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**Project Title: EXAMINING PRECEPTOR-STUDENT INTERACTIONS IN CLINICAL SETTINGS: A PILOT STUDY**

**Project Dates:** January 10, 2011 through January 9, 2012

**Project Checklist:**

- Statement of support from the department chair or school dean
- Simple budget : A detailed budget is not necessary.
- IRB (Institutional Review Board) approval attachment.

**ABSTRACT:** Acuity of patients and concerns about safety in health care has created pressure on schools to devise clinical experiences where students are supervised more closely. Given the nursing faculty shortage and budget restrictions, many schools are relying heavily on staff RNs to manage students' learning. An assumption is that students benefit from working with these RNs, yet, research documenting the impact of preceptor-driven models on student learning is lacking. The purpose of this pilot study is to evaluate the appropriateness of data collection/analysis methods for studying preceptor-student interactions in clinical settings for their feasibility and sensitivity in assessing this phenomenon.

**PURPOSE:** Clinical education in nursing is at a crisis point. Students provide care to very ill and vulnerable patients in a wide variety of settings—settings in which the margin of error is very small and the potential consequences enormous. Yet providing adequate supervision of students’ learning by faculty members is increasingly difficult due to the national shortage of nursing faculty, budget restrictions, and restrictions imposed by clinical settings (requiring that a group of students be spread out across several settings and a faculty member to move between settings). Indeed, a recent national survey of clinical education in prelicensure nursing programs found that clinical faculty members struggle to provide adequate supervision to prelicensure students and the patients for whom they care, to provide meaningful feedback to students, to help students critically think in the midst of providing care, to supervise skill performance, and to evaluate the care being given (Ironside & McNelis, 2010). In addition, faculty respondents reported extremely limited contact with students during clinical experiences and this contact most frequently was related *only* to the supervision of skills (Ironside & McNelis, 2010).

In response to the crisis in clinical nursing education, serious scholarship is being devoted to creating innovative models of clinical education. For instance the Oregon Consortium for Nursing Education (OCNE) (Gubrud & Schoessler, 2009), Dedicated Education Units (DEU) (Warner & Moscato, 2009), and the Practice Education Partners (PEP) initiative here at Indiana University School of Nursing (IUSON) (McNelis & Jeffries, 2009) are promising models for transforming clinical education. While these models are purported to increase instructional time by engaging practicing staff nurses (preceptors) in the education of students, this claim has not been definitively documented. In addition, while proposed models may increase students’ exposure to preceptors, there is no evidence to suggest that this exposure fosters critical thinking, intellectual depth, breadth and adaptability, or the integration and application of disciplinary knowledge in the care of patients. The lack of documented outcomes related to the traditional model of clinical education (one faculty member with a group of 8-10 students) prevents meaningful comparisons among differing clinical models and thwarts efforts to develop an evidentiary foundation upon which faculty could base their decisions about the design of clinical experiences.

The investigators are currently conducting a study (funded by the National Council of State Boards of Nursing) entitled *A Multi-site, Mixed-method Examination of Student and Faculty Experiences and Interactions in Clinical Practice*. Preliminary findings are raising many important questions about the missed learning opportunities during clinical experiences and the extent to which interactions with faculty actually foster (or inhibit) critical thinking, intellectual depth, breadth, and

adaptability and the integration and application of content knowledge. Yet, during data collection and analysis, it became apparent that students' learning in clinical could not be fully understood without also accounting for the interactions with preceptors. Thus, this pilot study will fill that gap and funding is requested to test the feasibility and sensitivity of methods previously used to understand the nature of nurses' work (Ebright et al., 2004) for describing the nature of preceptor-student interactions in clinical settings. Findings from this study will provide a rich description of the nature of these interactions and the extent to which they foster the desired learning outcomes. This understanding will support the design of future studies that evaluate educational outcomes achieved by students experiencing different clinical educational models.

The specific aims of this pilot study are to:

1. Evaluate the appropriateness of data collection and analysis methods for capturing preceptor-student interactions in clinical settings and the cognitive work fostered by these interactions.
2. Evaluate the feasibility and sensitivity of methods used in this study for a future, larger study to evaluate educational outcomes achieved by students experiencing different clinical models.

**INTENDED OUTCOMES OF PROJECT:** Clinical nursing education research suffers from a lack of disciplinary agreement on the critical aspects of clinical education and the lack of conceptual frameworks to describe alternatives. In this study, the investigators propose using the IUPUI Principles of Undergraduate Learning to guide the investigation because of the utility of these principles in describing the salient features of any clinical learning experience, whether they occur within traditional or alternative clinical education models. The outcomes of this project will be knowledge of the extent to which the design captures this highly unpredictable and sporadic phenomenon and its influence on students' cognitive work (including critical thinking, intellectual depth, breadth and adaptability, and integration and application of knowledge in the care of patients). If this pilot is successful, another outcome will be a multi-site, national level study, conducted by the investigators, to document these educational practices across geographical locations, types of programs, and clinical education models.

