The nursing elective is a required senior level nursing course designed to allow the student to be creative and innovative in identifying learning experiences that will be especially challenging for the student. In this particular self-structured course, the faculty assists the student in an in-depth exploration of nurse anesthesia, which is an area of special interest to the student or identified as a deficit area where additional study and/or practice are needed.

Since 1975, 14 students have been formally enrolled in the course. Of those 14, five (36%) have subsequently become Certified Registered Nurse Anesthetists. Three primary reasons cited for choosing this particular area of study for the elective experience were stated as follows:

1. Created interest in possibly pursuing a career in nurse anesthesia.
2. Offered an excellent opportunity to work directly with faculty/students in nurse anesthesia and learn more about the institution's program.
3. Provided an opportunity to gain additional information about the roles and responsibilities of the nurse anesthetist.

Evaluations of the experience from faculty and students have been beneficial in annually revising the learning experience. Overall, the nursing elective is viewed as a positive and challenging experience for the senior nursing student.

In 1975, the Medical University of South Carolina College of Nursing and the Nurse Anesthesia Program worked together to develop a senior nursing elective in nurse anesthesia as a result of student requests. The nursing elective is generally defined as "a designated course or an independent study option available to students in an area related to nursing." In this paper we will discuss:

1. The structure and role of the nursing elective.
2. The viewpoints of both schools concerning the elective.
3. The nursing students' viewpoints.

We will also highlight the nursing elective as one recruitment tool for nurse anesthesia programs.

Review of literature

In 1972, Robischon reported on a growing trend of the use of field study, independent study, off-campus study and nursing electives. Most of the early electives were community oriented, such as rural community health or occupational health. By 1978, the trend had markedly increased. A survey by Banks reported out of 125 baccalaureate schools responding, 85 offered nursing electives. Out of these 85 schools, 329 electives were reported. A variety of reasons for offering electives were stated:

- Individual faculty interest in the area.
- Student request for content.
- Response to demonstrated community need.
- Projected societal need.
- Request from other departments on campus.
Popular topic or issue.
Need to keep pace with technological advances.

No literature was found regarding the use of a nurse anesthesia elective; however, in Ammon and Fowler's discussion of a perioperative elective, they mentioned reserving the last two classes for student selection of two topics of particular interest to them. They noted a strong interest in OR nursing and nurse anesthesia, with students requesting more information about the legal aspects of OR nursing and the role of the nurse anesthetist.

The literature supports the appearance of a link between the chosen elective experience and choice of a career in nursing. Thus, the elective experience offers the student entry into a specific area of nursing to explore and further develop his/her knowledge based on his/her own identified needs.

Nursing elective structure

The nursing elective is a required senior level nursing course designed to allow the student freedom to be creative and innovative in identifying learning experiences that will be particularly challenging for the student. The elective experience is broadly defined, such that the learning experiences chosen must directly or indirectly affect the quality of patient care. This allows the student latitude in defining the experiences chosen under the guidance of a faculty preceptor who is selected by the student and has interest and/or experience in the area. In this self-structured course, the faculty preceptor assists the student in an in-depth exploration of nurse anesthesia, which is an area of special interest to the student or identified as a deficit area where additional study and/or practice are needed.

This course affords the student continued opportunities for self-direction, with independent thinking and planning stressed in the development of the particular area of study chosen. Thus, problem-solving skills and critical thinking are further enhanced, as well as the student's ability to participate in collaborative relationships.

Primary course behaviors are to be met by each student for satisfactory completion of the course. The course requires that the student will:

1. Design a self-directed learning experience which directly or indirectly influences the delivery of health care to clients. The student is expected to be cognizant of current health-related and professional issues which have an impact on the chosen area, as well as pertinent nursing research following an initial literature review. An in-depth knowledge of these areas is gained through subsequent reading, exposure to the clinical setting, and discussion with other members of the health care team while in the course.

