This study examined the perceived importance of the 22 characteristics of effective clinical instructors as identified by Katz in 1982. Using a questionnaire survey instrument, a random sample of 354 nurse anesthesia program directors, Certified Registered Nurse Anesthetist clinical instructors, first-year nurse anesthesia students, and second-year nurse anesthesia students from across the United States participated in this study.

The mean scores of importance for each characteristic demonstrate that respondents perceived all 22 characteristics as being very important. When all 22 characteristic mean scores for each group were arranged in descending order by the researcher, no significant difference was found between respondent groups. Multiple regression analysis demonstrated that the demographic variables accounted for only an extremely small percentage of the variance.

It appears that all four professional groups valued the 22 characteristic and perceived them as critically important to clinical instruction. The researcher suggests that this homogeneity among all four groups may be the result of students' previous exposure to clinical instructors. Findings in this study have implications for guiding nurse anesthesia clinical instructors in their quest for clinical teaching excellence through evaluation and faculty development programs.

Key words: Clinical faculty, clinical teaching, faculty characteristics, faculty development.

Introduction
The clinical learning experience is a critical curriculum component of nurse anesthesia education. Wong and Wong maintained that the clinical learning experience provides students with an opportunity to consolidate knowledge and apply this knowledge to actual patient care situations. This allows the student to socialize into a professional role, acquire professional and personal skills, and foster the attitudes and values believed to be essential for entering the healthcare system. McCabe describes the clinical learning experience as the heart of professional education.

Although teaching students in a clinical setting is very rewarding, it can also be a very difficult and challenging undertaking. Unlike the traditional classroom environment, instructors in the clinical arena must maintain a balance between their patient's welfare and the educational needs of the student. The quality of education a student gains from the clinical arena is in many ways pivotal on the teaching effectiveness of the clinical instructor. Since the clinical component is so very important to the education of the nurse anesthesia student, nurse anesthesia clinical instructors...
should constantly strive to increase their teaching effectiveness.

In 1982, Katz conducted an extensive research study that identified numerous characteristics indicative of effective nurse anesthesia clinical instructors. It was not the intent of Katz's research to determine the importance of these characteristics. Building on Katz's research, it was the objective of the present study to determine the perceived level of importance of the characteristics identified by Katz in the make-up of the effective clinical instructor. Having a grasp of the importance of these characteristics in the make-up of an effective clinical instructor will assist experienced, new, or prospective clinical instructors in their pursuit of teaching excellence though self-improvement.

There were two purposes to this study. The first purpose was to determine the perceived importance of the effective clinical anesthesia instructor characteristics as identified by Katz in 1982. The second purpose was to determine if these perceived levels of importance varied between four types of professionals, namely, nurse anesthesia program directors, Certified Registered Nurse Anesthetist (CRNA) clinical instructors, first-year nurse anesthesia students, and second-year nurse anesthesia students in relation to various demographic factors (Table I).

### Table I

**Demographic variables examined**
- Age
- Gender
- Program types
- Number of years as a director or instructor
- Number of hours/week directors spend teaching in the clinical area
- Number of hours/week instructors spend teaching in the clinical area
- Number of hours/week students were taught in the clinical area
- Number of months students have been enrolled in their programs

### Materials and methods

This present study used a descriptive research approach that describes or assesses the nature of conditions or characteristics that already exist in a given population. It described the perceptions of nurse anesthesia program directors, CRNA clinical faculty, and students with respect to the perceived importance of various characteristics of the effective clinical instructors identified by Katz. Approved from the committee on the conduct of human research was not required because there was no manipulation of treatments or subjects.

Data for this study were obtained by means of a Likert-type questionnaire. This questionnaire was developed by us with the assistance of six nationally recognized experts in nurse anesthesia education. Since we were looking for the level of importance of characteristics that were already found to be representative of the effective clinical instructor, a progressive series of five Likert-type categories were used. These categories were somewhat important, important, very important, highly important, and critically important. Respondents were asked to use these categories to evaluate Katz's characteristics according to how important they felt each of the characteristics was for an effective clinical instructor to possess.

Since the questionnaire was based on Katz's research and was developed with the assistance of a panel of experts in nurse anesthesia education, it was determined to meet content and context validity requirements. Reliability was determined using a test-retest procedure with a resulting 0.66 mean interrater reliability coefficient.

The nationwide population for this study consisted of nurse anesthesia program directors, CRNA clinical faculty members, first-year nurse anesthesia students, and second-year nurse anesthesia students. First-year students were classified as students enrolled in a program for 12 months or less. Second-year students were classified as students enrolled in a program for more than 12 months.

