Quality Improvement and Patient Safety: Team Work and Collaborative Approach to Student Learning

**Background**

- The Institute of Medicine (IOM, 2002) recommends that schools become "all-partners" with their healthcare professional to enroll healthcare into QI. Historically, healthcare professionals are educated in their education programs and then deployed into healthcare institutions (IOM, 2002).
- The Interprofessional Collaborative Practice Expert Panel (2011) advise that interprofessional learning prepares health professionals to work effectively as teams.
- Knowledge, as part of an interprofessional collaboration, can transform healthcare to provide safe, quality care and ultimately improve health outcomes (IOM, 2002, 2011).
- The QSEN competencies and the AACN ESP Essentials provide the foundation for this Quality Improvement and Patient Safety course. The goal is to prepare students to be change agents to improve the quality and safety of the healthcare systems.

**Objectives**

- Describe the historical development and current state of improvement science. (QSEN, 2011)
- Compare and contrast the different models of improvement. (QSEN-2011)
- Apply the core processes of clinical microsystems (QSEN-patient-centered care, teamwork and collaboration, QI)
- Apply the failure modes and effect analysis (FMEA) model for process risk management. (QSEN-QI)
- Design a performance improvement process for a topic of interest. (QSEN-patient-centered care, teamwork and collaboration, QI)
- Discuss the use of statistical process control and measurement for performance improvement. (QSEN-QI)

Note: Illinois' Upper Division Objectives is used to guide the development of course objectives. Knowledge-based, Skills-based and Affective-based.

**Methods**

**Blended and online learning design**

- Didactic and experiential learning including case-based learning experiences and web-based activities.
- Majority of course instruction and content is delivered online with face-to-face, in Week 1.

**Facilitate online learning**

- Promote metacognitive awareness (Boudon, Brown, & Cocking, 2000)
- Maintain social presence (Garrison, 2005)
- Promote collaboration (Pollak & Pollak, 2011)
- Promote active learning (Chabner & Edsman, 1989)
- Incorporate multimedia (Mayer, 2005)
- Provide technical support

**Learner-Centered Environment**

This course is designed to create a unique problem solving transformational environment through the use of concept-based and experiential learning.

**CONCEPT-BASED**

- Quality of safe care delivery
- Improvement science
- Fundamentals of improvement science
- Models for process improvement in healthcare delivery
- Culture in quality improvement: A just culture

**EXPERIENTIAL**

- Conduct a clinical microsystem analysis of a select unit, organization and/or population to assess the needs of the microsystem
- Apply the failure, mode and effect analysis (FMEA) model. Select a process for process risk management
- Participate in a review of the text. Shadows of the Neanderthal is a conference call with graduate nursing colleagues to explore the concept of mental models and its application and integration in clinical practice
- Develop a quality improvement project proposal as a member of an interdisciplinary team in a healthcare setting that can only benefit the student but also the students’ workplace

**Blended and Online Learning Design**

The airplane exercise, Shadows of the Neanderthal book review, clinical microsystem analysis, and the FMEA are examples of the learning activities. See below.

**III. Design a paper airplane using the document “How to Construct a Paper Airplane”**

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**Conclusion and Implications for Practice**

- Quality Improvement and Patient Safety course offers students experiential learning activities to prepare them as the next generation of improvement scientists.
- Students acquire the principles, strategies, and QI tools within a community of faculty experts and other learners to improve work processes.
- This scientific, experiential, and transformational approach to learning enhances the growth of personal and professional processes, creating long-term value for the students.
- The assignment and Patient Safety course, the student’s professional knowledge improvement science while preparing the student to succeed as a leader in a diverse and uncontrolled global society (Sipple, 2012).

**Student Course Evaluations**

(6 semesters 2014, 2015, 2016)

**Table 1**

<table>
<thead>
<tr>
<th>Percentage rating of students who responded to the following statements.</th>
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<tbody>
<tr>
<td><strong>STRENGTHS</strong></td>
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<tr>
<td>1. Expert faculty and guest lecturers</td>
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<tr>
<td>2. Face-to-face presentations</td>
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<td>3. Student interaction with faculty</td>
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<tr>
<td>4. Weekly introductory/support content</td>
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<tr>
<td>5. Assignments relevant to facilitate learning</td>
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<tr>
<td>6. Confidence calls to clarify course expectations and content</td>
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**OPPORTUNITIES**

- Value of some of the assigned readings
- Quality of some of the YOFT presentations

**Evaluation**

- Students' course evaluations for the past six semesters have been very positive. The majority of students (98%) reported that the course content is relevant to our program of study (see Table 1).