Students teaching students: IPE active learning and development of professional role identity

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Preparation of future health care professionals for collaborative practice requires an understanding of both individual professional roles and responsibilities and those of other team members.

IPE Collaborative 2011

Interprofessional Education (IPE)

Experiences where “students from two or more professions learn with, from and about, each other to enable effective collaboration and improve health outcomes”.

Center for Advancement of Interprofessional Education (2002)

Core competencies for Interprofessional Practice

- Values & ethics for interprofessional practice
- Roles and responsibilities for collaborative practice
- Interprofessional communication
- Interprofessional teamwork

IPEC 2011

Challenges Developing IPE

- Logistics
- Scheduling
- Timing within curricular sequences
- Priorities for professional curriculum needs

Parameters for IPE

- Learning activities should be appropriate for the learning stage
- Integrated throughout curriculum

IPEC 2011
Interprofessional Education Methods

- Instructional methods reported:
  - shared formal classroom learning
  - workshops
  - problem-based learning
  - case-based simulations
  - participation in health fairs
  - integrative clinical experiences

- Most research has reported attitudes towards potential for collaboration and teamwork


Active learning approaches

- Short activities within structured presentation
- Case–based or problem-based experience
- Experiential training

Advantages of Active Learning Strategies

- Improved satisfaction
- Allows students to practice assimilation and analysis
- Allows instructor to determine understanding of content
- Some tasks and content are suited to active learning strategies - interview techniques, interpersonal communication

  Prunuske 2012, Lupu 2012, Morreale 2012

Pitfalls/Limitations Active learning

- Personality differences can influence group activities
- Time
- Some content not suited for less structured active learning
- Weaker, more reserved students or those who require structure may not benefit maximally (Minhas 2012)

Impact of Peer Teaching – is active IPE motivating?

- The extent of motivation can be used to reflect impact of teaching methods. Keller’s ARCS Model for motivation was used as part of the theoretical foundations for this study.
  - Attention
  - Relevance
  - Confidence
  - Satisfaction

  Visser & Keller 1990

PURPOSE
Purpose

- This study aimed to examine Physical Therapy and Occupational Therapy student’s perceptions of a student IPE peer teaching active learning experience

Methods

- Retrospective qualitative study of student reflections after a peer teaching experience
- Study qualified for exemption as part of routine educational practices with de-identified data analysis

Interprofessional Clinic Day

- Clinic Day scheduled as part of the Connective Tissue disorders section of a Pathophysiology course (medical school).
- 300 Medical Students rotated through stations including PT & OT
- 30 Medical students per group
- First year PT (n=34) and OT (n=14) students participated in small groups, interacting with approximately 20-30 medical students

PT/OT Stations

- Short faculty led powerpoint presentation 7-10 mins
  - Scope of practice
  - Referral systems
  - Context of referrals
  - Areas of practice
- Student interactive demonstrations and participation (20-25 minutes)
Learning objectives

Medical students:
• Develop an awareness of the roles and responsibilities for PT & OT
• Understand the professional scope of practice and referral mechanisms for PT & OT
• Experience selected interventions

PT & OT students:
• Develop teaching and communication skills in an interprofessional setting
• Articulate elements of their own professional roles and responsibilities

Learning Experience

• Preparation prior to session
• Peer teaching 2 hours (4 sets medical students)
  • PT – ambulation techniques, use of assistive devices for gait, weightbearing precautions, balance testing and training
  • OT – hand function assessments, splinting, types of assistive technology available for patients with rheumatological diagnoses

Reflections

• PT students submitted 5 bullet point comments reflecting on the experience
• OT students commented on experience using the DEAL model (Describe, Examine, Articulate Learning)

Analysis

• Reflections were de-identified prior to analysis
• Initial open coding was conducted using IBM SPSS text analytics for Surveys to extract codes and initial categories.
• Follow-up directed content analysis was completed by 2 investigators using line-by-line coding until agreement
• Confirmatory analysis was conducted for consensus by 2 additional investigators (no agreement)

Analyzing

Directed content analysis explored concepts related to interprofessional competencies and motivation.

Data was searched for terms consistent with:
• Interprofessional communication
• Professional role identity
• Motivation (attention, relevance, confidence, satisfaction)
Results

1. Professional role identity

PT and OT students indicated increasing awareness of:
- Gaps in medical student’s knowledge of PT & OT professional scope and roles
- Preparation to teach others about their professions.
- The importance of advocacy
- Their own roles.

Themes

- Professional roles and identity
  - Gaps in knowledge (audience)
  - Preparation to teach peers
  - Importance of advocacy
  - Individual professional roles
- Communication/Teaching

Gaps in knowledge

“Finding a way to incorporate what they are currently learning with what we are currently learning, so they get a better understanding of where PT falls in their future working with patients. Many of them didn't realize just how much assessment and evaluating of the patients we do.” (PT student)

Preparation to teach peers

“Even though the purpose of going to the medical school was to educate second-year medical students about occupational therapy, for me, it was also a learning experience. One major factor I learned was that many individuals are naïve to what occupational therapy is, and how it helps patients. I generally talk about occupational therapy to individuals that are informed about the field and did not realize the wide variety of assumptions others has about the field.” (OT student)

Preparation to teach peers - assumptions

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**Importance of advocacy**

“The majority of medical school students had no knowledge of occupational therapy except that it is related to physical therapy. It was an eye-opener for just how much we need to advocate for our profession in other professional arenas.” (OT student)

**Individual professional roles**

- Both groups commented on the growing awareness of their own professional roles – often linked to the realization of the limited understanding of the medical students in this area.
- Growing sense of identity and pride

"I think that I gained more passion for my profession after helping out with this project.” (OT student)

**2. Motivation**

Three of the four constructs of the ARCS model were supported:

Relevance, Confidence & Satisfaction

**Relevance**

- Both groups of students commented on the importance of teaching medical students first hand about their professions and development of communication skills.

