Promoting Interprofessional Education and Collaborative Practice through Web-based Technology: Options for Distance Learning in the Health Sciences

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ECU College of Nursing
HRSA Nurse-Midwifery Grant Objectives and Activities

- Expand an existing web-based Virtual Community Clinic Learning Environment (VCCLE) to include interprofessional learning in the culturally and linguistically appropriate primary care of women throughout the lifespan for both NM and M3 students.
- Develop an online interdisciplinary course in Issues in Women’s Health that will incorporate VCCLE technology.
- Increase interprofessional participation and collaboration in the Midwifery Mini Business Institute (MMBI) whose aim is to arm newly graduated health care providers with the knowledge and skills needed to build and sustain successful health care practices in public and private health care agencies.
Theoretical Approach

Using a Theoretical Framework for Interprofessional Education: Starting with the End in Mind

Constructivist Theory
- Individuals “learn to learn as they learn” (Langdon, 2009, p. 51).

Experiential Learning
- Based on Kolb’s (1981) Learning Cycle
- Learning through direct encounter, in situ problem solving

Behaviorism
- Learning outcomes are expressed as behavior

Interprofessionality: Examining the Process
IPE Faculty and Activities
MIDWIFERY MINI BUSINESS INSTITUTE FACULTY

Dr. Pamela Reis, Project Director
ECU College of Nursing

Dr. Elizabeth Jesse, MMBI Founder
ECU College of Nursing

Dr. William McDowell
ECU College of Business (now at Middle Tennessee State University)

Dr. William Doss
Brody School of Medicine

Dr. Ginger Breedlove
President – American College of Nurse-Midwives

Dr. Joan Slager
Director of Midwifery, Bronson Women’s Services,
Kalamazoo, MI

Dr. Connie Dewees, MMBI Lead Faculty
ECU College of Nursing

Maureen Darcey, CNM
Director of Midwifery Services, Women’s Birth and
Wellness Center
Chapel Hill, NC

Dr. Tracy Tuten
ECU College of Business
What's Evolving

- Examining characteristics of online discourse in IPE to evaluate learning of the IPEC core competencies.
- Develop a tool that identifies and describes IPE behaviors in an online setting, and maps these behaviors to the IPEC Core Competencies.
- Continue to develop the ongoing interdisciplinary Mini Business Institute (MBI) that provides essential skills to build and sustain a successful health care practice in public and private health care agencies.
- Continue to develop online IPE cases for the Virtual Clinic and VCU Virtual Patient platform.
Online IPE
Lessons Learned: Advantages and Barriers

How can they work together if they don't learn together?
Benefits

- Allows students with disparate schedules and locations to “meet” online asynchronously and synchronously.
- Allows students to practice critical thinking and problem-based learning in a low-risk environment.
- Can be delivered to an international audience, expanding global health opportunities.
- Content can be reused over time.
Challenges

- Costly
- Long developmental trajectory
- Potential for technical failures
- Building new ideas and concepts into a curriculum full of uni-professional content
- Steep learning curve for faculty, both in technology and IPE content
- Faculty workload realities
- Longitudinal outcomes are not yet available regarding the efficacy of virtual technology as a pedagogical approach in IPE
Evaluation and Evidence
### Appendix 1. Attitudes toward Interprofessional Education (A-IPE) Mean Scores

<table>
<thead>
<tr>
<th>Question</th>
<th>Pre-Activity A-IPE Mean</th>
<th>Post-Activity A-IPE Mean</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interprofessional learning will help students think positively about each other.</td>
<td>4.22</td>
<td>3.89</td>
<td>-.33</td>
</tr>
<tr>
<td>Clinical problem-solving can only be learned effectively when students are taught within their individual department/school.</td>
<td>2.33</td>
<td>2.00</td>
<td>-.33</td>
</tr>
<tr>
<td>Interprofessional learning before qualification will help healthcare students become better team-workers.</td>
<td>4.00</td>
<td>3.89</td>
<td>-.11</td>
</tr>
<tr>
<td>Patients would ultimately benefit if healthcare students worked together to solve patient problems.</td>
<td>4.44</td>
<td>4.22</td>
<td>-.22</td>
</tr>
<tr>
<td>Students in my professional group would benefit from working on small group projects with other health care students.</td>
<td>3.44</td>
<td>4.00</td>
<td>+.56</td>
</tr>
<tr>
<td>Communication skills should be learned with integrated classes of healthcare students.</td>
<td>4.11</td>
<td>4.00</td>
<td>-.11</td>
</tr>
<tr>
<td>Interprofessional learning will help to clarify the nature of patient problems for students.</td>
<td>3.67</td>
<td>3.78</td>
<td>+.11</td>
</tr>
<tr>
<td>It is not necessary for graduate healthcare students to learn together.</td>
<td>2.22</td>
<td>2.00</td>
<td>-.22</td>
</tr>
<tr>
<td>Learning with students in other health professional schools helps graduates to become more effective members of a healthcare team.</td>
<td>4.00</td>
<td>3.89</td>
<td>-.11</td>
</tr>
<tr>
<td>Interprofessional learning among healthcare students will increase their ability to understand clinical problems.</td>
<td>3.89</td>
<td>4.11</td>
<td>+.22</td>
</tr>
<tr>
<td>Interprofessional learning will help students to understand their own professional limitations.</td>
<td>3.89</td>
<td>4.00</td>
<td>+.11</td>
</tr>
<tr>
<td>For small-group learning to work, students need to trust and respect each other.</td>
<td>4.00</td>
<td>4.33</td>
<td>+.33</td>
</tr>
<tr>
<td>Interprofessional learning among health professional students will help them to communicate better with patients and other professionals.</td>
<td>4.00</td>
<td>4.00</td>
<td>N/A</td>
</tr>
<tr>
<td>Team-working skills are essential for all healthcare students to learn.</td>
<td>4.44</td>
<td>4.22</td>
<td>-.22</td>
</tr>
<tr>
<td>Learning between healthcare students before qualification would improve working relationships after qualification.</td>
<td>4.11</td>
<td>4.00</td>
<td>-.11</td>
</tr>
</tbody>
</table>

