April 29, 2010

Scholarship of Teaching and Learning
Leadership Award Selection Committee
Indiana University
Bloomington, IN  47405

Dear Selection Committee,

It is with great pleasure that we submit our proposal “Development of Interdisciplinary Communication Skills in Nursing and Medical Students Using a Simulated Clinical Environment” in consideration for the 2010 Scholarship of Teaching and Learning Leadership Award. The proposal reflects a significant extension of collaborative work between the School of Nursing and Medical Sciences department and we are excited for the opportunity.

Enclosed please find:
1. Nominating letters from leadership in the School of Nursing and Medical Sciences department
2. Proposal narrative
3. Budget narrative
4. Fact sheet
5. CV’s of Dr. Reising and Dr. Carr
6. Letters of support and cooperation from Purdue University and Bloomington Hospital, and student

We look forward to the review process. Please contact us if you have any questions.

Sincerely,

Deanna L. Reising, PhD, RN, ACNS-BC, ANEF
Associate Professor
School of Nursing
Douglas E. Carr, MD, FACS
Visiting Lecturer
Medical Sciences

1033 East Third Street, Sycamore 405, Bloomington, IN  47405  (812) 855-1728  http://www.indiana.edu/~iubnurse/
Indiana University-Bloomington
Scholarship of Teaching and Learning Leadership Award Proposal
School of Nursing and Medical Sciences
April, 2010

Development of Interdisciplinary Communication Skills in Nursing and Medical Students
Using a Simulated Clinical Environment

The Initiative

In a unique collaboration, the School of Nursing and the Medical Sciences programs on the Bloomington campus, have created a partnership for the advancement of nursing and medical students. This collaboration involves the development of interdisciplinary communication skills and team building using high-fidelity simulation (SimMan®). Simulation, while not novel to aviation and other industries, is still relatively new to education, particularly in health care. However, simulation technology has advanced significantly in the past five years in health care disciplines as “talking, breathing” simulators have been developed that are able to respond to interventions made by real health care professionals. The use of simulation in nursing and medical programs is growing, for those that can afford it, but research on the effectiveness of simulation is in its infancy stages, in need of replication and multi-site studies. Additionally, research in simulation consistently focuses on knowledge and psychomotor skill acquisition in a single discipline rather than communication skills across disciplines. This proposal seeks to advance the science of assessing the attainment of interdisciplinary communication skills in two health professions programs.

In 2007, Bloomington Hospital received an Indiana Region 8 Workforce Development Grant, allowing the purchase of simulation equipment. The School of Nursing and Medical Sciences department have benefitted from use of the equipment for nursing and medical student education. In 2008, Nursing and Medical Sciences were awarded Provost funding to expand simulation opportunities, and in July, 2008, the School of Nursing received congressional earmark funding for further simulation development. Between Bloomington Hospital and health profession education programs at Indiana University, a simulation collaborative has been created.

A previous proposal was submitted in 2008 for consideration in order to advance the work of this collaborative. In the two years since, significant achievements have been realized, laying the groundwork for the current proposal. For the past two years, simulation experiences each semester have been constructed for junior and senior nursing students, and for first and second year medical students. In the scenarios, students use their collective problem-solving skills and knowledge sets to affect a positive patient outcome. While some scenarios already exist in the market, few scenarios are amenable to assessing, developing, and evaluating interdisciplinary communication skills, and no scenarios exist specifically for that purpose. Accordingly, Dr. Doug Carr in Medical Sciences, worked with Bloomington Hospital simulation staff to develop scenarios that would focus on interdisciplinary communication skills using simulation.

A simulation experience in spring 2008 with both nursing and medical students included interdisciplinary communication and skill application in the simulation environment with a comparison group of a traditional round table discussion. The results from that study have
been accepted for publication in *Nursing Education Perspectives* (the official journal of the National league for Nursing).

After initial experiences, the need to rate interdisciplinary skill acquisition became apparent, but there is no tool available for such purpose. The lack of a tool highlights a significant gap in health professions research. Based on video reviews of the simulations, Dr. Carr and Dr. Reising developed an initial communication rubric, which was used in subsequent simulations (Appendix A). It was recognized that the tool needed further refinement—particularly, the need to level each category of the communication rubric to further assess students and provide specific direction and behavioral criteria to assist students in developing higher level interdisciplinary communication skills. This is a tremendous task to accomplish on top of regular faculty responsibilities. Fortunately, a masters in nursing education student, who is also a nurse employed at Bloomington Hospital, was interested in the work and agreed, as a part of her master’s project, to code behaviors from existing digital recordings and expand the rubric to more specificity, including leveling (Appendix B). The tool leveling involved using the theoretical framework of Patricia Benner, who is well-known for her research in how nurses develop in their ability to manage patient care.

