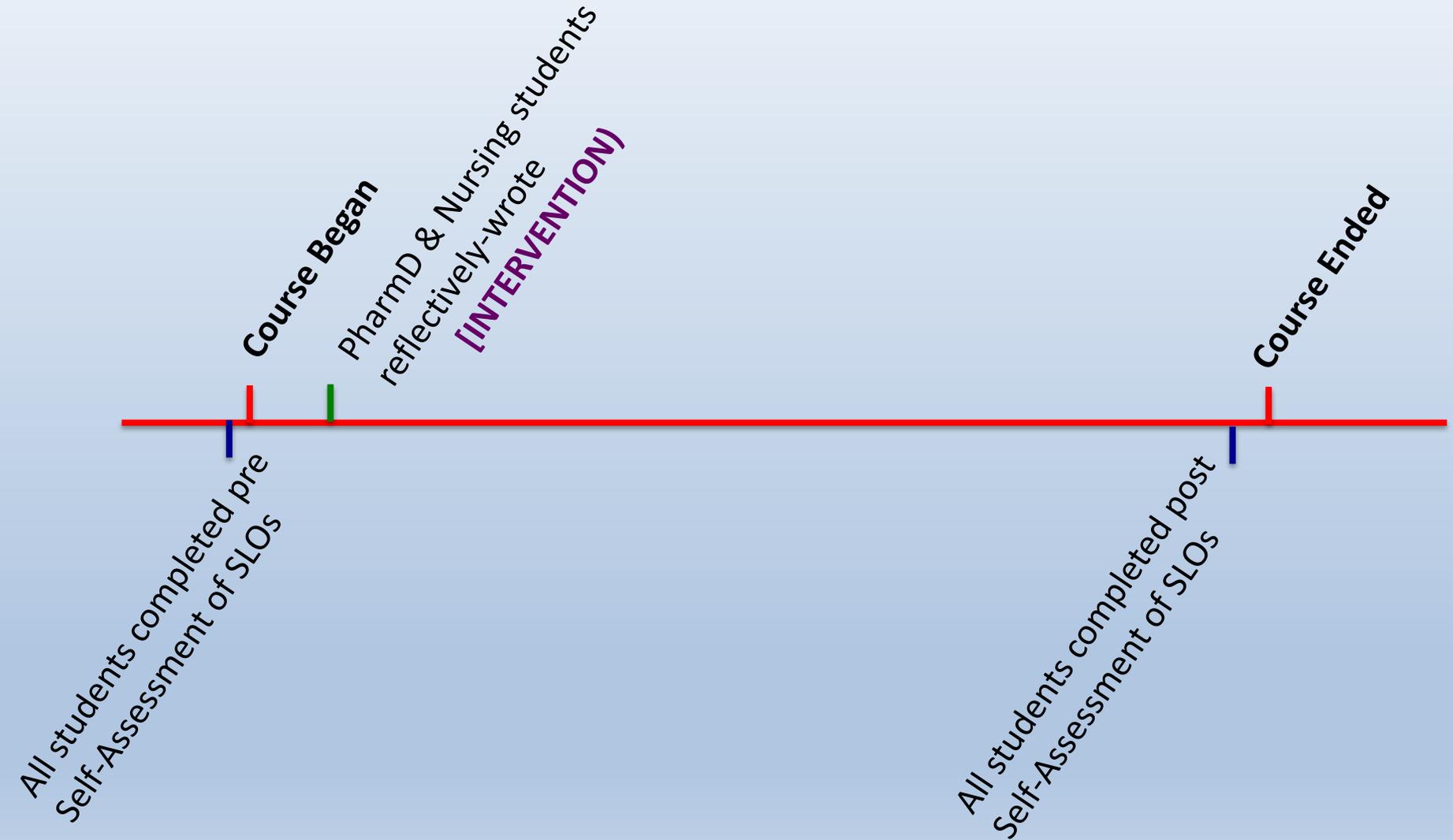
  IOM, Measuring the Impact of IPE, 2015