2. Structure the objectives of the experience to reflect the student's individual assessment of his/her identified learning needs. Specific activities are then directed by the objectives and the most appropriate learning styles of the student. The clinical and classroom environments and other learning settings to best accomplish the objectives are identified by the preceptors with student input.

3. Communicate with preceptors and health team members in the decision-making process utilized to establish, conduct and/or modify the self-directed learning experience.

4. Manage the self-directed learning experience in a responsible and accountable manner with guidance from the preceptors.

The initial goal-setting by the student in the elective course includes six phases:

1. Identification of a specific area of interest.
2. Selection of a faculty preceptor.
3. Completion of initial literature review.
4. Identification of learning objectives.
5. Selection of a clinical coordinator and preceptor.
6. Refinement and finalization of goals/objects with input from faculty and clinical preceptors (copies of the proposal are signed by both preceptors).

Throughout the elective experience, the student meets with the faculty preceptor and clinical coordinator to discuss his/her progress in learning and achievement of objectives. The student also reassesses the stated learning objectives and modifies them as needed to create a more challenging learning experience (with approval of the clinical preceptor). Generally, conferences are more frequent in the initial weeks of the elective experience, followed by midterm and final conferences. Additional conferences are called by the faculty preceptor or student if needed. A written account of activities and clinical work by the student is provided biweekly to the preceptor in a student log.

The faculty and clinical preceptors maintain contact for student progress evaluations. At least three visits are made to the clinical area during the elective to provide continuity between the two academic programs and to allow the faculty preceptor an opportunity to observe the student in the clinical environment.

Those students who choose to focus on nurse anesthesia for their elective experience work directly with the director and/or assistant director of the Nurse Anesthesia Program as their clinical coordinator, in addition to a clinical preceptor. This has strengthened the liaison between the two aca-
demic programs and has been especially beneficial in establishing an excellent learning experience.

At the completion of the elective experience, the student is required to submit a typed, final summary of the experience and self-evaluation of his/her performance. The clinical preceptor provides a brief written summary of the student's performance and a final evaluative session includes the faculty preceptor, clinical coordinator and student.

**College of Nursing's viewpoint**

The College of Nursing views the elective as a very positive experience for the students. Since the nursing elective is a required course in our curriculum, faculty are committed to fostering this independent, creative learning experience. It is viewed as an opportunity to share not only one's expertise in a particular area of nursing, but also a mechanism to guide and facilitate student learning and assist the student in transference of knowledge from theory to the clinical or classroom setting. It is our goal to provide the student with experiences that are "conducive to experimentation, investigation, and observation." Our terminal objectives focus on fostering independence, increased professional socialization, and an increased ability to think critically and make professional judgments.

**Nurse anesthesia's viewpoint**

Nurse anesthetists were the first nurses to specialize beyond general duty nursing. During the past 10 years, we have experienced an evolution of nursing responsibilities into additional expanded practitioner roles that were previously seen as non-nursing roles. This may have some bearing on increased acceptance of nurse anesthesia in nursing.

The relationship between colleges of nursing and nurse anesthesia programs also seems to be improving. This is evidenced by an increased participation between colleges of nursing and nurse anesthesia programs to offer the master's degree in nursing to nurse anesthesia curriculums. The Council on Accreditation of Nurse Anesthesia Educational Programs has published *Educational Standards and Guidelines* which would require that all nurse anesthesia students graduate with an appropriate graduate degree by 1999. Recent AANA national meetings have featured topics focusing on graduate education, such as Ronald Beare's talk entitled "Nurse Anesthesia Master's Programs within a College of Nursing." As the trend increases for a master's level entry into nurse anesthesia, one can expect the alliance between colleges of nursing and nurse anesthesia programs to increase.

Over the years, the Nurse Anesthesia Program has believed it essential to maintain healthy relations between the College of Nursing and the Nurse Anesthesia Program. We have responded to requests from the College of Nursing to speak at student recruitment days and participate in panel discussions concerning the expanded role of nurse practitioners. The request for a student elective in nurse anesthesia was viewed as an excellent opportunity to further relations with the College of Nursing, fulfill student nurse requests, and serve as a vehicle to inform students of our profession.

