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Abstract

In order to evaluate the effectiveness of the Georgia College & State University (GC&SU) Nursing Program, a non-experimental, survey research study was conducted by senior nursing students in the Nursing Research class. The survey evaluated the teaching and learning strategies used in the program, the students' perceptions of preparedness for nursing after graduation, and the students' perceptions of the strengths and weaknesses of the GC&SU nursing curriculum. Each participant signed an informed consent form. Forty-five out of a possible 142 nursing students responded to the survey. A statistical analysis of the responses was conducted and comparisons of answers were analyzed across the different nursing cohorts. Implications and recommendations for changes for the GC&SU Nursing Program were stated"The United States is in the midst of a nursing shortage that is expected to intensify as baby boomers age and the need for healthcare grows" (AACN, 2002). As demand for registered nurses continues to increase, nursing programs in the United States are rising to meet this need by educating clinically proficient nurses. GC&SU nursing program graduates approximately 80 nursing students per year. In May 2003, 94% of the nursing graduates passed the licensure exam, helping fill the need in healthcare settings. Nursing faculty realize that they must prepare nurses who are adept at performing essential nursing skills including assessment, safe medication administration, nursing care for ill clients and health teaching.

The purpose of this study was to survey nursing students to determine how effectively the GC&SU curriculum prepares them to be competent nurses who are able to perform essential nursing skills. Students are in a good position to evaluate the effectiveness of their educational program; therefore, it is important to hear students' perception of preparedness during the learning process. This dialogue between students and faculty can improve the educational experience (Palomba & Banta, 1999). The questions that this study aimed to answer upon completion were: (a) what are students' perceptions of the effectiveness of teaching and learning strategies used in the curriculum?; (b) what are students' perceptions of preparedness?; and (c) what are students' perceptions of the strengths and weaknesses of the GC&SU nursing curriculum?

Review of Literature

There are many teaching and learning strategies used in nursing programs. However, determining which strategies are helpful to students is important so that the educational experience is meaningful. In one research study, students suggested using games and case studies to improve their learning experience (Kapborgh & Fischbein, 2001). These creative teaching methods were preferred over lecture, which was the most commonly implemented teaching strategy, but least liked among students (Vaughan, 1990).

A competent nurse is one who is prepared to practice and is characterized as being inquisitive, analytical, respectful, and responsible. A competent nurse should also be caring, have a concern for others, and be committed to lifelong learning (GC&SU nursing philosophy, 2003). Meretoja, Eriksson, and Leino-Kilpi (2002) found that the most highly ranked competencies for practicing nurses were acting accurately in life-threatening situations and coordinating nursing activities.

Students' satisfaction with their nursing program can have an influence on learning (Holmberg, 1977). Vaughan (1990) conducted a research study, which suggested that by better understanding students' satisfaction of education programs, educators could adjust the curriculum to better meet the needs of students. However, there has been limited research conducted to determine the importance of students' perception on curriculum planning. Chou, Tang, Teng, and Yen (2003) conducted a study to determine faculty's views of the humanistic approach in the nursing baccalaureate curriculum. They discovered five basic concepts perceived as important in teaching nursing: availability, empowerment, caring, authenticity, and a transformative curriculum. Several studies have been conducted to determine which information should be included or expanded in the baccalaureate nursing program. For example, Zellner, Goerst, and Semling (2003) showed that teaching a separate pharmacology course instead of incorporating pharmacology into other classes did not cause an increase in the National League for Nursing pharmacology test scores. Another research study conducted showed that final-year nursing students have inadequate knowledge about pain management (Chiu, Trinca, Lim & Tuazon 2003). Thus, hearing the perceptions of students about their experiences in a nursing program can be an opportunity to further develop teaching and learning relationships and meet the learning needs of students.