**Learning benefits of teaching**

- There were also comments about the learning benefits of teaching others:

  “There is no doubt that project brought a solidification of assisted device uses, contraindications, and gait patterns. This knowledge became ingrained in my mental bank due to the teaching aspect of this exercise. I had no idea teaching others helped my retention of material at this level.”

**Confidence**

The demonstrations and repetition promoted confidence as well as the realization that they were being seen as the experts and that the medical students were receptive.

"I think the demos helped give us PT students more confidence in demonstrating our knowledge of PT”

"I felt professional and knowledgeable – made me feel more comfortable"
Realization of the medical students comfort level

“My specific task was to run the adaptive equipment station. I noticed that most of the students who approached our table were afraid to ask us what different equipment was, so I took the initiative to make them feel comfortable by explaining different items. Once they felt comfortable asking questions, most of them really seemed intrigued by all that occupational therapy could do for patients.” (OT student)

Progressive confidence

Some students were nervous and found the initial interactions stressful, but commented on their increasing comfort level:

“As time progressed I feel like I got more comfortable speaking and presenting this information, so the event became less stressful and more fun.”

Lack of confidence

- There were a few students who were withdrawn and uncomfortable and needed faculty encouragement to initiate discussion and to adjust non-verbal communication.

“I found it difficult to gauge the interest and understand the students which made me unsure if I was doing a good job”

“It was nerve racking to have people staring at you, waiting for you to teach them something”

Satisfaction

Most students found the experience satisfying and enjoyable:

“I enjoyed teaching the students, especially when I was able to make sense of things for them; helping them to their “Ahha” light bulb moment”

Difficulties

- Engaging students who were not focused or conversing among themselves
- Some questions beyond students level of knowledge (compliance with PT, insurance limits)
- Some students would have preferred to rotate stations

Challenges - teamwork

“The sequential learner in me did have frustrating moments, primarily due to lack of equipment as we were sharing”

“My partner did a lot of talking and was a little more aggressive than I was. Teamwork is exciting but also stressful because you want to contribute but also give others their 2 cents worth”
Student perception of experience

“The concept of this interdisciplinary approach is amazing. Unfortunately, this may be the only exposure medical students get exposure to PT/OT. More events and workshops should take place amongst interdisciplinary health professionals. I believe communication amongst health professionals would improve health care efficiency.”

Unsolicited email from a medical student:

“We listened to the professor talk about things they think are important for aspiring physicians to know about their field and then the students demonstrated techniques they use in practice on patients. It was a very cool experience and my favorite thing so far this year.”

“It also really opened my eyes to the different health professional fields. I learned about how Occupational Therapists develop new tools for patients, how Physical Therapists quickly assess the abilities of the elderly and how nurses read bone density scans. I also learned a lot about how each of these fields work with doctors in the setting of health insurance billing which I thought was totally applicable and eye-opening.”

Unsolicited comment from med student

“Anyway, this was a really great environment to get "inter-professional" education and I think it would be a great set-up for the IPTV program. I think the clinic days met some of the objectives of the IPTV program in a very rewarding way.”

Faculty observations

- Improvements with practice and with reflection-in-action
- Increased confidence by 2nd or 3rd set
- Some students took on leadership & organizational roles
- Format allowed immediate feedback

DISCUSSION

Benefits of peer teaching

Opportunity to develop:

- teaching skills
- interprofessional communication skills
- preliminary awareness of understanding of roles and responsibilities
- confidence
Role Identity

- IPE peer teaching active learning early in the curriculum promoted development of individual professional role identity for PT/OT students Khalili 2013
- Early IPE experiences could dismantle misconceptions about scope of practice, knowledge base & roles at a stage when opinions are still forming.
- The opportunity to participate in this type of experience was considered valuable by students. Pettigrew 1998.

Need for advocacy

- The process of educating other students emphasized the need for advocacy and importance of teaching others, often with the realization that the medical students knowledge of their professions was limited.
- For the PT & OT students this realization alone may set the stage for providing explanations about what they can do at a later point in their careers.

Educational method impact

Student motivation is likely to be high using active learning IPE format with opportunity to develop confidence and satisfaction

Condensed active experience

- Efficient method to provide exposure for a large number of students in a short timeframe.
- Benefit of repetition to develop confidence
- High fidelity with low stakes

Early exposure to IPE

- Support for Hoffman & Harnish (2007) suggesting that changes in student attitudes and confidence in their own skills within an IPE context is useful.
- Khalili 2013 suggests that uniprofessional identity is the first step to wards interprofessional socialization.

Interprofessional socialization model

- Khalili 2013
Experience was positive and motivating, but additional opportunities would be needed to build team identity.

Provided an opportunity for PT/OT students to develop confidence and experience satisfaction while refining practical skills, communication and teaching strategies.

Promoted development of individual professional role identity.

Further IPE experiences are likely to solidify communication and interprofessional skills and build team professional identity.

References