Surveys were mailed to a random sample of 200 CRNA clinical instructors, 200 students, and all nurse anesthesia program directors from accredited civilian nurse anesthesia programs throughout the United States. The random samples of faculty and students' names and addresses were generated by computer and provided by the American Association of Nurse Anesthetists' Department of Education and Research.

### Results

After two follow-up mailings, a total of 370 (76.8%) surveys were returned. Sixteen of these surveys were unusable because of missing data, leaving a total of 354 surveys out of a possible 482 (73.4%) used in the final data analysis.

The perceived order of importance of the 22 characteristics of effective clinical instructors was determined by first calculating the mean scores for the values of importance assigned to each characteristic by the respondents. Once the means scores
were calculated for each characteristic, the scores were arranged in descending order. Table II presents the data for these descending mean scores. Many of these mean scores were separated only by hundredths of a percent, while other characteristics were separated by slightly larger intervals.

A rank ordering of importance of the 22 characteristics was also compiled for each of the four individual professional groups (program directors, CRNA clinical faculty, first-year nurse anesthesia students, and second-year nurse anesthesia students). Calculation of the Friedman two-way analysis of variance demonstrated that a high level of consistency existed between the overall rank ordering of characteristics for each professional group (Friedman = 72.869 at $P < .000001$).

A Kendall coefficient of concordance was calculated to estimate the degree of association between the respondents' rankings of the characteristics. Results of this test demonstrated a very high degree of agreement between the groups concerning the rankings of the characteristics (Kendall = 0.87).

Although no significant difference was found between the overall characteristic rankings and the four groups, further analysis was performed to examine each individual characteristic separately. The chi-square test of significance was calculated to see if there was a relationship between the professional groups and the value assigned to each characteristic. Table III identifies the characteristics that had a modest but significant chi-square test result. These characteristics were evaluation/counseling, positive role model, flexibility, and timely feedback.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Pearson chi-square</th>
<th>df</th>
<th>$P$ statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation/counseling</td>
<td>22.580</td>
<td>9</td>
<td>.007*</td>
</tr>
<tr>
<td>Positive role model</td>
<td>28.480</td>
<td>9</td>
<td>.001*</td>
</tr>
<tr>
<td>Flexibility</td>
<td>15.280</td>
<td>6</td>
<td>.018†</td>
</tr>
<tr>
<td>Timely feedback</td>
<td>19.190</td>
<td>9</td>
<td>.024†</td>
</tr>
</tbody>
</table>

* $P < .01$
† $P < .05$

Program directors had higher mean scores for the characteristic evaluation/counseling than did the anesthesia clinical instructors or student groups. The directors were the only group who consistently assigned this characteristic a value of 3 or greater. Program directors also demonstrated higher mean scores for the characteristics positive role model and timely feedback than did the other three respondent groups. Only 4% (3) of the program directors assigned the characteristic timely feedback a value less than 3.

The mean scores for the characteristic flexibility were higher for first-year students than the other groups. Of the first-year students, 92% (48) gave this characteristic a score of 4 or 5.

A multiple regression analysis was performed to determine how well the demographic variables predicted the perceived importance for the 22 characteristics (Table I). Multiple regression analysis indicated that the selected demographic variables were all very weak predictors of the 22 characteristics' importance.

**Discussion and summary**

The respondents in this study perceived all 22 characteristics of effective clinical instructors to be important. Mean scores indicated that the 22 characteristics were perceived to be very important or highly important. This result supports Katz's con-
clusion that these characteristics are important attributes of an effective clinical instructor.

When we rank ordered the mean scores of the characteristics for all respondents, some characteristics had moderately higher mean scores than others. The small difference between these mean scores reinforces the premise that all 22 characteristics were perceived as having a high level of importance by all four groups. This agreement among the four professional groups concerning the overall rank order of the mean scores of importance proved contrary to previous research. No previous studies have exhibited this same level of homogeneity. Most reviewed studies reported significant differences in the perceptions between professional groups, usually student's versus faculty and directors. Only two studies, in the profession of nursing, approached the level of agreement found in this study.45

In the present study, the overall agreement in rank ordering of the mean scores found between directors and clinical faculty was understandable since both groups are usually actively involved with the clinical teaching process. It is not surprising that they should have similar views concerning the importance of characteristics indicative of effective clinical instructors. A few differences were noted when each characteristic was studied separately. It is possible program directors ranked evaluation/counseling higher because of its importance in issues of student performance and program accreditation. Program directors also ranked the characteristic positive role model higher than the other three groups. Possibly nurse anesthesia clinical instructors do not view themselves as role models in the pure sense of the term. Perhaps directors view clinical instructors in a more idealistic light.