At this point in the research program, the expanded tool needs to be tested across multiple sites. Interest has grown in this topic as Drs. Reising and Carr have presented their work widely, which has also received recognition (Appendix C). Dr. Kirkpatrick and Dr. Coppoc, the deans responsible for nursing and Indiana University medical students respectively at Purdue University in West Lafayette, Indiana have agreed to provide another site for testing of the expanded tool, and have offered their experts in health professions communication to continue to develop a high quality interdisciplinary communication rubric.

Additional time and effort are needed to sustain this endeavor. A proposal is before the Indiana University Bloomington administration to create new space for an updated simulation lab and office space that will house both nursing and medical sciences, further supporting this important work. Bloomington Hospital is also interested in using the expanded rubric in licensed health care providers.

**Broad Goals**

The broad goals of this proposal involve using and refining the interdisciplinary communication rubric at Indiana and Purdue Universities. Once the tool is completed, it will be used to test the simulation intervention effectiveness in developing interdisciplinary communication skills. The goals include:

1. Test the reliability and validity of the expanded interdisciplinary communication rubric in scenarios involving junior and senior nursing students, and first and second year medical students at Indiana and Purdue Universities.
2. Refine the rubric after testing accomplished in goal #1 using interdisciplinary review of digital recordings.
3. Test the effectiveness of the simulation/debrief experience to develop interdisciplinary communication skills.
Specific Research Objectives

The research objectives of this project are to:

1. Establish acceptable reliability and validity for the expanded interdisciplinary communication rubric.
2. Determine the effectiveness of successive interdisciplinary simulation/debrief experiences in the development of interdisciplinary communication skills.

Methodology

Institutional Review Board approval has been obtained for each step of the project, and will be sought if this proposal is implemented. Reliability and validity testing methodology for the rubric development will be used, and a repeated measures design will be used for testing of the simulation intervention.

Research Question #1—Reliability and Validity Testing of Rubric (Fall 2010)

Participants. Participants recruited for this study include 160 nursing students (60 students from Indiana University and 100 students from Purdue University), and 40 medical students (20 each from Indiana University and Purdue University). All students in both groups are required to complete the simulation experience as a part of their curricula.

Instruments. The expanded interdisciplinary communication rubric will be tested. As described earlier, this instrument was developed from interpretations and coding of raw observations in previous studies by Drs. Reising and Carr. The rubric provides behavior specific criteria that are ranked based on Benner’s novice-to-expert framework. While instruments exist to measure student perception of simulation experiences, no instruments exist to evaluate interdisciplinary skills in neither simulation nor non-simulated experiences.

Procedures. All simulation experiences are digitally recorded per simulation agreement. Data are recorded in manner that does not identify individual participants. All students will be rated on the expanded tool by both researchers (Dr. Reising and Dr. Carr). In addition, any behaviors not included on the rubric will be noted by both researchers with a preliminary category and level applicable to the rubric. At the conclusion of the ratings, both researchers will compare and discuss any discrepancies in ratings. In the event a discrepancy is not resolved, two faculty from Purdue University will be asked to assist resolving the difference. The process will produce an interrater reliability through a Pearson r correlation coefficient. A Cronbach’s alpha will be computed to determine internal consistency. Content validity is established through the review process described above.

Research Question #2—Test of Simulation Intervention (Spring 2011)

Participants. Participants recruited for this study include 160 nursing students (60 students from Indiana University and 100 students from Purdue University), and 40 medical students (20 each from Indiana University and Purdue University. All students in both groups are required to complete the simulation experience as a part of their curricula.

Instruments. The revised expanded rubric described under “Instruments” in the above section will be used. Categorical and composite scores will be used from the rubric. Faculty peers at Purdue University will be trained on the scoring attributes of the rubric, including guided mentorship viewing past digital recordings.
**Procedures.** Students will be organized in groups to include both nursing and medical students. Students will encounter one of two possible scenarios named “Detective Sim Man®.” The scenarios are rotated among the groups, but contain similar elements requiring collaboration on assessment, diagnosis, intervention, and evaluation by both nursing and medical students. Each student will be assessed and rated by faculty using the rubric. Students will be debriefed on the positive and negative attributes according to the rubric with specific recommendations on how to improve communication performance. Students will then be reorganized, again to include both nursing and medical students, and come back to the simulation lab to encounter the second of two scenarios, and will be re-assessed and rated on the rubric. Data will be analyzed using one-way repeated measures ANOVA.

