

DOCUMENT RESUME

ED 090 140

SP 007 482

AUTHOR Green, Joan L.; Stone, James C.
TITLE Teach Me, and I Will Be Silent.
SPONS AGENCY National Institutes of Health (DHEW), Bethesda, Md.
PUB DATE Aug 73
NOTE 369p.

EDRS PRICE MF-\$0.75 HC-\$17.40 PLUS POSTAGE
DESCRIPTORS Curriculum Development; *Curriculum Evaluation; *Medical Education; *Nursing; Student Attitudes; Teacher Attitudes

ABSTRACT

The purpose of this study was to determine the impact of undergraduate degree programs in nursing on students from the University of Portland (UP) and the University of San Francisco (USF). Data were collected via structured group interviews and a double Q-sort administered twice at the end of each year of the program. The study was designed to answer the following questions: Is the new curriculum at USF achieving its objectives? Does exposure to the new curriculum change students? How do graduates of the new program at USF compare with graduates of the old program? How do the graduates of USF compare with the graduates of UP? What are the reactions to the new programs at these institutions? Recommendations made on the basis of the study findings include: a) faculty should demonstrate greater recognition and deeper concern for students as individuals, adults, and potential professionals; b) the substance of professional learning experiences should be increased; c) efforts should be made to individualize learning experiences; d) more in-depth professional experiences should be planned for the final year of the programs; e) team teaching should be readjusted or other strategies considered for the program; f) learning experiences in terms of family content should be reassessed; and g) faculty should reconsider their roles as professional nurse models and educators and adjust those roles within the demands of program objectives.
(Author/HMD)

ED 090140

TEACH ME, AND I WILL BE SILENT

Joan L. Green

and

James C. Stone

A report of the five-year project, "Development and Use of Tools for Curriculum Evaluation," supported by Grant No. D 10 NU 00235-05, National Institutes of Health, Nurse Project Training Grants, U.S.P.H.S., 1968-1973.

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

SP 007 482

PERMISSION TO REPRODUCE THIS COPY-RIGHTED MATERIAL HAS BEEN GRANTED BY

James C. Stone

Not to be cited or reproduced without written permission of authors.

TO ERIC AND ORGANIZATIONS OPERATING UNDER AGREEMENTS WITH THE NATIONAL INSTITUTE OF EDUCATION. FURTHER REPRODUCTION OUTSIDE THE ERIC SYSTEM REQUIRES PERMISSION OF THE COPYRIGHT OWNER.

PREFACE

This investigation began in 1968 when two researchers came together in a common belief that students' perceptions of their collegiate experience constituted a solid base on which to formulate a research design for evaluating a four-year baccalaureate degree program. Thus, this report on the impact of the curriculums in two universities is replete with data from students regarding their reactions to their academic and professional education programs--what was taught and how it was taught--and their retrospective recommendations regarding its strengths and weaknesses.

The investigation ended in the Summer of 1973 with the authors' belief in students and their opinions intact and with this belief amply buttressed by data which speaks for itself.

Many individuals cooperated in this investigation. The project could never have been undertaken without the cheerful cooperation, interest, generosity, and enthusiasm of the faculty, students, and graduates at U.S.F. Their patience during all the data collection periods over the four years was remarkable.

Neither could the project have been undertaken without the interest and cooperation of the students and faculty at the University of Portland School of Nursing. Their participation was coordinated by Vernon J. Damm, who found time during his own curriculum project to assist us with ours.

Special thanks go to Gail De Wath, whose standards of excellence were beyond comparison in the preparation of the manuscript and in the hundreds

of other activities associated with being a research project secretary.

Those who really made the project what it is were the consultants and the research associates, a research team exemplar: Stephen B. Lawton of the Ontario Institute for Studies in Education, who developed the design for the statistical analysis; Paul A. Heist, a Professor of Higher Education at the University of California, Berkeley, who assisted us in the use of the OPI and answered many questions concerning the characteristics of college students; and Douglas A. Penfield, Assistant Professor, Graduate School of Education at Rutgers University, who performed much of the interim data analysis, read the final chapters on the quantitative findings, and broke down our stereotypes about statisticians! A very special thank you to William J. Schwarz, University of California, Berkeley, whose contributions to the project are untold. He assisted us in the development of the Q-sort items and demographic questionnaire and performed yeoman hours of programming and cluster and other statistical analyses. Many of the pages which follow reflect Bill's contributions.

There was much support for this long-range project from the administration at U.S.F. As Vice-President for Academic Affairs, Paul J. Harney, S.J., now deceased, released the project director from teaching responsibilities so as to work full-time on the grant. His successor, Edmond J. Smyth, S.J., has continued to support both the CEP and the School of Nursing in a hundred and one different ways. Sister M. Geraldine McDonnell, S.M., Dean, School of Nursing, provided continuous encouragement and moral support.

Finally, there is one last person without whom the project would never have been undertaken. Her wisdom, her vision, and her overwhelming confidence were motivating, stimulating, and unshaken, even though the project got bigger

than she ever dreamed it would. To her, Sister M. Beata Bauman, S.M., Dean Emeritus of the School of Nursing, this effort is gratefully dedicated.