Research Design

Setting and Sample

The setting of this project was GC&SU, a four-year public liberal arts university, located in downtown Milledgeville, Georgia. The Professional Program in Nursing, a division of the School of Health Sciences, offers a Bachelor of Science in Nursing (BSN) degree in either a full-time or part-time program of study. Each of the cohorts have the following classes in the program of study: Fundamental Principles and Skills, Health Assessment, Introduction to the Profession of Nursing, Psychiatric Mental Health Nursing, Community as Client, Adult Health I, Nursing the Childbearing Family, Adult Health II, Nursing the Childrearing Family, Nursing Research, Legal and Ethical Issues in Nursing, Leadership and Management in Nursing, Integrated Clinical Concepts, and Clinical Internship. Students participate in clinical rotations at various agencies in Middle Georgia. Part-time and full-time faculty members supervise students at clinical sites and evaluate students' progress through the program.

A convenience sample was drawn from 142 students currently enrolled in the BSN program at GC&SU. Students in the nursing major were enrolled in either the full-time or part-time cohort and could be in their junior or senior year of the program. In order to protect the participants in the sample, approval from the Institutional Review Board was received. A signed informed consent was obtained from each participant. There were no risks in completing the survey, and the survey was completely anonymous and voluntary. No incentives or compensation were offered to participants.

Data Collection

The research design was non-experimental and descriptive. Data were collected using a 68-item survey administered on the Internet. Students were informed about the survey during class and given a brief handout discussing the study, the amount of time to complete the study, and the Web address for the survey. Students had access to this survey at any location where Internet access was available, including home or school. Students from all four cohorts were asked to complete the survey between a period of two weeks beginning October 27, 2003. One reminder via e-mail was sent to each cohort within one week after the initial discussion of the project.

The survey used a four-point Likert-type scale using strongly agree, agree, disagree, and strongly disagree. Strongly agree was assigned a score of four on a scale of one to four. Likewise, a response of strongly disagree was given a score of one. Respondents had an opportunity to com-

ment on strengths and weaknesses, to explain answers to questions they felt strongly about, and to suggest changes in the curriculum.

Face validity was used to validate the questionnaire. Senior nursing students in the Nursing Research class designed the questions originally and then classified them into categories. The class then reviewed the original questions and removed questions that did not fit the purpose of the study. The questions were reorganized into conceptual categories of preparedness, effectiveness of teaching and learning, and curriculum that matched the research questions. Finally, the class evaluated the organization of the questions again, ensuring the questions fit under the appropriate subset. Two faculty members examined the questions and verified their validity to measure effectiveness of teaching and learning strategies, preparedness, and the curriculum. Reliability of the survey was assessed for internal consistency and found to have a value of r = 0.938.

Data Analysis

The number of potential respondents to the survey was 142. After availability of the online survey ended, a total of 45 (32%) students had submitted surveys. Respondents' ages ranged from 20 to 34 years old. The greatest percentage of respondents was from the Spring 2004 senior cohort with 18 (40%) participants responding. The Fall 2004 junior cohort and the Spring 2005 junior cohort consisted of 24% and 20% of the sample respectively. The remaining 16% did not identify with a cohort. Participants were predominantly white and female, 91% and 89% respectively. With 92% of the total nursing student population being female and 85% being white, a representative sample was obtained. Eighty percent of the respondents were completing a first-college degree. Grade point averages (GPA) ranged from 2.5 to 4.0 with a mean of 3.22. The demographic characteristics are further explored in Table I. The listed preferred learning styles included listening (12%), reading (12%), doing (69%) and not reported (6%).

Teaching Effectiveness

The teaching effectiveness subscale focused on teaching strategies and included questions concerning case studies, WebCT, lecture notes, and test blueprints. In this subscale, as well as all others in the tool, the higher the total score for the subscale, the more respondents agreed with the statements in the subscale. Potential range of scores for this subscale was from 17 to 68. Individual responses for the teaching effectiveness subscale ranged from a low of 37 to a high of 66, with a mean score of 54.56 (SD= 5.945). The Spring 2005 junior cohort had the highest mean score of 55.78 on the teaching effectiveness subscale. The Spring 2004 senior

cohort showed the lowest mean score for teaching effectiveness with 53.39. Analysis between the groups did not establish any statistically significant differences among perceptions on teaching effectiveness between the groups. The top five and bottom five mean scores of the teaching effectiveness subscale are shown in Table II.