**ASSESSMENT METHODS:** To examine the interactions between preceptors and prelicensure students that occur during clinical experiences, a descriptive design is proposed using direct and continuous observations, and individual interviews of preceptors. Data collection and analysis methods used in previously research seeking to understand the work

of registered nurses will be pilot-tested, refined, and evaluated for feasibility, sensitivity, practicality and use in designing a larger, multi-site study of clinical education.

**Data Collection Methods.** Following IRB approval, preceptors teaching students who are enrolled in the clinical component of either the 5<sup>th</sup> or 6<sup>th</sup> semester medical/surgical courses at IUPUI will be asked to volunteer for the study. The total sample of 6 preceptors will be purposively selected from three different clinical sites. Different sites will be used to provide variation in models of clinical education and patient care populations for whom students are providing care. Demographic data will be collected only for use in describing the sample participants and kept separate from observation and interview data.

**Observation Data Collection.** A procedure for manual recording of direct observations will be used (Ebright, Patterson, Chalko & Render, 2003; Ebright, Urden, Patterson & Chalko, 2004). Observation data will be recorded on legal pads, line by line, using an abbreviated shorthand method. No pre-coded categories will be used so that all actual activities in the sequence encountered may be captured continuously over a three-hour period. Times will be recorded frequently next to data to provide an estimate of elapsed time for interactions, so that duration of interactions can be assessed. Although investigators are interested specifically in the interaction between preceptors and students, observational data will be collected during the entire three-hour period to minimize the effect of observations on the specific interaction.

**Individual Interview Data Collection.** The research team, comprised of three experienced teachers-researchers with expertise in the study content and methods, will retain primary responsibility for the interviews that follow the observation. The members of the research team will interview individually the participants they observed in the earlier data collection to maintain trust and comfort, and encourage openness. Following the observation session for each participant, the researchers will schedule a one-hour interview appointment within ten days of that observation. Interviews will be conducted in a private setting, tape-recorded, and transcribed for subsequent analyses by an experienced transcriptionist. A cognitive task analysis method used by cognitive system engineers to elicit detailed information surrounding performance called the Critical Decision Method (CDM) interview technique will be used for structuring the open-ended questioning process for the interviews (Klein, Calderwood, & MacGregor, 1989). CDM interview techniques capture details of a specific incident from the participant's own experience. Data from the application of CDM in other sectors have included taxonomies of situations, including causal relationships, cues, goals, and associated options for persons in actual situations. Reliability of the method, including retest reliability and inter-coder

agreement, as well as the utility of the knowledge gained from use of CDM, has been well documented (Taynor, Crandell & Wiggins, 1987).

**DATA ANALYSIS:** The focus of data analysis will be to examine if these methods will elicit the data needed to understand preceptor-student interactions in clinical settings. Data analysis and refinement will begin with the first completed observation session and continue throughout the study. The research team will clarify manually recorded observation data, cleaning up abbreviations used in the manual process before transcription. An experienced transcriptionist will transcribe observation data and interview recordings into a text for analysis. The research team member who completed the observation and interview will verify the accuracy of each transcribed interview text for analysis by proofreading the observation record and listening to the audiotape while reviewing the transcript word by word. During this process, all personal identifiers will be removed and codes assigned to protect confidentiality. The research team will use a “start list” (Sandelowski, 2000) of codes, or sensitizing concepts (Patton, 1990), to facilitate analysis of each participant’s interview transcript to begin classification of data. Codes can be developed from the research questions, problem areas, or key variables, and provide a reference point for analyzing the data. Codes will be assigned and archived using MAXQDA (qualitative data analysis software). A start list of codes for this study was developed from the CDM interview elicitation categories (cues, goals, expectations, rationale for decisions related to specific clinical situations, and actions resulting from those decisions). Patterns not on the code list that emerge during analysis will also be included in the analysis upon consensus of members of the research team. After each team member independently codes transcribed data for each participant (observation and interview), the team will discuss and compare code assignments. Team members will identify patterns (recurrent themes) that appear across participant data through consensus using an iterative process. These patterns will be reported to describe the interactions between preceptors and students during clinical experiences.

**METHODS OF EVALUATION AND DISSEMINATION:** Results of this study will have implications for nursing education at IUPUI as well as regionally and nationally. The prevalence of calls for reforming clinical education coupled with the lack of research in this area means that the findings will hold great appeal for all nursing educators. The investigators are all experienced and nationally recognized teacher-researchers in nursing who have strong records of productivity and who are active members of numerous professional organizations. As such, findings from this study have the potential to impact the design of clinical education and future research to identify best practices

across the country. Findings from this study will be disseminated via publication in refereed research journals and via presentations at local, regional and national meetings focused on nursing education. Moreover, because many health professions disciplines share common concerns with nursing, the results may be of interest to other disciplines as a way to evaluate the design of clinical education in their fields.

**DETAILS ON USE OF FINDINGS FOR PROGRAM IMPROVEMENT:** All three project directors are actively involved in undergraduate curriculum issues, in the recruitment and preparation of preceptors and in courses focused on teacher preparation at the graduate level at the Indiana University School of Nursing. Findings from the study will be disseminated to the undergraduate curriculum committee to be used to inform ongoing curriculum revision, to the program coordinators responsible for the recruitment, preparation and evaluation of preceptors, and to the faculty of the teacher education courses (academic and continuing education) at IUSON.