Joan L. Green

James C. Stone

San Francisco, August, 1973

TABLE OF CONTENTS

PART I. INTRODUCTION

Chapter

1. Historical Background	2
2. Theoretical Rationale	14
3. The Research Design	31

PART II. QUANTITATIVE FINDINGS

Chapter

1. Hypotheses 1 and 2	47
2. Hypotheses 3 and 4	54
3. Hypotheses 5.1 and 5.2	66
4. Q-Technique and Cluster Analysis	80
5. Hypothesis 6	88
6. Hypothesis 7	101
7. Cluster Analysis of the CEQ's	108
8. Hypothesis 8	136
9. The Target Population	146
10. Summary of the Quantitative Findings	176

PART III. QUALITATIVE FINDINGS

Chapter

1. Interviews with U.S.F. Students	181
2. Interviews with U.P. Students	216
3. Interviews with U.S.F. Faculty	234
4. Summary of the Qualitative Findings	247

PART IV. RECOUNT FOR THE FUTURE

Chapter

1. Summary of Findings	253
2. Discussion of Findings and Recommendations	262
3. Implications	279
4. Models for Curriculum Evaluation	287

APPENDICES 307

LIST OF TABLES

Table	Page
1. Comparison of Scores on State Board Test Pool Examinations: U.S.F. Seniors (1965-1968) and U.S.F. Seniors (1969-1972)	48
2. Comparison of Scores on NLN Examinations: U.S.F. Seniors, 1966-1968 with 1969-1972	49
3. Univariate Results for Hypothesis 1-B	50
4. Comparison of Scores on State Board Test Pool Examinations: U.S.F. Seniors (1969 and 1970) and U.P. Seniors (1971 and 1972)	51
5. Comparison of Scores on NLN Examinations: U.S.F. Seniors (1969 and 1970) and U.P. Seniors (1971 and 1972)	52
6. Comparison of Mean Ages of Seniors: U.S.F. and U.P. (1971 and 1972)	55
7. Chi-Square Comparisons of Demographic Data: U.S.F. and U.P. Seniors (1971 and 1972)	56
8. Comparison of CEEB SAT Scores: U.S.F. and U.P. Seniors (1971 and 1972)	57
9. Pre-Curricular Comparisons of OPI Scores: U.S.F. and U.P. Seniors (1971 and 1972)	58
10. Pre-Curricular Comparisons of LAE Scores: U.S.F. and U.P. Seniors (1971 and 1972)	59
11. Pre-Curricular Comparisons of EPPS Scores: U.S.F. and U.P. Seniors (1971 and 1972)	60
12. Post-Curricular Comparisons of OPI Scores: U.S.F. Seniors (1969 and 1970) and U.P. Seniors (1971 and 1972)	62
13. Post-Curricular Comparisons of LAE Scores: U.S.F. Seniors (1969 and 1970) and U.P. Seniors (1971 and 1972)	63
14. Post-Curricular Comparisons of EPPS Scores: U.S.F. Seniors (1969 and 1970) and U.P. Seniors (1971 and 1972)	64

Table	Page
15. Comparison of Pre-Curricular OPI Scores: U.S.F. Freshmen, Classes of 1972 and 1973	67
16. Comparison of Pre-Curricular LAE Scores: U.S.F. Freshmen, Classes of 1972 and 1973	68
17. Comparison of Pre-Curricular EPPS Scores: U.S.F. Freshmen, Classes of 1972 and 1973	68
18. Comparison of Post-Curricular OPI Scores: U.S.F. Seniors, Classes of 1969 and 1972	69
19. Comparison of Post-Curricular LAE Scores: U.S.F. Seniors, Classes of 1969 and 1972	70
20. Comparison of Post-Curricular EPPS Scores: U.S.F. Seniors, Classes of 1969 and 1972	71
21. Comparison of Pre and Post-Curricular OPI Scores: U.S.F. Seniors, 1972	73
22. Comparison of Pre and Post-Curricular LAE Scores: U.S.F. Seniors, 1972	75
23. Comparison of Pre and Post-Curricular EPPS Scores: U.S.F. Seniors, 1972	76
24. Comparison of Pre and Post-Curricular OPI Scores: U.P. Seniors, 1972	77
25. Comparison of Pre and Post-Curricular LAE Scores: U.P. Seniors, 1972	77
26. Comparison of Pre and Post-Curricular EPPS Scores: U.P. Seniors, 1972	78
27. Multivariate Analysis of Variance in Mean Score Vectors of the Descriptive CEQ: Sophomores, 1971-1974; Juniors, 1970-1973; and Seniors, 1969-1972	92
28. Multivariate Analysis of Variance in Mean Score Vectors of the Prescriptive CEQ: Sophomores, 1971-1974; Juniors, 1970-1973; and Seniors, 1969-1972'	97
29. Repeated Measures Univariate Analysis of Variance in Mean Score Vectors of the Descriptive and Prescriptive CEQ's: Sophomores, 1971-1974	102

Table	Page
30. Repeated Measures Univariate Analysis of Variance in Mean Score Vectors of the Descriptive and Prescriptive CEQ's: Juniors, 1970-1973	103
31. Repeated Measures Univariate Analysis of Variance in Mean Score Vectors of the Descriptive and Prescriptive CEQ's: Seniors, 1969-1972	105
32. Cluster Analysis of the Descriptive CEQ: Sophomores, 1971-1974	109
33. Cluster Analysis of the Descriptive CEQ: Juniors, 1970-1973	112
34. Cluster Analysis of the Descriptive CEQ: Seniors, 1969-1972	115
35. Cluster Analysis of the Prescriptive CEQ: Sophomores, 1971-1974	120
36. Cluster Analysis of the Prescriptive CEQ: Juniors, 1970-1973	122
37. Cluster Analysis of the Prescriptive CEQ: Seniors, 1969-1972	125
38. Correlations of OPI Scale Scores (U.S.F. Seniors, 1969-1972) and the Descriptive CEQ	137
39. Correlations of OPI Scale Scores (U.S.F. Seniors, 1969-1972) and the Prescriptive CEQ	138
40. Correlations between GPA and Class Ranking (U.S.F. Seniors, 1969-1972) and the Descriptive CEQ	139
41. Correlations between GPA and Class Ranking (U.S.F. Seniors, 1969-1972) and the Prescriptive CEQ	140
42. Correlations of LAE Scale Scores (U.S.F. Seniors, 1969-1972) and the Descriptive CEQ	140
43. Correlations of LAE Scale Scores (U.S.F. Seniors, 1969-1972) and the Prescriptive CEQ	141
44. Correlations between LAE Total Score (U.S.F. Seniors, 1969-1972) and the Descriptive CEQ	142
45. Correlations between LAE Total Score (U.S.F. Seniors, 1969-1972) and the Prescriptive CEQ	142
46. Correlations of EPPS Scale Scores (U.S.F. Seniors, 1969-1972) and the Descriptive CEQ	143