Perceptions of Preparedness

Twenty-seven questions were developed to measure perceptions of preparedness. These were divided into two subscales. Preparedness Subscale I focused on specific skills perceived by the researchers to be basic to the nursing profession, such as communication, critical thinking, and assessment skills. The lowest possible score for this section was 15 and the highest was 60. The actual scores for this section ranged from 30 to 60 with a mean score of 45.133 (SD=8.154). When comparison between the cohorts was performed on the Preparedness Subscale I, a statistically significant difference (F=3.197, df=3,41, p=0.033) was found between the Spring 2004 senior cohort (M=48.83, SD=6.148) and the Spring 2005 junior cohort (M=39.44, SD=7.699). Statements with the highest and lowest mean scores for the entire sample are presented in Table III.

Preparedness Subscale II contained questions that focused on actual components of the nursing program intended to aid in the development of basic nursing skills. Examples included tests and written assignments, clinical experiences, and classes offered within the program. Potential range for Preparedness Subscale II scores was from 11 to 44. The actual scores were between 25 and 44 with a mean score of 36.56 (SD=3.894). The Spring 2005 junior cohort and the Not Reported group showed larger mean scores for this subscale than other cohorts with a mean score of 37 for each group. The Spring 2004 senior cohort had the lowest mean score with 36.28; however, there were no statistical differences between these means. Items from the Preparedness Subscale II with the highest and lowest mean scores for the entire sample are presented in Table IV.

Strengths and Weaknesses of Curriculum

The Curriculum Subscale allowed the students in the program to evaluate courses and various aspects of the GC&SU Nursing program, including questions concerning internships, costs, class sequencing, and time commitments. Potential scores for this subscale were from 13 to 52. There were a total of thirteen questions within the Curriculum Subscale. Actual scores on the Curriculum Subscale were between 25 and 50 with a mean score of 39.24 (SD=5.343). The Spring 2004 senior cohort and

those who did not identify their cohort represented the two groups with the highest mean scores for Curriculum Subscale; however, statistically, there were no significant differences found between the groups. Items from the Curriculum Subscale with the highest and lowest mean scores for the entire sample are presented in Table V.

Students were asked to list those classes they felt needed to be added to the program and those classes that they felt needed to be revised or removed from the curriculum. The class listed most frequently for addition to the program was Pharmacology with a total of 21 instances. Medical terminology was also cited three times for addition to the curriculum. The class most frequently listed for revision or removal from the program was Introduction to the Profession of Nursing with a total of 24 people listing this class. Others cited the class, Community as Client, as needing to have more active participation and less observation in the clinical setting.

In addition to the Likert-type scale, students were able to include their individual opinions on the strengths and weaknesses of the program. Among the strengths listed for the program, seventeen respondents listed instructors. Students perceived faculty as being devoted, experienced teachers who were willing to help students. Students also listed having class notes in WebCT as a positive aspect of the program. Diversity was listed twice as a strength of the program. Students' perceptions of weaknesses of the program included needing more time and fewer students in clinicals, having long days in class, spending too much time completing assignments that were perceived as "busy work," having variations among faculty on clinical expectations and variations among faculty in grading papers and care plans. Other responses included having too many instructors for each class, too many classes scheduled on the same day, and tests scheduled too closely together.

The final section on the survey offered an opportunity to make comments about the statements with which participants strongly agreed or disagreed. Many responses expounded on previous questions asked. Several concerns dealt with the costs associated with the nursing program as well as issues related to time and expense of travel to clinical locations outside of the immediate area. Differences in knowledge of course requirements between part-time and full-time faculty and workload not being evenly spaced throughout the semesters, were concerning to some.