Explanatory mixed-methods design

A. **Quantitative Phase 1**

B. **Qualitative Phase 2**

Phase1 Study Design

- **Quantitative: *Quasi-experimental***
  - ① **Intervention vs Control1**
    - **Intervention:** Reflectively-write after 1st session of course in 2016
    - **Compared** 2015 to 2016 for Nursing, Pharmacy
  - ② **Control2: Nursing & Pharmacy vs Medicine**
    - Compare 2015 to 2016 *for each profession*

In Fall 2016, *Intervention*

Course Began

PharmD & Nursing students
reflectively-wrote
[INTERVENTION)

Course Ended

All students completed pre
Self-Assessment of SLOs

All students completed post
Self-Assessment of SLOs

Quantitative SLO Measure

- **We developed our *own* quantitative questionnaire for students to self-assess course learning objectives**

- **14-items**
  - **One for each SLO**
  - **Used a Dreyfus scale *[Dreyfus & Dreyfus, 1980]***
    - ◇ **1=Novice, 2=Advanced Beginner, 3=Competent, 4=Proficient, 5=Expert**

- **Analyzed pre- & post-course student self-assessments of SLOs**

Analysis

- **Significance**
  - **Statistical**
  - **Practical**

- **Cohen's d**
  - **Effect size coefficient**
  - *Magnitude of change*
  - **From 0.0-~2.0**
  - **Compares difference to SD**

- **Interpretation Range:**
  - *Very small/unnoticeable is* **<0.3**
  - *Small is* **0.3-0.49**
  - *Medium is* **0.5-0.79**
  - *Large is* **0.8-1.49**
  - *Very large is* **≥1.5**

Peeters, Curr Pharm Teach Learn, 2016

Results

Nursing & Pharmacy reflectively-wrote

Profession	2015		2016	
Nursing	d=0.4	Small	d=0.6	Medium
Pharmacy	d=0.8	Large	d=1.5	Very Large
Medicine *[Control]*	d=0.8	Large	d=1.2	Large

All students improved   *All students improved*

Comparing 2015 to 2016

Nursing and Pharmacy <u>changed</u> to greater extent

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Phase1 Take-Home

- **Having students reflectively-write early in this course appears to help nurture *further* IPE development**