Table	Page
47. Correlations of EPPS Scale Scores (U.S.F. Seniors, 1969-1972) and the Prescriptive CEQ	144
48. Repeated Measures Univariate Analysis of Variance in Mean Score Vectors of the Descriptive and Prescriptive CEQ's: Sophomores, Class of 1972	148
49. Repeated Measures Univariate Analysis of Variance in Mean Score Vectors of the Descriptive and Prescriptive CEQ's: Juniors, Class of 1972	150
50. Repeated Measures Univariate Analysis of Variance in Mean Score Vectors of the Descriptive and Prescriptive CEQ's: Seniors, Class of 1972	151
51. Cluster Analysis of the Descriptive CEQ: Class of 1972 as Sophomores	154
52. Cluster Analysis of the Prescriptive CEQ: Class of 1972 as Sophomores	156
53. Cluster Analysis of the Descriptive CEQ: Class of 1972 as Juniors	159
54. Cluster Analysis of the Prescriptive CEQ: Class of 1972 as Juniors	162
55. Cluster Analysis of the Descriptive CEQ: Class of 1972 as Seniors	165
56. Cluster Analysis of the Prescriptive CEQ: Class of 1972 as Seniors	169

LIST OF ILLUSTRATIONS

Figure	Page
1. Programmatic Model for Curriculum Evaluation (Model A)	290
2. Typology Model for Curriculum Implementation (Model B)	294
3. The Outcome Model for Curriculum Evaluation (Model C)	300
4. Suggested Model for Continuous Curriculum Evaluation at U.S.F. School of Nursing	302

PROLOGUE

For education is change

sometimes subtle, sometimes cataclysmic
in the consciousness of man
and thus in the institutions man has evolved to define and extend himself.

Education doesn't happen through didactic teaching
through rote learning;
education is personal and it is participatory,
it has to do with becoming alive, aware, excited to learn
to take action
to improve the world
one's profession
And one's self.

But the world is large
history long
the amount of academic and professional knowledge infinite.

Socially responsible, self-disciplined understanding and love are needed
to change the world
our profession
And ourselves.

We begin with respect
for ourselves
for each other
for our professional colleagues
for all that can be learned.

And this learning begins with students saying
"teach me, and I will be silent."¹

Adapted from the frontispiece
of Graduate Program Bulletin,
Goddard College, Plainfield,
Vermont.

¹From the Book of Job, Chapter VI, Verse 24.

PART I

INTRODUCTION

CHAPTER 1

HISTORICAL BACKGROUND

Revision of the nursing curriculum at the University of San Francisco was initiated in 1964. The decision to revise it was the result of many factors. Chief among them was the growth of the school. In 1954 there were 21 students and two faculty members. When this first class graduated in 1958, the student body had increased to 102 and was taught by 12 faculty members. Within another four-year period, enrollment had reached 155 and the faculty numbered 19. A new curriculum in nursing was implemented in 1966-67. At that time 265 students were enrolled in the nursing major and taught by a faculty of 25. The enrollment in 1968-69 was 350 students with a professional nurse faculty of 34. At the start of the Curriculum Evaluation Project (CEP) in 1968, the School of Nursing had completed a planned, sequential, expansion program.

Since the enlarged student body increased the demand for off-campus clinical facilities, faculty members found themselves competing with other schools and programs in the San Francisco Bay Area for laboratory facilities of the traditional type. As a result, it was necessary to create different types of laboratories to meet program objectives.

Early Attempts to Revise the U.S.F. Curriculum

Between 1958 and 1960, a special study was initiated to identify and evaluate the degree of integration of the essential concepts included in the

nursing curriculum. Sixty-five concepts, grouped into ten broad categories, were identified as essential to the baccalaureate program in nursing. It was assumed that each of these concepts would be taught to the point of mastery at some point within the curriculum. Methods and instruments were developed and applied to measure the degree of integration of each of the concepts included in the program. The findings identified the weak areas of the curriculum which the faculty then decided to strengthen. In 1964 the study of essential concepts was replicated. Courses again were reviewed for the extent to which these concepts had been integrated. To the chagrin of the faculty who had been present at the time of the first study, some of the weaker concepts identified in the earlier study continued to be weak, and some others which had been thought to be integrated to the point of mastery had declined. The faculty began to question their approach--there were obvious gaps and duplications in what was considered to be essential content.

Simultaneous with this self-discovery was the 1964 accreditation visit by the National League for Nursing. They made specific recommendations regarding the large number of small unit courses in the professional curriculum and the fragmentation of content. Again the faculty set about redefining the program. The process was given additional impetus from a project sponsored by the Western Interstate Commission of Higher Education to identify essential content in baccalaureate programs in nursing.¹ At this time there were 15 nursing courses in the program ranging in value

¹Charlotte Coe, et al., One Approach to the Identification of Essential Content in Baccalaureate Programs in Nursing, Report to the Western Interstate Commission for Higher Education (Boulder, Colorado: University East Campus, February, 1967).

from two to eight semester units. Three theory courses were taught in the freshman year. The courses in the sophomore, junior, and senior years were combinations of theory and laboratory experiences. Some of these 15 courses were taught by one faculty member, others by groups of three or four, each prepared in the same general area of nursing practice.

Initially the faculty sought to bring about a rearrangement of the supporting liberal arts and science courses required for the nursing major. In order to provide a better science foundation upon which to build the major, the required science courses were placed in the freshman year, and two of the three freshman nursing courses were moved to the sophomore year. The third freshman nursing course was dropped.