In past years, nurses have been attracted to the profession of nurse anesthesia by various means. Three of the major sources of information about nurse anesthesia at our institution reported on applicant interviews were:

1. Exposure to the work of nurse anesthetists by related work area, i.e., nurses working in the operating room, recovery room, intensive care units, etc.
2. "Word of mouth" from CRNAs.
3. The presence of the Nurse Anesthesia Program on campus along with the College of Nursing. Many of our applicants are graduates of our College of Nursing.

The opportunity to allow a senior nursing student exposure to the field of nurse anesthesia has added to our recruitment tools. We feel that direct exposure to the profession of nurse anesthesia allows the student to make informed decisions concerning interest in the profession. One of the major benefits of a student elective is to allow direct exposure to the field of interest. This helps bridge the gap between theoretical knowledge and actual experience.

One of our key questions of the nurse anesthesia applicant continues to be, "What is your knowledge of the profession of nurse anesthesia?" Should a student participate in our nurse anesthesia elective and decide to apply to the Medical University of South Carolina (MUSC) Program of Nurse Anesthesia at a later date, we have additional knowledge regarding that student's performance, allowing a better decision concerning acceptance.

Who benefits? We feel the student, the College of Nursing, and the Nurse Anesthesia Program all benefit. The student can make informed decisions concerning nurse anesthesia and receive an additional education in critical care. The College of Nursing has served a student request, aided the anesthesia program with recruitment, and has fostered a liaison between the MUSC College of Nursing and the Nurse Anesthesia Program. This may prove to be of added benefit should a graduate nursing degree track for nurse anesthesia students develop.

Journal of the American Association of Nurse Anesthetists
So far, 14 senior nursing students have completed the senior nursing elective. Of these 14, four have been accepted and graduated from the MUSC Program of Nurse Anesthesia at later dates. One student is known to have attended another program of nurse anesthesia. Thus, approximately 96% are known to have entered the profession of nurse anesthesia.

On a recent note, the American Journal of Nursing reported that a nursing shortage is now in effect in many parts of the country, particularly in critical care. This can definitely have an impact on nurse anesthesia programs, as critical care units are pools of potential applicants. Nursing schools also are facing decreased enrollment, further adding to the shortage. Hospitals are now willing to allocate tuition assistance to nurse anesthesia students and nursing students in exchange for employment commitment. The AANA has taken the stand that our organization must be a leader in recruiting nurses into nursing and nurse anesthesia. Our applicants must be nurses and the benefits of the nurse anesthesia profession are excellent. Why not utilize advertisement of expanded nursing roles as a recruitment tool for colleges of nursing?

Does the Nurse Anesthesia Program see any disadvantages in the senior elective? Faculty time commitment is seen as the only disadvantage. The senior elective requires the time of a faculty coordinator and clinical preceptor. At our school this has not been a problem, since our faculty members have enjoyed working with senior nursing students who tend to be highly motivated to learn.

**Students' viewpoints**

At the completion of the nursing elective experience, each student is asked to evaluate the experience and offer any suggestions for further development of the nurse anesthesia elective. We also encourage the student to comment on the primary considerations for choosing nurse anesthesia for the elective experience and discuss the impact the elective experience had on his/her decision to pursue or discontinue further study in this area.

In reviewing their comments, three primary reasons for choosing this area emerged:

1. Fostered interest in possibly pursuing a career in nurse anesthesia.
2. Offered an excellent opportunity to work directly with faculty/students in nurse anesthesia and learn more about this particular program.
3. Afforded an opportunity to gain additional information about the roles and responsibilities of the nurse anesthetist.

Students commented that this experience provided the following:

1. "An excellent opportunity to clarify the position of the nurse anesthetist on the health care team."
2. "Provided great role models."
3. "Influenced my own decision to pursue a career (in nurse anesthesia)."
4. "Helped me realize nurse anesthesia is not the area for me," commented two students.

