

**2006 IPFW SUMMER GRANT FOR INSTRUCTIONAL DEVELOPMENT
Grant Report**

Development of a Hybrid Critical Care Nursing Course

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Overview

In the summer of 2006, we received a grant to begin changing a four credit lecture style critical care course to a five credit hour hybrid course. Two hours of credit were to be completed on line, one hour through didactic classroom presentation and the remaining two credit hours in the clinical setting. The course was also transitioning from a nursing elective to a required course in the final semester of the baccalaureate degree in nursing. This course needed to address two needs of the nursing department. First, it was being created as a capstone course in the final semester that utilizes a combination of teaching methods which would meet the needs of a diverse group of learners. Secondly, local hospitals were interested in using this course as part of the critical care orientation for newly hired nurses.

The decision to offer this course as a hybrid course was based on the desire to appeal to diverse learning styles and promote active learning. The online portion would make the course more progressive with the use of informatics and would allow nurses to graduate with more complex computer skills. Online discussions would require students to analyze, prioritize and delegate nursing care through online activities. The clinical component would utilize experiential learning to further enhance the learning experience by eventually allowing the students to assume responsibility to care for a critically ill client. The clinical setting also allows for the student to apply theory to the clinical setting and provide another means to evaluate student growth while in the program.

Presently the course attracts only 5 – 6 students as an elective but once it converts to a required course, it could have as many as 60 – 70 students. Enrollment from the local hospitals may vary. While using this course in local hospitals reduces each hospital's cost, it also further diversifies the student enrollment in their level of preparation.

All lecture material is now presented online. Most units have two games developed which emphasize important critical care concepts. Online discussions were developed for each unit which allow students to critically think through scenarios and actively problem solve with classmates. All student assignments are turned in online via the drop box. Also, all testing is done online.

Methodology

The writers worked this summer to transform lecture materials to an online format using Power Point and gaming software. The faculty members were familiar with Power Point and had some experience with online courses as a student, but neither had taught extensively online. We started the summer by developing the Power Point presentations and set about gaining more knowledge on teaching online courses. Both faculty members attended a three day seminar at Indiana University- Purdue University, Indianapolis (IUPUI) titled, "Moving to web-based learning: A conference for educators". This seminar was designed for educators who are designing a web-based course. The speakers included IUPUI faculty with experience presenting online courses and technology staff who demonstrated the use of various types of technology, including conferencing and video and editing e-documents. The authors gained much insight and knowledge on how best to set up a course, what type of assignments work and what doesn't, and the amount of time required in teaching an online course.

One of the authors, Pam DeKoninck, also attended four sessions of Web CT training presented by Information Technology Services this summer. This training enabled the faculty member to set up and make changes in the online learning environment as needed. Becky Salmon had taken the courses previously.

The authors divided the course into units based on anatomical systems, such as neurological, cardiovascular and respiratory. The teaching assignments were then based on each instructor taking an alternating unit to develop and teach. The topics of endocrine and gastrointestinal were combined into one unit and co-taught. The idea arose to teach the last unit, multi-system failure, in conjunction with student projects. The students would be given a list of topics from which to choose from and each student would develop a Power Point presentation to share in a discussion forum with the rest of the class. The remainder of the topics was to be presented by the faculty with online Power Point presentations.

This course was offered to four students in the fall of 2006. Although the semester is not quite finished and student evaluations have not been elicited yet, student verbal reaction to this course has been very favorable. Units were set up on two week intervals. At the beginning of each two week period the class met for two hours in a variety of settings for demonstrations and hands on class work. In each unit theory content was presented through Power Point presentations to be used in conjunction with the textbook. Students also had the option to complete games set up to compliment the material. One or two assignments were to be completed and turned in via the drop box for each unit. Students also were assigned to complete a 25 question multiple choice test online at the end of the two week period.

For the classroom portion of the course, the class meetings were held for two hours either on campus in a classroom with simulation equipment or at local hospitals to tour units and hear local experts speak on a variety of subjects. Examples of activities and speakers are: meeting at Parkview Hospital to hear speakers and see equipment used in neurological and respiratory care, touring the Burn Center at St Joseph Hospital and listening to a speaker on diabetes in the critical care patient. In the classroom, simulations of patient situations were presented on Sim Man, a simulation program using a realistic mannequin that replicates vital functions. Hands on demonstrations in setting up for procedures and utilizing equipment were also performed. The interesting dynamic that evolved in these presentations is that the students with more bedside experience assisted the students with minimal experience in setting up the equipment, fostering leadership and camaraderie among the group.