Essential to this change was a major decision by the faculty to continue to introduce nursing courses in the lower division, though the general trend in baccalaureate nursing programs was to place courses in the major at the upper division level. The U.S.F. faculty believed that the students would be more liberally educated if the supporting courses were spread throughout the four years of the students' program rather than concentrated in the lower division.

Next came another major decision to implement the concept of progressing from simple to complex. The faculty concluded that the simple to complex concept could be implemented more effectively if all aspects of professional nursing were introduced at the sophomore level. Students would be able to test their interest in nursing sooner, transferring to other majors, if necessary, with less penalty. Also, students would be able to maintain an identity with the total university throughout the entire program by taking liberal arts courses throughout the four-year program.

This decision to develop lower division content in nursing was supported by an earlier effort of the faculty in connection with the Conference of Catholic Schools of Nursing which had developed a definition of lower and upper division content in nursing.

The stated purpose of objectives of the nursing program were reviewed and used as a basis for the development of a formal statement of philosophy (Appendix A). This statement of philosophy was the point of departure for the development of the revised curriculum.

Curriculum Levels

The Curriculum Committee,¹ which was charged with the major responsibility for continued curriculum development, guided the activities of the faculty. Essential and fringe content were identified by examining each of the 14 courses then taught at the three levels of the curriculum. This content was sorted according to levels of complexity and labeled as appropriate for either sophomore, junior, or senior year. Groups were organized among the faculty according to levels of interest, sophomore, junior, or senior. Each of these groups attempted to arrange and synthesize the content into a meaningful whole appropriate for that particular year. Consultant services were obtained to assist in the development of a framework around which the

¹The Curriculum Committee is a standing committee of the Faculty Association of the School of Nursing. The objectives are: 1) to provide for ongoing study and evaluation of the curriculum in the light of changing needs of students, overall University changes, and current professional, educational, and social trends; 2) to work constructively toward needed curriculum revisions as indicated by changing patterns in nursing practice and health needs of people; and 3) to provide for periodic analysis and reappraisal of criteria for evaluation of students' progress toward competence in nursing. Membership consists of representatives from each team and specialty area, who are elected, appointed, or ex officio by virtue of position, as defined by the Bylaws, Faculty Association of the University of San Francisco School of Nursing, Article VII, Section 9.

content was organized at each level. Specific objectives for each level were developed. These were defined in behavioral terms for each semester for each level (sophomore, junior, and senior). These objectives established the limits for depth and complexity at each level and reflected both theory and laboratory experiences. With these objectives, the essential content at each level was then rearranged. The sophomore year was defined as the foundation period during which the student would be introduced to all areas of nursing practice as well as to beginning levels of content in each of the concepts to be integrated throughout the curriculum. These concepts were to be pursued in greater depth at the junior and senior years; thus, the design for the three years of the new curriculum had been formulated, though the essential content had not been clarified for the upper division.

By the time this new curriculum was implemented in 1966, the sophomore year had been completely planned and accepted by the faculty. Laboratory experiences had been chosen which would best meet the objectives for that level. Representatives of the major areas of nursing practice taught the two courses and participated as team members in planning and evaluation. Faculty members at the junior and senior levels then had one to two years in which to anticipate implementation of the new curriculum at their levels.

The Curriculum Committee worked with the faculty to identify criteria for evaluation of student learning and to organize the essential content. The Committee assisted in the articulation of content from one level to the next and attempted to meet the orientation needs of new faculty added each year as part of the expansion program occurring simultaneously with the implementation of the new curriculum.

The Conceptual Framework of
the Integrated Curriculum

Seven nursing courses emerged from the reorganization, totaling 60 semester units (Appendix B). A three-unit theory course on the science of nursing was taught each semester at the three levels. A second course, incorporating theory and laboratory experiences, was taught concurrently each semester with the science course. The unit value for this course varied from five to eight semester hours. During the senior year a two-unit seminar course also was offered each semester.

The seven courses were planned on a sequential basis, progressing from simple to complex. The framework unifying the organization of the content was based on concepts derived from the statement of philosophy. They included problem-solving, family-centered nursing, individualized approaches to student learning, and professional roles and responsibilities. These key ideas formed the rationale for the adoption of the "family" as a unifying theme, the "nursing problem" as a method of teaching, and concepts of health and illness as the basic approach to articulation of content.

There were three core threads which provided the theoretical structure for the integrated curriculum: 1) individual, family, and community health, 2) problem-solving, and 3) professional and leadership roles. Specific objectives related to each core thread were identified for each level of the curriculum so that continuity could be maintained. The core threads were visualized as crucial ideas which served as the focus for organization of the content at each level and (hopefully) enabled the student to integrate her learnings.

The faculty planning the curriculum had two ideas about integration:

- 1) it is the correlation of knowledge from various disciplines around the ideas which serve as core;
- 2) it can be any concept, problem, or device by which two or more ideas are related.

Problem-solving was selected as the method of teaching used to promote integration. Through the selection of problems, arranged from simple to complex, a sequential development of the key concepts was maintained.

The faculty, therefore, used problem-solving in two ways: as process and as content. As process, it was a method of teaching or a way to arrive at appropriate nursing care (which substantiates the objective that the curriculum was preparing nurses for the future as well as for the present). As content, it was the rationale for the inclusion of facts which served as the data necessary for problem-solving as a process.

The key concepts around which the content was organized were called integrative threads. These were introduced in the nursing science course in the sophomore year and pursued in greater depth throughout the upper division. The integrative threads and related sub-concepts are:

Behavioral Adaptation

Crisis
 Stress
 Anxiety
 Adjustment and adaptation to illness role theory
 Loss (sensory deprivation, body image, dying, death, and bereavement)
 Immobilization (controlled activity and isolation stress)
 Self-concept
 Dependency
 Independency
 Interdependency

Problem-Solving

Epidemiology
 Nursing diagnosis
 Priorities
 Evaluation

Observation
Decision-making and intervention

Communication

Relationships
Group process
Therapeutic communication
Impaired communication

Professional and Leadership Role

Legal aspects
Homeostasis
Human ecology

Restoration of Health

Individual, Family, and Community Health

Thus, essential content was identified for the three levels of the curriculum, related to one or more of the three core threads, and organized in a manner to facilitate integration. In sum, the conceptual framework for the new curriculum was developed and implemented.