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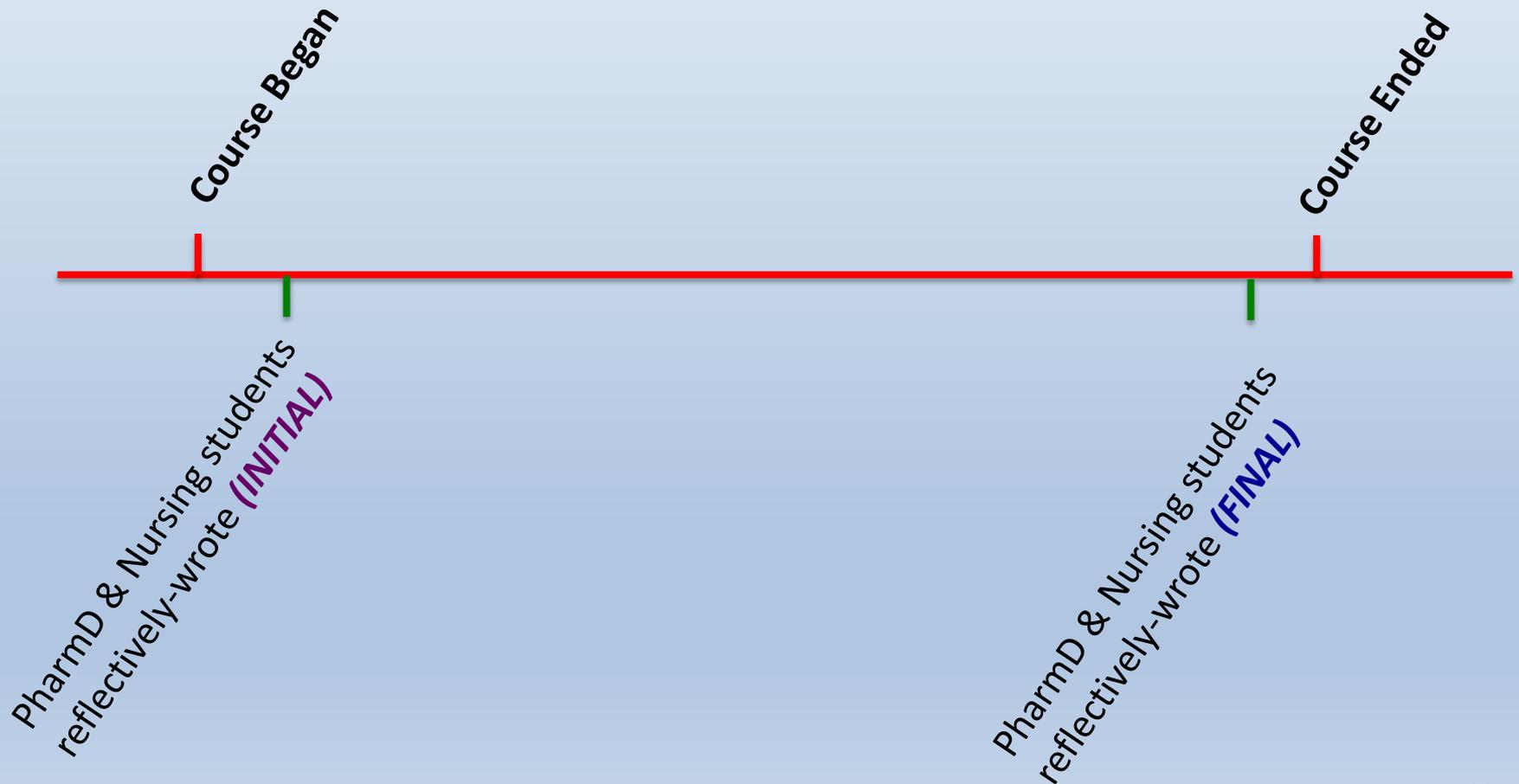
Phase2: Study Design

- **Qualitative Content Analysis** *[Thematic Analysis]*
  - **Pharmacy & Nursing students wrote reflections near beginning & end of IPE course**
- **Sampling**
  - **Paired pre-post**
  - **101 Pharmacy students**
  - **63 Nursing students**
  - *328 reflections total*
- **Used ATLAS.ti qualitative software**

In Fall 2016, *Reflective-writings*

Course Began

Course Ended

PharmD & Nursing students reflectively-wrote **(INITIAL)**

PharmD & Nursing students reflectively-wrote **(FINAL)**

Prompt:
Initial/Baseline IPE Reflection

- **Describe your current understanding and perspective on interprofessional education.**
  - **Discuss ALL of the following:**
    - **Roles/Responsibilities**
    - **Teamwork**
    - **Communication**
    - **Values/Ethics**
- **Submit *at least* 1-page, double-space, 12pt font**

Prompt: 2ⁿᵈ IPE reflection

- *Review* your 1ˢᵗ IPE reflection
- **What is your current perspective and understanding of interprofessional education**
- **Discuss ALL questions:**
  - How do you now see your role & responsibilities and those of your interprofessional teammates?
  - Did your understanding of teamwork change? If so how?
  - Did your understanding of patient and team communication change? If so, how?
  - Did your understanding of ethics & values change? If so, how?
- **Submit *at least* 1-page, double-space, 12pt font**

Proposed Coding Themes

- **Roles/Responsibilities**
  - **Attitudes, behaviors, misconceptions, narrow**
- **Teamwork**
  - **Attitudes, behaviors, misconceptions, narrow**
- **Team Communication**
  - **Attitudes, behaviors, misconceptions, narrow**
- **Values/ethics**
  - **Attitudes, behaviors, misconceptions, narrow**
- **Development**
  - **Pre, Post, pre helpful?**

Word-Cloud of Codes

From ATLAS.ti:

Coding Kappa = 0.99 [excellent; almost perfect agreement]

Quotes from students-Post IPE

- **Roles & Responsibilities**
  - N: "This program has *challenged my views* on interprofessionalism and pushed me to *gain an understanding* of the of the roles and responsibilities of healthcare professionals outside the nursing practice."
  - N: " After finishing IPE I have found myself *changing feelings about certain professions* and seeing them in a more positive light."
  - P: "Overall, I learned more about the actual roles of each profession, *not just its stereotype*, and I saw the significance of understanding these roles and appreciating them in order to *improve* the quality of the *patient's care*."
  - P: "I have *more respect* for each profession and a higher quality of understanding of their role in the health care system."