Power Point presentations that were developed went along with student reading materials. It allowed easy access for students to look up questions that they had about the power points. It also allowed for students to skim through material that was already clear to them. Occasionally, in each unit, students were directed to do an activity from the power point that made them prioritize or analyze a situation. Those were then discussed on-line or in class at the next opportunity. The authors would like to offer some variety with the power points by using voice enhancements or video streaming in the future.

Student games involved matching and crossword puzzles. Most of the exercises were based on terminology that was utilized in the unit. Students expressed that they found the games enjoyable but not too challenging. There has been some discussion between the authors to enhance student learning by using games to emphasize and review

pharmacology with the students. Also videos of procedures could be developed by or for students that could be reviewed at the students' leisure.

On-line discussions were a delightful surprise to the authors. Students actively participated and even went above the expectations of the instructors. Weeks after a unit had been finished, students were still discussing on-line what should have been done in a given situation, what was the priority, and whether a decision was ethical or legal. Many emotional aspects of care, which often get bypassed in the lecture situation, were thoroughly discussed on-line. This was a small class and everyone had to participate and every student did. Although the instructors monitored the situations from the beginning, we did not get involved until later in the week, giving the opportunity for students to respond to one another. Students did a good job of praising each other for insightful comments, questioning each other's decisions and offering multiple solutions to different questions.

All assignments were completed and turned in online. At first this was difficult for the instructors to grade. But the faculty members became more adept as the semester continued. We felt that the students might struggle with this more but they seemed very comfortable. Most of the students in the group had taken online courses in the past.

Evaluation Methods

With this being the first time the course was taught in this manner, the faculty members felt it was important to have ongoing evaluations and be open to the students' comments regarding the presentation of the course and needs for personal development. With such a small group, the students were surveyed for learning needs at the first class meeting. The work experience of each student varied and it was decided that if one

student needed a demonstration of a procedure, it would be presented for all as a review of procedure. As mentioned previously, this evolved into students teaching each other.

During the class meetings, the opportunity was taken to evaluate the students' comfort level with the methodologies being used and ensure that all needs were being met. Other than some minor clarification of assignments, the students voiced approval and comfort with the course at each meeting. A discussion forum for questions was placed on the homepage and monitored by the instructors. It was intended for a place for students to ask questions about material, but became a forum for procedural questions and clarification of due dates. The students all benefited from the questions and answers in this forum.

Formal evaluations will be completed during the last week of the course. The students will be asked to comment on format mediums, theory content and benefits of specific computer activities. The Advanced Nursing Task Force within the baccalaureate curriculum will review the course material and presentation style and evaluate whether course and program objectives were met. Once the course has fully transitioned as the required capstone course for the curriculum, a comparison of scores of the RN licensing examination, NCLEX-RN, will give an indication of the course and program's overall effectiveness.

Conclusion

The CELT Summer Course Development Grant provided an opportunity to deepen the authors' knowledge and understanding of the components of developing an online course. Working over the summer provided the time necessary to do the research and training required in developing the course. While the majority of the course was

developed over the summer, the development of some of the final units and necessary adjustments in the course and online learning environment were performed during the fall semester as the course proceeded.

Overall, this has been a valuable experience for both faculty members. The project has given the opportunity to broaden our knowledge base in the use of technology and in discovering alternative styles of teaching. We both found that our creativity was stimulated in finding new ways to present information and in developing new activities and assignments. Starting with a small group has allowed us to feel more free to experiment and try new teaching methods. This particular student group is flexible and seemed to enjoy the fact that they had some say in the class and that it was being adapted to their learning needs.

As this course transitions to the required capstone course over the next several semesters, we will have the opportunity to further assess for necessary changes and adjustments. Through this course development project, we have acquired a great deal of knowledge and technological skill that will enable us to make these adjustments without difficulty. We thank the IPFW Center for Enhancement of Learning and Teaching for the grant and providing us with this opportunity.