Sequence of Problems

The new curriculum now began with the problems of maintaining health and wellness in the individual and proceeded to the maintenance and restoration of health and wellness of individuals, families, and communities. The problems selected for study represented a gamut of needs of the individual and the family, including biological (physiological), psychological, cultural (including spiritual), socio-economic, and ecological. The faculty identified and selected problems that were realistic with current and emerging professional practice. The concepts taught in the theory courses were used as guides to the solution of problems presented in laboratory courses. In each succeeding year, more complex problems were introduced, involving more interrelationships, more community agencies, and the continued use of the family

as the receiver of nursing services.

Other factors considered in the selection of essential content were 1) expectations of the consumers of nursing services, 2) influences of major health problems on society, 3) values and experiences of a liberal education, and 4) competencies of the baccalaureate nurse as problem-solver, decision-maker, leader, and professional practitioner.

Sophomore Year

The focus in the sophomore year was on one-to-one nurse-individual/family relationships; peer group process relationships, promotion, and maintenance of wellness in the child and adult; and introduction to the problems associated with aging and those related to the mildly ill, particularly recognition and adjustment to the sick role. The laboratory settings included the classroom, conference, and seminar; senior citizen centers, institutions for well-aged, private homes, outpatient (including prenatal) clinics, nursery schools, multiphasic screening centers, doctors' offices, long-term medical facilities, and general hospitals.

Junior Year

During the junior year, the focus was on the childbearing and child-rearing family; illness of infants, children, and adults; and the impact of illness on the family structure. Settings for laboratory experience included general hospitals, children's hospitals, doctors' offices, agencies dealing with disruptive families, private homes, and outpatient clinics.

Senior Year

At the senior level, the focus shifted to patients with complex physical and/or behavioral problems, families with multiple health needs

in the community, and those requiring extended care in the home, nursing homes, or other agencies in the community. Settings for laboratory experiences included intensive care units, medical and surgical units in the general hospital, psychiatric facilities in general and state hospitals, and community health agencies.

Thus, the faculty sought to achieve the goals stated in the School of Nursing philosophy through the pursuit of specific objectives incorporating concepts of family-community health, analytical thinking and judgment, and professional leadership.

Team Teaching

As plans for the integrated curriculum developed, team teaching emerged as a way to implement program objectives. Nine to twelve faculty members, representing all specialty areas of nursing practice, composed the team at each level. The number of faculty on a team was based on maintaining a desired ratio of one instructor to eight students in each laboratory area. The focus and emphasis of the curriculum at each level were the basis for determining the number of faculty representing any one specialty area.

The activities of each team were coordinated by a team member. All members of the team, including the coordinator, carried a full-time teaching load equivalent to the twelve-unit load of University faculty.

The lectures and class presentations of theory courses were planned, coordinated, taught, and evaluated by the entire team. Small sub-groups were formed to organize the units of theory. Test committees were organized to put together the examination questions submitted by individual team members at the end of class presentations.

Each team member also was responsible for a unique laboratory setting

to which the student was assigned either on a block rotation basis or at intervals for planned sequential learnings. The faculty member stayed in the same laboratory setting, and the students came to her. It was not expected that every student would gain experience in every setting or with every instructor.

Group Process

Because of the large theory classes, it was essential that the student have some kind of identity with at least one faculty member as well as with a peer group. Discussion groups were established which met two hours each week as part of the regularly scheduled laboratory time. One faculty member and eight students composed a section. The sections met for the purpose of 1) comparing and contrasting learning experiences in the laboratory, 2) applying theory learned in nursing science courses to clinical experiences, and 3) learning from each other. Much of the content related to group process also was handled in these discussions. In fact, the group discussions served as the laboratory experience for the application of the theory of group process. The sections remained the same for both semesters of each year. The section arrangement was used to facilitate University registration. It also was the nucleus for the faculty advising program and for the evaluation of student progress. Not every student in a given group necessarily would have the same laboratory experiences, nor would the faculty advisor of the group necessarily have all or any of her group members as a student in her own laboratory setting.

Evaluation of Students

The group structure facilitated the evaluative process. The instructor

who had the student in a laboratory setting sent a written evaluation to the student's group advisor, who collected, collated, and prepared a composite written report, and conducted the final evaluation interview. The conference was not in lieu of others the instructor might have had with the student. As a minimum, one faculty member on each team had the opportunity to know the student well through the group process and through the final evaluation procedure.

It had been expected that the team structure would not prevent the faculty from working in areas of their special preparation. Faculty were encouraged to move from team to team to give lectures in their areas of expertise and to serve as consultants to other faculty and students.

The Grant

The new curriculum was in its first year of implementation as plans for formal evaluation were developed in 1966-1967. Funds from the Nurse Education and Training Branch of the Division of Nursing, Bureau of Health Manpower, Department of Health, Education, and Welfare Public Health Service, initially were sought in 1966 to finance a five-year project to develop and use tools for evaluation of the curriculum at U.S.F. The approved project design included the participation of the University of Portland's School of Nursing as a reference group. The Curriculum Evaluation Project¹ was formally begun in September, 1968, and extended to August 31, 1973.

¹The project, "Development and Use of Tools for Curriculum Evaluation," was supported by Grant No. D 10 NU 00235-05, National Institutes of Health, U.S.P.H.S.