**Significance**

Addressing interdisciplinary collaboration in health professions education is relatively new. Health professions schools typically develop tight curricula focused on role development of their individual students. Public reporting of medical errors has necessitated changing how communication occurs in the health care environment. Health professions schools have an obligation to prepare its graduates to function in a work environment where interdisciplinary communication occurs in a manner that affects positive patient outcomes. Recent health care literature (such as the Institute of Medicine core competencies) highlights the importance of interdisciplinary communication in achieving National Patient Safety Goals as well as early detection of impending patient demise (also called “Failure to Rescue”). Lack of appropriate interdisciplinary communication is cited as a key component in Failure to Rescue literature, and is a root cause in many avoidable poor patient outcomes (Joint Commission, 2010; IOM, 2002; AHRQ, 2007) (Appendix D).

The critical piece that simulation brings to solving the issue around communication is that students are able to practice their communication skills and interventions in a safe environment: safe for both the “patient” and for the student. Simulation guarantees a uniform experience across all students and students may continue to practice their skills until they achieve a comfort level sufficient for implementing in a real patient situation. Under the guidance of faculty trained in debriefing techniques, students dissect the elements of their performance, their interactions with one another and the patient, and learn how their performance can be improved. After debriefing, the scenario may be repeated until students feel comfortable with their own performance.

Simulation creates an active learning strategy that is self-directed. The patient outcome is dependent upon the student’s accurate and timely decision-making. Besides providing uniform experiences that highlight a particular learning concept, simulation also allows for:

1. The ability to program multiple problems for the patient to create a more holistic problem-solving event (novice-to-expert movement for students).
2. Guaranteed experiences in less prevalent health alterations (certain disease states that are rarely seen in the clinical environment).
3. Guaranteed experiences in multiple cultural and age-specific groups.
4. Testing of interventions to see what the likely patient outcome will be from each intervention.
Although faculty believe simulated experiences provide valuable experiences, the objective outcomes from those experiences have not been documented for interdisciplinary communication except by the researchers who developed this proposal. The majority of research on simulation is concentrated on skill performance measures.

To date, the program has already had significant impact, even though it is in its earlier stages of development. For example:

1. Nearly 150 nursing students and 60 medical students have experience with interdisciplinary collaboration scenarios.
2. An article in press in the one of the discipline’s most reputable journals (*Nursing Education Perspectives*, the official journal of the National League for Nursing).
3. Three peer-reviewed competitive conferences with national and international audiences.
4. An honorable mention award for the Sigma Theta Tau Service/Academe Innovation Award.
5. Multiple information requests for our work spanning from tool requests to requests for the simulation recordings for training purposes. The tool sharing has been made on the condition that any modifications and testing be shared back with Drs. Reising and Carr.

It is anticipated that expansion of this program, with the inclusion of Purdue University, will impact an additional 320 students this coming year alone. The intent is to add more sites in coming years with Indiana University continuing to serve as the principal, coordinating site.

**Measures of Success**

The measures of success include immediate measures such as instrument development and intervention testing, as well as goals related to expansion and sustainability. Specifically, the measures of success are:

1. **Instrument Development & Testing**: Development and revision of the interdisciplinary communication rubric. A reliable and valid tool is desperately needed in order to move to the next step of advancing the science regarding testing interventions on interdisciplinary communication skill development regardless of whether simulation is used or not.
2. **Simulation/Debriefing Intervention Effectiveness**: Regardless of whether the intervention is shown to improve interdisciplinary skill development, a critical gap in the literature will be filled with this project. If the intervention is effective, it may be replicated. If it is not effective, other interventions need to be developed and tested to meet the gap.
3. **Multi-Site Extension**: Multiple presentations by Drs. Reising and Carr have produced significant interest from other universities, almost all relatively new with using interdisciplinary simulation, and none addressing interdisciplinary communication. With requests coming from all over the United States, and some beyond, it is reasonable to predict a larger multi-site study that would attract external funding. Funding of this proposed multi-site project by Indiana University, and demonstration of concrete outcomes, will make this project significantly more attractive in consideration for future external funding.
Selected References