Quotes from students-Post IPE

- **Teamwork**
    - *N: "My understanding of teamwork did change because I had never looked at teamwork from the perspective of someone on a healthcare team."*
    - *N: "My understanding of teamwork did not specifically change, but my respect for the importance of it certainly did."*
    - *P: "I do not think the meaning of teamwork changed for me because I grew up playing team sports, but I definitely love seeing people from different backgrounds all working together.*
    - *P: "This semester in IPE, I learned that teamwork does not simply mean that each member participates toward the common goal, but that members of the team recognize and respect each other's ability to provide valuable contributions."*

Quotes from students-Post IPE

- **Patient & Team Communication**
  - N: *"We did team interviews and it really helped me realize how the different professions come together as one to assist the patient."*
  - N: *"Effective communication can lower the risk of health errors, that is how important it is."*
  - P: *"One thing that I would say changed about my patient and team communication is the importance of the patient. Most of the errors are related to healthcare professionals not listening to their patients. I will now know to never underestimate what a patient has to say."*
  - P: *"Going into the course, I knew that as health care professionals we had to work as a team, but I did not expect the level of importance team work has on the care of the patient."*

Quotes from students-Post IPE

- **Values/ethics**
  - N: "I have always had *very strong ethics and values*, and after this semester of IPE, I don't believe they have changed much. I still believe in doing the right thing and always helping whenever I can."
  - N: "I *wouldn't say my morals have changed* as a result of IPE but I would say that my values have been impacted. IPE has really enhanced the idea of being the best nurse I can possibly be because I don't want to an example of a *healthcare mistake*"
  - P: "I personally do not feel my overall *ideas of ethics and values* have changed since the beginning of the course, however I did realize that ethics and values can be a more *complex topic* than I thought."
  - P: "My understanding of ethics and values *changed slightly*. I believe that it is important to do what I feel is right when making decisions for patients, but I now also realize that it is important to consider *what the patient feels* is the right decision."

Quotes from students-Post

- **Development**
  - N: *"Interprofessional education has taught me valuable lessons that I will incorporate into work when I become a nurse."*
  - N: *"IPE has taught me more than just the importance of having good team communication. Instead, it has taught me how to be the type of nurse I want to be upon graduation."*
  - P: *"After completing this program, I now feel prepared and comfortable giving my opinion and listening to new viewpoints."*
  - P: *"I can say my entire perspective of interprofessional education, the field of pharmacy, and healthcare in general has drastically changed."*

Phase 2-Summary

- **Roles & Responsibilities**
  - Many felt learning about the roles/responsibilities of other professions was the most important lesson learned

- **Teamwork**
  - Many felt they already had effective teamwork skills due to team sports; however they stated that IPE taught them the importance of teamwork within a healthcare environment

- **Patient and Team**
  - Many felt interviewing standardized patient as an IP team taught them the importance of IP communication

Phase 2-Summary

- **Values/Ethics**
  - Many stated their values/ethics did not change because they already held strong beliefs about their personal values/ethics

- **Development**
  - Overwhelmingly almost all students indicated they developed as a health care professional because of the IPE program

- **Patient-Centered Care**
  - Most students indicated that IPE taught them the importance of placing the patient at the center of their care

Hurray!

Improvements to Consider

- **Overtly discuss team-building and team development**

- **Better help students to understand what values/ethics entails**

- **SDH was good topic, but need to better refine this session content**

- **Reflections are a valuable tool in the assessment for learning and for program improvement**

IPE is an important bridge to improving interprofessional collaboration, healthcare quality, and patient safety

WE SAW DEVELOPMENT IN OUR LEARNERS

QUESTIONS?
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