CHAPTER 2

THEORETICAL RATIONALE

The theoretical rationale of the CEP research design is three dimensional. These dimensions include 1) change in students, 2) role perception, and 3) curriculum theory. The significance of previous research relating to each of these dimensions as well as the dimensions themselves are discussed in this chapter.

Change in Students

In 1957 Jacob¹ summarized his review of the research on characteristics of students in higher education in the United States. He was concerned with the impact of courses or a four-year sequence of courses on the affective and cognitive development of students. The studies focused on students as individuals rather than on relationships with faculty or other college sub-groups. Jacob concluded that the impact of the college experience was "to socialize (rather than liberalize) the individual," to refine, polish, or "shape up" his values so that he can fit comfortably into the ranks of American college alumni.² He indicated that there was more homogeneity and greater consistency of values among students at the end of their four years than when they began:

¹Philip L. Jacob, Changing Values in College (New York: Harper and Bros., 1957), pp. 4-85.

²Ibid., p. 4.

the students had lost their individuality.¹ He also noted that students' values and outlook did not vary greatly whether a professional, integrated, or conventional liberal arts program had been followed.² The quality of teaching had relatively little effect upon value outcomes of general education, teachers had relatively little effect on the communication and maturing of student values, and methods of instruction had only a minor influence on value outcomes of liberal education.³ He also raised an interesting question concerning the impact of an integrated liberal arts program and its relationship to teaching effectiveness in challenging and stimulating students.⁴

A more optimistic view concerning the impact of college life on students was found in the research findings of McConnell, Heist, Freedman, and Webster. They noted that 1) the college population is diverse in intellectual and non-intellectual characteristics,⁵ 2) students entering the professions are diverse and heterogeneous,⁶ and 3) systematic personality changes are going on (particularly in women) during the first two years of college.⁷ They further suggest that by viewing student characteristics and expectations

¹Ibid., p. 5.

²Ibid., p. 7.

³Ibid., p. 8.

⁴Ibid., p. 85.

⁵T.R. McConnell and Paul Heist, "The Diverse College Student Population," in The American College, ed. by Nevitt Sanford (New York: John Wiley and Sons, Inc., 1962), pp. 225-250.

⁶Paul Heist, "The Student," in Education for the Professions, pt. 2, ch. 10 of 61st Yearbook of the National Society of Education, ed. by Nelson B. Henry (Chicago: University of Chicago Press, 1962), pp. 211-234.

⁷Harold Webster, Mervin Freedman, and Paul Heist, "Personality Changes in College Students," in The American College, ed. by Nevitt Sanford (New York: John Wiley & Sons, Inc., 1962), p. 843.

in terms of the demands and learning opportunities of the college environment, one may determine the effect of a college curriculum.¹

This research on college students, as available up to and including 1968, was the rationale for the adoption of change in students as one important dimension of the CEP. It also served as the basis for the formulation of assumptions related to anticipated change in nursing students, as measured by the EPPS and OPI.²

One of these postulates was that the primary intellectual abilities of U.S.F. and U.P. students would increase as they progressed through their professional programs. Over ninety percent of the students enrolled in the two schools were Catholic, and the majority were graduates of private high schools. Hassenger³ had shown that Catholic students in Catholic colleges score lower in intellectuality than Catholic students in other private or public colleges, as measured by the OPI. He further stated that Catholic college students were less interested in ideas, in critical thought, and in matters of aesthetic concern. Thus, in the CEP it was expected that on admission to the two nursing programs, the students would be less interested in the world of ideas than in the real world of professional skills. While these students might have been exposed to problem-solving techniques and the scientific method in the secondary schools, it was anticipated that they would place a high value on directed learning experiences and the presentation of structured, professionally oriented subject matter.

¹McConnell and Heist, "The Diverse College Student Population," The American College, p. 250.

²Refer to Appendices II and I.

³Robert Hassenger, ed., The Snake of Catholic Higher Education (Chicago: University of Chicago Press, 1967), p. 138.

Having been exposed to a series of planned and directed learning experiences, would these students change? Hassenger¹ had indicated that while change was minimal, four years of college produced a somewhat greater interest in non-pragmatic, reflective thought among Catholic college students. The overall difference was not great, nor were absolute levels of intellectualism high when measured at the end of the senior year. In a study of student teachers, Thompson² indicated that students with high scores in Complexity on the OPI value general support, freedom and independence, and help with details in the order stated. He had assumed that students of varying OPI Complexity levels would react in certain ways to learning assignments if the complexity scales were a valid predictor of student teacher behavior. Therefore, the CEP investigators expected senior nursing students with higher intellectual scale scores to value theoretical considerations more because they are then able to infer connections and relationships to practical laboratory experiences.

The investigators assumed that social and emotional characteristics, authoritarianism, and allegiance to religious values of professional nursing students would remain stable throughout their educational programs. Trent³ indicated that the more enclosed a student is in his religious system, the less likely he is to have an open and flexible attitude. He stated further that students entering Catholic colleges are the most religion-oriented of

¹Ibid., p. 139.

²Alvin H. Thompson, "The Secondary Teacher Experimental Program" (unpublished Ed.D. dissertation, University of California, Berkeley, 1965), pp. 86-87.

³James W. Trent, Catholics in College (Chicago: University of Chicago Press, 1967), p. 59.

all students¹ and that Catholic college students are found to be more authoritarian than autonomous after their college experience. Hassenger² indicated also that freshman Catholic college students are low in non-authoritarianism and inclined toward dogmatism and intolerance, and that there are no significant changes when tested as seniors.