Appendix A
Initial Communication Rubric

Communication Rubric  Name_____________________________  Total out of 20 _____

1. Eye Contact
   1—Little or no eye contact [Avoids eye contact]
   2—Some eye contact
   3—Appropriate eye contact most times
   4—Appropriate eye contact at all times: Patient/ Team members

2. Appearance
   1—Out of place or unprofessional (Ragged clothes or flip-flop type shoes)
   2—Clean and neat but inappropriate (Collarless shirts or blue jeans)
   3—Appropriate but unkempt
   4—Neat/Clean/Appropriate (professional)

3. Attitude
   1—Made judgmental comments, criticized, talked down to others
   2—Made comments with inappropriate affect or anxious
   3—Treated others as equals but limited interaction or over confident
   4—Equals and offered praise/encouragement when possible

4. Clarity
   1—Frequent unclear questions or statements (hides from situation)
   2—Tone low or mumbled
   3—Most pronunciation and questions clear
   4—Clear questions or statements or made effort to clarify

5. Silence Score
   1—Avoids contact with patient and team or subdued interaction
   2—Reacts only when asked to respond to situation
   3—Appropriate but average response to situation (“goes through the motions” without difficulty)
   4—Positive energy direction into the room- Engages all to function as a team

Comments:
Appendix B
Expanded Communication Rubric

Scenario: ___________ (Session: ____)
Lab Group: __________

<table>
<thead>
<tr>
<th>No.</th>
<th>Student’s Names</th>
<th>Interdisciplinary Communication Skills</th>
<th>Team-building Skills</th>
<th>Decision-Making Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
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<td>2.</td>
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<td>3.</td>
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<td>1 2 3 4 5</td>
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<tr>
<td>4.</td>
<td></td>
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<td>1 2 3 4 5</td>
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</tr>
<tr>
<td>5.</td>
<td></td>
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<td>6.</td>
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<td>7.</td>
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<td>8.</td>
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<td>9.</td>
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<td>10.</td>
<td></td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
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</tr>
</tbody>
</table>

N. B.: 1 = Unsatisfactory  2 = Marginal  3 = Satisfactory  4 = Good  5 = Outstanding

Signed:

Faculty Name: ____________
<table>
<thead>
<tr>
<th>Score of</th>
<th><strong>Interdisciplinary Communication Skills</strong></th>
<th><strong>Team-Building Skills</strong></th>
<th><strong>Decision- Making Skills</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Does not respond to verbal cues, ideas are vague</td>
<td>Does not contribute to identifying learning issues</td>
<td>Does not demonstrate understanding of basic concepts of session</td>
</tr>
<tr>
<td>2.</td>
<td>Shows limited verbal response during session</td>
<td>Rarely identifies the learning issue</td>
<td>Understands basic concepts with considerable guidance</td>
</tr>
<tr>
<td>3.</td>
<td>Occasionally asks questions and demonstrates logical development of ideas</td>
<td>Volunteers to perform tasks. Participates in finding most learning issues</td>
<td>Demonstrate understanding of concepts with little guidance. Draws reasonable conclusions</td>
</tr>
<tr>
<td>4.</td>
<td>Asks questions stimulates discussion, clarifies ideas for others</td>
<td>Participates in identifying and prioritizing learning issues</td>
<td>Demonstrates clear understanding of concepts. Draws valid conclusions</td>
</tr>
<tr>
<td>5.</td>
<td>Leads discussion of group, Presents clear ideas and shares critical reflective thinking with others</td>
<td>Organizes the groups. Gives and receives feedback</td>
<td>Demonstrates understanding by applying concepts to the problem</td>
</tr>
</tbody>
</table>

N. B.1 = Unsatisfactory  2 = Marginal  3 = Satisfactory  4 = Good  5 = Outstanding
Appendix C
Interdisciplinary Communication Publications, Presentations, and Awards

Publications:


Presentations:


Awards:

Sigma Theta Tau International Service/Academe Innovation Award—Honorable Mention. Proceeds from work will be published in the *Journal of Nursing Scholarship*. 
Appendix D
2010 National Patient Safety Goals—Excerpts Amenable to Simulation

Goal 1
Improve the accuracy of patient identification.

Goal 2—(Primary Focus of this Proposal)
Improve the effectiveness of communication among caregivers.

Goal 3
Improve the safety of using medications.

Goal 7
Reduce the risk of health care-associated infections.