The final characteristic that the program director group ranked higher than the other three groups was timely feedback. It is possible that instructors and students felt that this characteristic was difficult to achieve because of the hectic work pace inherent in the clinical work environment. Directors may have again taken a more idealistic viewpoint. They may feel that since timely feedback is generally accepted as beneficial to the learning process, it should be performed, whatever the obstacles, in the clinical area. The only characteristic that students disagreed with was that of flexibility. First-year students assigned this characteristic a higher score than did the other three groups. This may be attributed to the fact that first-year students are just beginning their anesthesia education. Since everything is still new to them, these students may desire and expect more flexibility from their instructors. Despite these few individual differences, all four groups were in agreement in their overall rank ordering of the characteristics.

Findings that separate this study from other studies relate to the nearly identical perceptions shared by the two student groups and the faculty and director groups. There was an overall agreement among the four professional groups concerning the perceived rank order of the mean scores of importance of the characteristics. There are a number of possible reasons for the nearly parallel perceptions of the two student groups with the faculty and directors. One possible explanation may be that most nurse anesthesia students enter anesthesia school with extensive exposure to the clinical area from nursing school. The clinical component in nursing school entails many hours of clinical teaching before graduation. Therefore, when nursing students graduate, they have had many hours of clinical experience and exposure to different clinical instructors. It is possible that this preanesthesia school clinical exposure has allowed these students to form perceptions of an effective clinical instructor. Unlike students in nurse anesthesia programs, students entering schools of nursing or medicine are very limited in their exposure to clinical instructors before starting their respective programs. Most of these students develop their perceptions of clinical instructors as they progress through their programs. As such, it is not surprising that their perceptions may differ from those of the faculty.

Another possible explanation for this agreement among groups may be the result of student's work experience prior to entering anesthesia school. Candidates for nurse anesthesia school are required to have at least 1 year of acute care nursing experience.6 This acute care nursing experience may further expose them to clinical nursing instructors who may be rotating through acute care units with their students. In addition, many nurse anesthesia candidates may have worked as acute care nursing instructors or preceptors as part of their previous employment.

Based on the date provided by this study, certain education and training implications seem appropriate. Now that the importance of the characteristics of effective clinical instructors has been established, this information can be used as a building block for the improvement of clinical teaching effectiveness. This can be accomplished through a number of applications. Since all 22 characteristics have been determined to be important, appropriate evaluation instruments can be developed to evaluate clinical instructor effectiveness. These instruments may be designed for self-evaluation by
the instructor or evaluation of the instructor by peers or students. Data from these instruments could then be used to identify characteristics in which the instructor seemed to excel or need improvement.

Once the areas for improvement have been identified, appropriate faculty development interventions could be activated. For example, if one clinical instructor is having trouble with the characteristic timely feedback, it may be appropriate to let that instructor observe and be mentored by another instructor who is proficient in this area. If a large group of clinical instructors are having the same problem, it may be more appropriate to organize an inservice to address their weaknesses. If a number of characteristics have been identified as problem areas, it may be appropriate to address those characteristics that were found to have the highest rank order first. Another inservice could then be developed, at a later date, to address the remaining characteristics. Once again, instructors who are proficient in specific characteristics could be used as resource persons.

Clinical experience is an integral part in the education of the nurse anesthetist. As such, the effectiveness of the clinical instructor is crucial in the success of this teaching component. Hopefully, the results of this study will serve as a trail marker in the clinical instructor’s quest for teaching excellence.

REFERENCES


AUTHORS

William Hartland, Jr., CRNA, PhD, received his bachelor of science in Biology from Gordon College, Wenham, Massachusetts, and his bachelor of science in Nursing from Texas Christian University, Fort Worth, Texas. He received a certificate in Nurse Anesthesia from the Harris Hospital School of Nurse Anesthesia, Fort Worth, Texas. Dr. Hartland received his master of science in Health Science Instruction from Texas Woman's University, Denton, Texas, and his doctor of Philosophy in Adult Education and Training from Virginia Commonwealth University. He is currently an assistant professor and director of Education for the Department of Nurse Anesthesia, School of Allied Health Professions, Medical College of Virginia Campus, Virginia Commonwealth University, Richmond, Virginia.

Carroll A. Londoner, PhD, received his bachelor of arts from the University of California, Los Angeles. He received his master of arts and his doctor of philosophy in Adult and Continuing Education from Indiana University. He is a former president of the American Association for Adult and Continuing Education. Dr. Londoner is currently an associate professor and a senior faculty member of the Adult Education Program at Virginia Commonwealth University.

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