Nursing students generally have limited opportunities to function as autonomous, independent, professional practitioners in their educational programs. However, the investigators expected that the students admitted to the U.S.F. and U.P. programs would be sure of themselves, capable of self-insight, and possess few attitudes characteristic of the emotionally disturbed or socially alienated. While nursing students might indulge in whimsical, unconventional behavior at times, they tend to be tradition-oriented and place high value on ritualistic practice and symbols. Some of the general maturation factors associated with the adolescent "plumage" role often conflict with the demands made by the profession concerning attire and behavior. Yet, nursing students have been found to be interested in being with and working with people. They seek social activities and gain satisfaction from them. The investigators expected that these characteristics would be typical of U.S.F. and U.P. students entering the profession and would remain unchanged. While admission criteria to the two schools of nursing do not include psychological evaluation, those who complete the programs are expected to be "stable" persons who have resolved their own internal conflicts to a large extent and who appear to have achieved sufficient integration to make their abilities

¹Ibid., p. 184.

²Hassenger, Catholic Higher Education, p. 133.

effective.¹

Another general assumption was that professional nursing students progressing through the U.S.F. and U.P. programs would become less altruistic and increasingly anxious, and would demonstrate greater concern for the practical day-to-day realities of life. In a study of the interaction approach to the development of self-concepts, Bostwick had found that the graduate interns in the teacher education program at the University of California, Berkeley, demonstrated a downward variation on the Anxiety Level scale of the OPI, thus indicating an increase in the amount of anxiety and problems of adjustment at the end of their fifth-year professional program. Bostwick described this as a "condition not wholly unexpected of individuals striking out on their own."² Similarly, in the Vassar study, Freedman³ had noted that seniors are tense, frustrated, and confused. They feel academic and social pressures and inadequate with their new identities. As seniors leave the protected college environment, they begin to speculate whether their education has prepared them for life. Freedman suggested, however, that professional students experience less conflict than liberal arts students concerning their education as preparation for life; he also suggested that many seniors rush into marriage, seeing it as a solution to these problems.

In contrast to Freedman, the CEP investigators anticipated that

¹Wm. J. McGlothlin, The Professional Schools (New York: Center for Applied Research in Education, 1964), p. 84.

²Janis L. Bostwick, "An Interaction Approach to Self Concepts of Candidates in Teacher Education Programs at the University of California, Berkeley" (unpublished Ed.D. dissertation, University of California, Berkeley, 1966), p. 47.

³Terwin B. Freedman, "The Passage through College, Personality Development during the College Years," Journal of Social Issues, XII (1956), 13-28.

senior nursing students at U.S.F. and U.P. would feel threatened by the prospects of state board nursing examinations and the expectations of initial employment, and also would lack confidence in their knowledge of scientific principles and subject matter. In addition to being insecure about their competence as professionals, it was expected that they would be critical of the faculty and their programs of preparation. As seniors they would become more self-oriented and would lose their idealistic concern for the welfare of humanity. They would tend to be disillusioned, cynical, and more concerned about their own images and roles as women, homemakers, and mothers. This expectation of the CEP investigators found support in the findings of the Hagen Report that the "American [college] student is an idealist oriented toward service for his fellow man, but much of this idealism withers during the college years."¹

The investigators believed that as seniors the U.S.F. and U.P. students would accept the concept of problem-solving and the philosophy of professional practice based on scientific principles, and would be concerned about their personal adjustment and adaptation to new situations. On the other hand, these seniors would tend to place a higher priority on technical competence than a scientific rationale for nursing practice, prefer straightforward rules and directions, and demand more opportunities in which to achieve technical competence in their preparation programs. However, in predicting teacher competence, Howden² had noted that the more competent

¹Report of the Committee on the Student in Higher Education, Joseph F. Kauffman, chairman (New Haven, Conn.: The Hagen Foundation, 1963), p. 47.

²J. Robert Howden, "Predicting Teacher Competence Using the OPI and the ETAS" (unpublished Ph.D. dissertation, University of California, Berkeley), p. 62.

teacher scores low on the Practical Outlook scale of the OPI, indicating that the competent teacher places a low priority on things in terms of their immediate practical value.

Another hunch was that beginning U.S.F. and U.P. students would be characterized as deferent, concerned for others, conscientious, and organized. They would be less likely to be aggressive and domineering or to depend on others, and more likely to accept themselves and things as they are. As they moved through their programs, they would become more free and independent, more flexible, and more goal oriented, but would not have changed in amount of deference or their need to be organized. Reese,¹ Stein,² and Bailey and Claus³ had demonstrated that beginning students in baccalaureate programs of nursing have high needs for deference, order, intraception, nurturance, and endurance, and low needs for exhibition, affiliation, succorance, abasement, and aggression, as measured by the EPPS. Izzard⁴ had suggested that college students might shift their relative standing within the group in certain needs much more so than in others, and that the observed changes which do occur must be considered in part as personality development in the direction of social and emotional maturity.

The investigators were convinced that U.S.F. and U.P. students already

¹M.M. Reese, "Personality Characteristics and Success in a Nursing Program," Nursing Research, X (Summer, 1961), 172-176.

²Rita F. Stein, "The Student Nurse, a Study of Needs, Roles, and Conflicts, Part I," Nursing Research, XVIII (July-August, 1969), 308-315.

³June T. Bailey and Karen E. Claus, "Comparative Analysis of the Personality Structure of Nursing Students," Nursing Research, XVIII (July-August, 1969).

⁴Carroll E. Izzard, "Personality Change during College Years," Journal of Consulting Psychology, XXVI (1962), 482.

possessed the characteristics typical of successful practitioners when they enter the program and that pronounced changes in personality structure would not occur between the beginning and the completion of the curriculum. Faculty would only cultivate the potentials which the students already possessed.

Research has shown that typical, successful nursing students are atypical of usual college women in certain need patterns. For example, Reese¹ suggested that students who withdraw from nursing programs tend to be like norm subjects in their need for achievement, deference, order, endurance, and aggression, as measured by the EPPS, and like those who successfully complete nursing programs in their needs for autonomy, succorance, abasement, change, and heterosexuality. The investigators observed that the nursing curriculums at U.S.F. and U.P. provided for and encouraged the participation of nursing students in total campus life throughout their university programs. Hence, it seemed reasonable to expect that they would tend to take on the attitudes and opinions generated by the college student body.