Goal 8
Accurately and completely reconcile medications across the continuum of care.

Goal 9
Reduce the risk of patient harm resulting from falls.

Goal 15
Identify safety risks inherent in its [patient] population.

Reference:
Development of Interdisciplinary Communication Skills in Nursing and Medical Students
Using a Simulated Clinical Environment

Budget Narrative

The bulk of the funds are being requested to summer support salary for Drs. Reising and Carr for Summer 2010 and Summer 2011. Because teaching schedules are already set for the 2010-2011 academic year, buy out time for faculty will not be requested. However, summer salary stipend will be necessary to support the goals and to deliver the project end products.

The rest of the funds will be used for travel and presentation. Simulation in health professions is young, but rapidly developing. Quickly disseminated results in a significant project such as the one contained in this proposal is direly needed. Additionally travel funds are necessary to recruit other sites for extension of this study on a one-by-one bases to meet personally with faculty groups and address requirements necessary for joining future multi-site efforts. This will ease strain on departmental travel funds.

All equipment and training are provided through funding described in the proposal narrative. The Center for Nursing Research and Center for Research in Nursing Education at IUPUI are core campus structures that exist to provide support to faculty in designing, implementing, and evaluation research. Software is provided and updated through the agreement upon purchasing SimMan®, and team members create the scenarios as a part of their normal workload with any course.

Supplemental funding for the payment of a Research Assistant is available through Dr. Reising’s research account. The amount of available funds is approximately $1500.

**Budget Proposal Summary**

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team Salaries + Fringe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Deanna Reising, PI, 0.25 FTE Summer 2010 &amp; 2011</td>
<td>$15,961.55</td>
<td></td>
</tr>
<tr>
<td>• Douglas Carr, PI, 0.25 FTE Summer 2010 &amp; 2011</td>
<td>$12,225.85</td>
<td></td>
</tr>
<tr>
<td>• Departmental Contribution available through Dr. Reising research fund ($1500) *not included in calculation</td>
<td></td>
<td>$1500</td>
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<tr>
<td></td>
<td></td>
<td>$28,187.40</td>
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<tr>
<td>Travel + Presentation</td>
<td>$6,000.00</td>
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<td>TOTAL</td>
<td>$34,187.40</td>
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Development of Interdisciplinary Communication Skills in Nursing and Medical Students
Using a Simulated Clinical Environment
Fact Sheet

Research Plan and Timeline

<table>
<thead>
<tr>
<th>Event</th>
<th>Timeline</th>
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<tr>
<td>Meetings with Purdue Colleagues (already set)</td>
<td>May, 2010</td>
</tr>
<tr>
<td>Review of Expanded Tool and Selected Coding</td>
<td></td>
</tr>
<tr>
<td>Institutional Review Board Approval Submission</td>
<td></td>
</tr>
<tr>
<td>Meetings and Training of Purdue Colleagues</td>
<td>July to September, 2010</td>
</tr>
<tr>
<td>Tool Development and Testing for Fall Semester</td>
<td>September to October, 2010</td>
</tr>
<tr>
<td>Tool Data Analysis for Fall Semester (identify any need to change strategies, obtain IRB amendments if necessary)</td>
<td>November 2010</td>
</tr>
<tr>
<td>Meetings and Training with Purdue Colleagues for Simulation &amp; Simulation Refinement</td>
<td>December 2010 to January 2011</td>
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<tr>
<td>Data Collection for Spring Semester</td>
<td>February to April 2011</td>
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<tr>
<td>Data Analysis for Spring Semester</td>
<td>May to June 2011</td>
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<tr>
<td>Preliminary Report for Team Members to Review</td>
<td>July, 2011</td>
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<td>Meetings to Determine Best Fit for Additional Sites</td>
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<tr>
<td>Final Report to SOTL Office</td>
<td>August, 2011</td>
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<tr>
<td>Prepare Presentations and Publications</td>
<td>Fall Semester, 2011</td>
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</table>

Disseminating Results

Appendix C of the proposal demonstrates the ability of the researchers to disseminate the results. Initial results have been presented in the most global, multidisciplinary venues to date and that trend will continue. Discipline-specific presentations and publications will be also continue be used as vehicles for dissemination. The table below outlines the planned dissemination venues.