Faculty's Effectiveness

While not directly addressing the research questions, perceptions of faculty were included in the survey due to their importance in developing and implementing program objectives. Questions related to topics such

as advisement, enthusiasm, equality, and consistency. There were a total of 12 questions. Potential total scores for this subscale ranged from 12 to 48. The actual range of individual scores for this subscale was from 20 to 48. The Fall 2004 junior cohort had the highest mean score with 39.18. The lowest mean score was 37.61 from the respondents in the Spring 2004 senior cohort. There were no statistically significant differences between groups on their perceptions of the faculty.

Items within the Faculty Subscale were analyzed for the highest and lowest mean scores. The highest mean score item was "Faculty challenge me to improve skills, knowledge, and nursing care to clients" (M=3.58, SD=0.499). Second highest item was "Faculty's past experiences are diverse and add to my educational experience" (M=3.58, SD=0.499). The second lowest item was "Part-time faculty are as knowledgeable of course objectives as full-time faculty" (M=2.80, SD=0.944). The lowest mean score was for the item "There is no preferential treatment among students by faculty" (M=2.67, SD=1.168).

Discussion

Research Questions

A significant difference was found in the Preparedness Subscale I, which measured students' perceptions of their ability to practice nursing. In this subscale, the Spring 2004 senior cohort had a higher score than the Spring 2005 junior cohort, thus reporting they felt more prepared and more confident in their skills for the nursing profession. These senior students had completed most courses in the curriculum; whereas, the junior students had not completed classes where particular nursing concepts were taught. Because it is anticipated that senior nursing students who have been in the program longer would feel more prepared and confident in their skills than junior nursing students who just started the program, this finding substantiates the expected program outcome.

No significant differences between cohorts were found for the other subscales on the survey including teaching effectiveness, preparedness II, curriculum, and faculty. However, a consistent pattern emerged where the Spring 2005 junior cohort more strongly agreed with questions than the Spring 2004 senior cohort. Several explanations account for this pattern. First, students in the Spring 2005 junior cohort were in the first semester of the nursing program and may have been experiencing a "honeymoon" phase where satisfaction is high. Second, more experienced students (i.e. seniors) had been exposed to more of the curriculum, teaching strategies, and faculty than the Spring 2005 junior cohort. Thus, the senior cohorts had more experiences upon which to base their responses and more advice about where improvements could be made.

Limitations

Several flaws in the study limit the external validity. First, the study design was non-experimental, survey research. Thus, there was no control group or any form of randomization in selecting the respondents. The researchers used a convenient, non-probability sampling plan; the respondents volunteered to participate in the study. This sampling plan tends to introduce bias into the research because only the students who wanted to share their opinions participated and might not be representative of the entire population of the nursing students. Another threat to internal validity was the history threat. Academic and personal circumstances, such as bad test grades or financial difficulties, could influence the way the respondents answered the survey. Therefore, each respondent's history could vary.

Implications

Based on the results of the study there are several changes that could be made to enhance the learning environment at GC&SU. First, teaching methods using more problem-based techniques should be incorporated into the program because 31 out of 45 students (69%) reported that they learn best by doing. Clinical experiences would also be improved by decreasing the number of students per clinical instructor, increasing the number of clinical hours, and keeping part-time clinical instructors better informed of the expectations and requirements of students. Assignment of students to clinical locations should be made, in part, based on where students live in relation to the clinical sites. In addition, students should be better informed of the costs of the program. Course projects, papers, and other assignments should be selected to promote students' understanding of nursing concepts and with an appreciation of the overall workload for students in the cohort. A pharmacology course should be added, and Introduction to the Profession of Nursing should be revised. Because there is a perceived inconsistency between expectations and grading of the students among faculty, having fewer teachers in a course might be helpful in reducing variations in grading. Lastly, faculty should be encouraged to communicate with one another to keep from scheduling tests closely together among different classes.

