Title:
Outcomes Following Introduction of an Interprofessional Dedicated Education Unit With Nursing, Medicine and Pharmacy

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11:05 AM

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Academic-Practice Partnerships, Interprofessional and Transformative Education

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Abstract Summary:
The complex process of bringing four diverse partners together to form a DEU with an interprofessional curriculum is described. Better outcomes are assumed with new transformative models and we have tested student perception and satisfaction with interprofessional education at the conclusion of the educational experience.

Learning Activity:

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<td>Describe the differences in perception seen in students participating in the IDEU.</td>
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<td>Discuss the satisfaction scores seen in students participating in the IDEU.</td>
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Abstract Text:

**Background.** The American Association of Colleges of Nursing, American Association of Colleges of Pharmacy, and the Association of American Medical Colleges (Interprofessional Education Collaborative Expert Panel, 2011) have recommended educational strategies that incorporate interprofessional learning for the health professions. Transformational educational models are needed for training to provide integrated health care services that will positively impact the health of the nation, address the faculty shortage and empower those in practice to participate more fully in training the clinicians of the future (Glasgow, Dunphy & Mainous, 2011; IOM, 2015)

**Purpose.** The purpose of this pilot project was to build an academic practice partnership to test the perception and satisfaction with teaching and learning in an interprofessional dedicated education unit with nursing, medical and pharmacy students.

**Theoretical Framework.** Blending two paradigms, the Dedicated Education Unit, first proposed in Australia in 1999 (Gonda, et al.) and the application of the theory of interprofessionality (D’Amour & Oandasan, 2005), this hybrid educational model was introduced as part of an academic-practice partnership between the Dean of the College of Nursing and Health (CONH) and the Chief Nurse at the systems level in a faith-based multi-hospital organization (Seventh Day Adventist).

**Design.** The research design used a mixed methods model, utilizing a comparative, repeated measures, correlational design for the students in the project as well as a qualitative, phenomenological approach for the nurse clinician educators (preceptors) in the study. Following IRB approval, the total sample of students (n=20) included six nursing students, two medical students and three pharmacy students in treatment group and nine students from the three disciplines that had the traditional educational experiences for a control group. The qualitative methods and analyses will be reported in a later paper.

**Measures.** Measures included the Modified Interdisciplinarity Education Perception Scale (pre- and post-administration) with a Likert Scale from 1-Strongly Disagree to 6-Strongly Agree. The instrument has four subscales. The complete instrument had Cronbach’s alphas of .87-.88 (McFadyen, Maclaren & Webster, 2007). The Student Satisfaction Survey Following Clinical on an IDEU (SSS) is an investigator prepared instrument (Mainous & Herzing) with a 5 point Likert scale from 1-Very Dissatisfied to 5-Very Satisfied. An additional item is a psychometric ruler from 0-10 which allowed the student to respond with a hash mark anywhere along the continuum for level of student satisfaction with IPE as a training method. The SSS was a post-test only measure. Focus groups and interviews were used to collect qualitative data on the experience of working in this educational model and will not be reported here.

**Procedure.** A relationship was developed with a level II Trauma Center and a 40 bed Trauma unit in the flagship institution. Strong support for the project was received after engaging all of the hospital affiliated stakeholders. The nurse researcher for the hospital network then partnered with the CONH to design and implement a study to evaluate outcomes. The CONH used a competitive process for nursing student applications to be placed in the IEDU. The School of Medicine was approached to determine the feasibility of adding medical students to the learning environment. Working with the student leadership, a surgical trauma elective was designed, proposed, and approved by the medical school faculty. Finally, a faith-based College of Pharmacy (Baptist) was approached for an interprofessional collaboration. Pharmacy students and their faculty, and medical school students and their faculty agreed to participate for four week blocks. The nursing students had a 14 week rotation. The nursing preceptors for a capstone nursing course were trained in pedagogy and evaluation methods in a 4 hour session. The nurse preceptors became known as Clinician Educators, received affiliate faculty status, and were empowered in a new, expanded, teaching-learning role. Next, 6 trauma surgeons and one member of the pharmacy staff also became clinician educators for their respective disciplines and were trained in educational methods and the conceptual framework of a DEU. Finally the faculty from all three disciplines had an intensive session with the PI and were given an interprofessional curriculum, teaching strategies, a text on IPE, and instruments for student evaluation. An expert in IPE from the medical school assisted with the
development of the IPE curriculum. An advisory board was established to facilitate conflict resolution. Students started the day collecting data on their patients, and then attended table-top grand rounds. Students from all three groups were expected to present data and a plan from their discipline framework. More than 30 different types of interprofessional activities were available to the faculty for implementation. Students were often trained together in ways not normally seen—when the surgeons needed to go to the ER to evaluate a new patient, they took all three student groups with them.

Findings. The IEPS was compared pre- to post- using a paired t test. With the elimination of one set of scores that were outliers from the treatment group, the mean pre-test score for treatment students was 4.93 (control was 5.08) and the mean post-test score was 5.18 (control was 5.32). Results showed that there was statistically significant difference between pre- and post- for the treatment group (t=-2.25, p=0.026) and statistically significant pre-to post- for the control group (t=-2.42, p=0.02). However, when the three disciplines data (Medical students, Pharmacy students and Nursing students) were separated, there were no statistically significant findings pre-to post- for each group, likely due to the insufficient n. Moreover, we applied a stepwise regression method for selecting the optimum model with the treatment group data. Three factors including pre-post effect, age and gender were finally selected in the optimum model. In particular, Age (β =-0.033, p=0.019) was statistically significant as was gender (β=0.351, p=0.007). More importantly, the negative estimate of Gender illustrates that female students had a greater response to the treatment than males, and the positive estimate of Age implies that younger students had a greater response than older students. When the control groups data were compared with the treatment group with a 2 sample t test, there was non-significance (pre-test comparison, t=-0.439, p=0.67 and post-test comparison, t=-0.76, p=0.773). For the variable, satisfaction with the IPE experience, the medical students had the highest average test score for satisfaction at the end of the rotation, then nursing, and finally pharmacy; however no group score was less than 4.36 (1-5 scale). There were no significant differences among any two-student groups. The above conclusions were drawn from a small data set. When a larger number of subjects are involved in this project, the effects of various factors will be more precisely estimated.

Discussion. There were some significant limitations in the study, primarily a very small sample size. The design using a control group strengthened the model but a larger sample should be used in the future. We were unable to determine if the data followed a normal distribution. It was interesting to note that the control group had significance pre-to-post findings as did the treatment group. However, we do not know the strength of the exposure students trained in traditional models had with interprofessionality. Further, the baseline score for the control started with a higher mean than did the treatment group. Students were highly satisfied with the experience and anecdotally reported the need for more student interaction.