*This questionnaire is used with permission of Dr. Vernon Curran, Memorial University, Newfoundland, Canada. Adapted from: Purcell, G and Bligh, J. The development of a questionnaire to assess the readiness of health care students for interprofessional learning (RIFLS). 1999; *Medical Education* 33(2): 95-100.*
**Appendix 2. Attitudes toward Interprofessional Health Care Teams** *(A-IHCT) Mean Scores*

<table>
<thead>
<tr>
<th>Question</th>
<th>Pre-Activity A-IHCT Mean</th>
<th>Post-Activity A-IHCT Mean</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients/clients receiving interprofessional care are more likely than others to be treated as whole persons.</td>
<td>3.83</td>
<td>3.67</td>
<td>-.16</td>
</tr>
<tr>
<td>Developing an interprofessional patient/client care plan is excessively time-consuming.</td>
<td>2.50</td>
<td>2.63</td>
<td>+.33</td>
</tr>
<tr>
<td>The give and take among team members helps them make better patient/client care decisions.</td>
<td>4.00</td>
<td>3.67</td>
<td>+.33</td>
</tr>
<tr>
<td>The interprofessional approach makes the delivery of care more efficient.</td>
<td>4.17</td>
<td>3.67</td>
<td>-.50</td>
</tr>
<tr>
<td>Developing a patient/client care plan with other team members avoids errors in delivering care.</td>
<td>4.00</td>
<td>3.67</td>
<td>+.33</td>
</tr>
<tr>
<td>Working in an interprofessional manner unnecessarily complicates things most of the time.</td>
<td>2.17</td>
<td>2.00</td>
<td>+.17</td>
</tr>
<tr>
<td>Working in an interprofessional environment keeps most health professionals enthusiastic about and interested in their jobs.</td>
<td>3.17</td>
<td>3.17</td>
<td>N/A</td>
</tr>
<tr>
<td>The interprofessional approach improves the quality of care to patients/clients.</td>
<td>3.83</td>
<td>4.00</td>
<td>+.17</td>
</tr>
<tr>
<td>In most instances, the time required for interprofessional consultations could be better spent in other ways.</td>
<td>2.17</td>
<td>2.33</td>
<td>+.16</td>
</tr>
<tr>
<td>Health professionals working as teams are more responsive than others to the emotional and financial needs of patients/clients.</td>
<td>3.67</td>
<td>3.83</td>
<td>+.16</td>
</tr>
<tr>
<td>The interprofessional approach permits health professionals to meet the needs of family caregivers as well as patients.</td>
<td>4.00</td>
<td>4.00</td>
<td>N/A</td>
</tr>
<tr>
<td>Having to report observations to a team helps team members better understand the work of other health professionals.</td>
<td>4.40</td>
<td>4.00</td>
<td>-.40</td>
</tr>
<tr>
<td>Hospital patients who receive interprofessional team care are better prepared for discharge than other patients.</td>
<td>3.67</td>
<td>3.50</td>
<td>- .17</td>
</tr>
<tr>
<td>Team meetings (face to face communication) among team members from different professions or disciplines.</td>
<td>4.50</td>
<td>4.00</td>
<td>-.50</td>
</tr>
</tbody>
</table>

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Interprofessional Collaborator Assessment Rubric

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Pippa Hall, MD, CCFP, MEd, FCP, University of Ottawa
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Interprofessional education: effects on professional practice and healthcare outcomes (update) (Review)

Ramos-S, Brewer-L, Goldman-J, Froehl-D, Zuwanicz-M
ORIGINAL ARTICLE

An exploratory study of an assessment tool derived from the competencies of the interprofessional education collaborative

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Abstract

Linking the outcomes from interprofessional education to improvements in patient care has been hampered by educational assessments that primarily measure the short-term benefits of specific curricular interventions. Competencies, recently published by the Interprofessional Education Collaborative (IPEC), elaborate overarching goals for interprofessional education by acknowledging the incremental nature of such progress. Theアプリケーション作成のためのツールの開発から関連する能力の競争を探索する

Keywords

Education, evaluation research, interprofessional education, interprofessional evaluation, interprofessional care, questionnaire
Conclusion

Quick Points

• Web-based interprofessional education can address scheduling barriers inherent in health sciences student education, particularly for distance education programs.
• Measuring outcomes related to teamwork may be premature if relationship building is not initiated prior to teambuilding activities.
• Longitudinal studies are needed to evaluate the impact of technology-based learning in interprofessional education on healthcare provider and consumer outcomes.