Conclusion

Students' perceptions of the GC&SU Nursing Program are important to understand in order to determine where improvements can be made. The results of the study showed that the program has several strengths that should be continued. Strengths include WebCT as a supplement to class, test reviews to improve content understanding, computer-based testing helping to prepare students for the NCLEX, and providing students with a broad view of what a nurse may do. There are also opportunities for changes to be made as mentioned earlier. These changes in the teaching and learning strategies and curriculum, along with the current strengths of the program, would enable students to feel more prepared to practice as a competent nurse upon graduation.

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Table 1:
Demographic Characteristics

Cohort	Frequency	%
Spring 2004	18	40.0
Fall 2004	11	24.4
Spring 2005	9	20.0
Not Reported	7	15.6
Age		
20	5	11.1
21	16	35.6
22	7	15.6
23	2	4.4
24	1	2.2
25	3	6.7
27	1	2.2
28	1	2.2
29	3	6.7
30	1	2.2
31	2	4.4
34	1	2.2
Gender		
Male	5	11.1
Female	40	88.9
Race		
White	41	91.1
Black	2	4.4
Not Reported	2	4.4
Degree		
No Previous Degree	36	80.0
Previous Degree	8	17.8
Not Reported	1	2.2
GPA		
2.50-2.99	7	15.5
3.00-3.50	24	53.2
3.50-3.99	11	24.3
4.00	2	4.4
Not Reported	1	2.2

Table II: Teaching Effectiveness Subscale

Top Five Items	Mean	SD
As a new nursing student, blueprints are helpful to decrease my test anxiety.	3.82	.490
WebCT is helpful to me as a supplement to classes.	3.58	.543
Quizzes are effective in helping me to prepare for exams.	3.58	.723
Lecture notes help me understand course content.	3.42	.657
When test reviews are held, I find them beneficial to learning course concepts.	3.42	.812
Bottom Five Items		
There are enough variations in teaching strategies or styles among faculty to aid my learning.	3.11	.775
Videos enhance my ability to learn nursing skills.	3.09	.701
Learning Guides help me understand course content.	2.89	.775
My workload is evenly spaced within the semester.	2.53	1.014
There is so much variation in teaching styles among faculty that it confuses me.	2.51	.843

Table III:
Preparedness Subscale I

Top Three Items	Mean	SD
Self-evaluate personal strengths and limitations.	3.58	.621
Demonstrate effective human relation skills.	3.49	.695
Practice nursing in a holistic, ethical, and accountable manner.	3.42	.657
Bottom Three Items		
Implement the diagnostic and treatment plans.	2.69	.874
Incorporate research findings into nursing practice.	2.47	.1.036
Perform basic emergency care measures.	2.44	.943

Table IV:
Preparedness Subscale II

Top Three Items	Mean	SD
My work as a nurse extern or nursing assistant pre pares me better than clinical to be a more efficient nurse.	3.62	.650
Computer-based testing is beneficial to prepare for the exit exam and NCLEX.	3.58	.543
Frequent feed back from clinical instructors through-out the clinical experience is important in shaping my ability to practice as a nurse.	3.56	.624
Bottom Three Items		
My clinical experience prepares me better than work as nurse extern or nursing assistant to make nursing decisions.	2.96	.903
Written clinical assignments assist me in applying nursing concepts to real practice	2.96	.673
Core classes (prior to admission to the nursing program) are important to my ability to practice as a nurse.	2.89	.714

Table V:
Curriculum Subscale

Top Three Items	Mean	SD
The Internship provides an opportunity to explore my future interests in nursing.	3.60	.539
I am happy with my decision to attend the nursing program at GC&SU.	3.58	.753
The curriculum gives me a broad view of nursing roles across many settings.	3.51	.549
Bottom Three Items		
I was aware of costs of travel, exams, books, uniforms, accessories, and computer equipment and supplies before I started the nursing program.	2.29	1.036
There is no semester that seems to have a heavier workload than any other semester.	2.24	1..048
Tests are spaced appropriately among different classes so that I have time to study.	2.18	1.093