In June, 1987, all former students were mailed a survey and requested to evaluate their elective experience. Of the seven returned (50%), five were from females and two were from males; three were CRNAs. Students cited the areas that were particularly beneficial and should be continued as part of the elective experience (see Table I). Foremost in that list were the literature review of the roles and responsibilities of the nurse anesthetist (100%), primary anesthetic agents (100%), and legal aspects of the role (85.7%). Other cited areas focused on obser-

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Attendance at selected lectures, i.e., physics and chemistry, role of Certified Registered Nurse Anesthetist (CRNA), etc.</td>
<td>57.0</td>
</tr>
<tr>
<td>2. Literature review of the roles and responsibilities of the nurse anesthetist</td>
<td>100.0</td>
</tr>
<tr>
<td>3. Legal aspects of the role.</td>
<td>85.7</td>
</tr>
<tr>
<td>4. Literature review of primary anesthetic agents used.</td>
<td>100.0</td>
</tr>
<tr>
<td>5. Working with CRNA cart setup and function of equipment; setting up at least once</td>
<td>71.0</td>
</tr>
<tr>
<td>6. Following observational period, assist the CRNA in preparing patients for local and general anesthesia</td>
<td>85.7</td>
</tr>
<tr>
<td>7. Following at least one patient through the preoperative visit, surgery, recovery room and postoperative visit</td>
<td>100.0</td>
</tr>
<tr>
<td>a. Preoperative rounds with CRNA, including preoperative assessment, care plan, etc.</td>
<td>85.7</td>
</tr>
<tr>
<td>b. Observation and direct patient care in the intraoperative phase.</td>
<td>100.0</td>
</tr>
<tr>
<td>c. Discussing and observing fluid balance being monitored intraoperatively</td>
<td>71.0</td>
</tr>
<tr>
<td>d. Roles and responsibilities in the postoperative phase.</td>
<td>71.0</td>
</tr>
</tbody>
</table>
vational and direct care of patients throughout the preoperative, intraoperative and postoperative phases, focusing on the role and responsibilities of the nurse anesthetist.

Experiences that were not considered to be essential were demonstrating the correct technique for filling out an anesthesia flow sheet (28.5%) and spending one night on call with a Certified Registered Nurse Anesthetist (CRNA) (0%). The primary clinical site did not have nurse anesthetists on call, so many did not choose this experience. Overall, based on the written feedback from the survey and student evaluations, the nursing elective was viewed as a positive and challenging experience for the senior nursing student.

<table>
<thead>
<tr>
<th>Table II</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Students' opinions of nonessential aspects of nurse anesthesia elective (n = 7)</strong></td>
</tr>
<tr>
<td>Activity</td>
</tr>
<tr>
<td>1. Demonstrating the correct technique for filling out an anesthesia flow chart.</td>
</tr>
<tr>
<td>2. Spending one night on call with a CRNA.</td>
</tr>
</tbody>
</table>

REFERENCES


(13) St. Luke's Hospital, Michigan. 1987. CRNA recruitment advertisement sent to the Medical University of South Carolina Anesthesia for Nurses Program.


AUTHORS

Ann D. Hollerbach, RN, MN, is an associate professor of nursing at the Medical University of South Carolina in Charleston. Ms. Hollerbach earned a master's degree in adult health nursing from Emory University, Atlanta. She has participated in the nurse anesthesia elective experience as a faculty preceptor since 1975.

Larry L. Hilton, CRNA, MHS, is the chief nurse anesthetist at the Medical University of South Carolina (MUSC) Medical Center in Charleston, and is a clinical associate faculty member of the MUSC Anesthesia for Nurses Program. At the time this article was written, Mr. Hilton was assistant director of the Anesthesia for Nurses Program at MUSC and served as clinical coordinator in the nurse anesthesia elective.