<table>
<thead>
<tr>
<th>Dissemination Venue</th>
<th>Discipline</th>
<th>Approximate Timeframe</th>
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<tbody>
<tr>
<td>ISSOTL Conference</td>
<td>Interdisciplinary/Education</td>
<td>October, 2010 &amp; 2011</td>
</tr>
<tr>
<td>National League for Nursing Annual Conference</td>
<td>Nursing/Education</td>
<td>September, 2011</td>
</tr>
<tr>
<td>SOTL IUB Campus Conference</td>
<td>Interdisciplinary/Education</td>
<td>April, 2011 (preliminary)</td>
</tr>
<tr>
<td><em>Journal of Nursing Education</em> (refereed journal)</td>
<td>Nursing/Research &amp; Education</td>
<td>Fall, 2011</td>
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<tr>
<td>American Association of Medical Colleges</td>
<td>Medicine/Education</td>
<td>November, 2011</td>
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<td><em>Academic Medicine</em></td>
<td>Medicine/Education</td>
<td>Fall, 2011</td>
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</tbody>
</table>
**Impact of Study on Undergraduate Learning**

Indiana University School of Nursing (IUSON) is the largest multi-purpose school in the United States. The Bachelor of Science in Nursing (BSN) program prepares nurses for entry level, direct care practice, the focus group of many safety initiatives. The School of Nursing is also a leader in nursing education having received the National League for Nursing’s designation as a Center of Excellence in Nursing Education in Pedagogical Expertise of Faculty. Faculty recently added a series of safety and work complexity competencies to the curricular outcomes, and must demonstrate that students have achieved those outcomes. With a strong network of nursing faculty and a system-wide yearly symposium, faculty readily and eagerly share teaching innovations creating the potential for a significant impact statewide. School of Nursing faculty also serve in leadership positions in the National League for Nursing (NLN) (please see nomination and support letters). The NLN is directing a nationwide program to harness data on simulation in nursing programs, and works closely with school of nursing faculty to disseminate the results of single and multi-site simulation studies.

Indiana University Medical Sciences program in Bloomington houses first- and second-year medical students. The School of Medicine is the sole provider of medical education in Indiana. Curriculum, for these eventual physicians, has evolved to provide more concentration on communication skills and earlier clinical experiences for medical students who would traditionally not have “hands on” experiences until the 3rd and 4th years of their program. The Medical Sciences program is actively advancing medical education, responding to the needs of increasingly complex health care environments through innovative curricular requirements involving simulation.

Purdue University, West Lafayette has undergraduate and graduate nursing education as well as first and second year medical students from Indiana University. Purdue University offers health communication experts, essential to creating a program of research that contributes significantly to filling the gap in this crucial body of knowledge.

The program has already impacted 150 nursing students and 60 medical students. Should this proposal be funded, and additional 320 students will be impacted in the next academic year alone. The proposal highlights continuing momentum in interest with other university health sciences programs. As health sciences programs look to implement the competencies related to interdisciplinary communication, a model and a tool will be required. Drs. Reising and Carr are leaders of this movement, and are developing a model and tool that will be of benefit to those outside of our state. The impact is limitless, and Indiana University is, and will continue to be known, for being pioneers in this scholarship.

Collaboratives between Indiana University and Purdue University have been formally promoted, established, and funded through Life Sciences directives under President McRobbie. This proposal, involving both Indiana and Purdue Universities, further strengthens the collaborative record between Indiana’s two largest public universities, and demonstrates to external constituents (e.g. Indiana State Legislature) that universities do directly benefit residents of Indiana and beyond. This particular proposal impacts a critical element aside from education—**it impacts patient safety by targeting interdisciplinary communication**, a known contributor to patient outcomes.
<table>
<thead>
<tr>
<th>Name/Title</th>
<th>Role</th>
<th>Special Skills/Talents</th>
</tr>
</thead>
</table>
| Deanna L. Reising, PhD, RN, ACNS-BC Associate Professor IU School of Nursing | Principal Investigator | • 1 of only 86 faculty nationwide to be inducted thus far in as a Fellow of the Academy of Nursing Educators (National League for Nursing)  
• Funded internally and externally for multiple SOTL activities as PI  
• Experienced in organizing team research SOTL programs  
• Promoted and tenured on SOTL  
• Extensive presentations and publications on SOTL activities |
| Douglas E. Carr, MD Medical Sciences | Co-PI | • Instituted simulation implementation and evaluation  
• Coordinator simulation research  
• Instituted curricular change in Medical Sciences for more “hands on” education  
• Active in SOTL programs |