Other research has shown that needs for nurturance, order, and deference are typical characteristics of individuals electing and succeeding in nursing. However, the expectations of the U.S.F. and U.P. programs to develop nurses as leaders and change agents would be in conflict with these research findings. Therefore, the CEP investigators speculated that a change in needs for deference, nurturance, et al., would occur if the integrated curriculums were successful in meeting their purposes.

Role Perception

A crucial factor influencing degree and direction of student change

¹Reese, 'Personality Characteristics,' p. 174.

is role perception. Parsons has defined role as the "system of normative expectations for the performance of a participating individual in his capacity as a member of the collectivity."¹ He further states that role is the primary point of direct articulation between the personality of the individual and the structure of the social system.

Students admitted to a professional program in an undergraduate curriculum are faced with a complexity of role expectations. Gross et al.² had indicated that expectations are assigned to individuals on the basis of their locations or positions in the social system. Thus, it would appear that professional nursing students have a dual role: that of student and neophyte professional practitioner.

Biddle³ presents descriptive and prescriptive definitions of role theory. The descriptive orientation deals with the individual's assessment of reality: his picture of things as he presumes they are. The prescriptive orientation describes the "oughts" or rights and wrongs of reality rather than its assessment. A descriptive cognition applied to the behavior of a person or position is an expectation, whereas a prescriptive statement about the behavior of a person or positions is a norm. One would use expectations of the behavior of another as a basis for planning interactions with him. Norms may be unique to the person, as with expectations, or may reflect a system of social values or laws. An assumption undergirding the CEP was

¹Talcott Parsons, Sociological Theory and Modern Society (New York: The Free Press, 1967), pp. 10-11.

²Neal Gross, Ward S. Mason, and Alexander McEachern, Explorations in Role Analysis (New York: John Wiley and Sons, 1958), p. 18.

³Bruce J. Biddle, J. Paschal Twyman, and Earl F. Rankin, "The Role of the Teacher and Occupational Choice," School Review, LXX (1962), 191-206.

that career decisions to enter nursing are based partly on expectations, since the neophyte nurse has limited personal knowledge of the profession upon which to draw in making career decisions, and partly on norms which had significance for career decisions, particularly if nurses (or nurse faculty) are perceived as violating the norms held by the nurse student.

Role, however, is more than expectations and norms. Career decisions and progress through professional nursing programs may be the result of more complex role elements. Professional nursing students may attribute norms and expectations to parents, physicians, relatives, and patients. Students' perceptions of themselves as professionals and as students also are influenced by expectations which faculty, other professional nurses, physicians, patients, and liberal arts students hold for nurses. It was assumed that the integrated curriculums would have an impact on nursing students' progress and achievement, whether society held the expectation or norm, or whether the student thought society held the expectation or norm.

It was reasonable to predict that there would be a gap between the students' and faculty's concepts of nursing. A second gap might exist between the concept held by the faculty and that of the consumers of nursing services. The students' inability to cope with role distortions might be responsible for withdrawal from the program, negative change, or resistance to curricular objectives. The need to "fit" the college student to the program, or to the university, is the subject of comment in current research. The fact remains that if extensive and significant differences exist between students and faculty in role expectations and norms, there will be serious implications for the degree and direction of student change.

Levinson¹ discussed two levels of adaptation in personal role definition: role conception at the ideational level and patterns of role performance at the behavioral level. A nurse student may be expected to modify modes of adaptation in the face of confrontation with complex systems of role expectations. The response may be one of passive adjustment, apparent conformity with unapparent "sabotage" or hostility, a furthering of role demands, or attempts at constructive innovation. The degree to which the student "fits" role requirements may serve to maintain or influence change. It also may include a high or low degree of commitment and personal involvement. Since nursing students are placed in many different types of learning situations and face the varied expectations of numerous faculty as well as other members of society, it was reasonable for the CEP investigators to assume that the degree of uniformity of role concept would vary from situation to situation. Subsequently, the student's perception of the curriculum and the degree to which it did or did not meet expectations might vary from time to time. It also was possible that students might change their attitudes towards role because of personality development or changes in their private lives, and that the social environment of role as student or professional might have little or nothing to do with the change.

Education has been described as a socialization process, during which the essential prerequisites of commitment and capacity of an individual for future role performance are developed. Through the socialization process, congruence is established between the personal interests of the student and his responsibilities to the larger system, the profession. In the CEP, the

¹Daniel J. Levinson, "Role, Personality, and Social Structure in the Organizational Setting," Journal of Abnormal and Social Psychology, LVIII (March, 1959), 170-180.

research design was structured to obtain the students' perceptions of the curriculum as it actually is and their prescriptions for it as they would have liked it to have been. Thus, various elements influencing nursing education as a socializing process would be measured: curricular objectives, goals, and values; faculty-student roles and relationships; curriculum implementation and methods of instruction; and opportunities provided to achieve skills necessary for competent role performance.

Curriculum Theory

In addition to change in students and role perception, a third dimension of the theoretical framework of the CEP was curriculum theory. Curriculums are designed to serve multiple objectives, which include knowledge of subject matter, development of cognitive processes and attitudes, and the acquisition of skills. A key factor in the development of any curriculum is the organization of learning experiences and content. The learnings in any educational experience are determined by the steps necessary to create an increasingly integrated organization of concepts and ideas from simple to complex. The organization of learning experiences is psychological; the organization of the content is logical and psychological. Curriculum units are envisioned as large, organized wholes. The specific content is organized to stress contextual relationships and understandings. Emphasis is placed on problem-solving, so that the act of learning becomes a transaction between content and learner. Emphasis also is placed on understanding of student as learner. Curriculum objectives provide for emotional, social, and intellectual development of students. These elements of curriculum theory are inherent in the integrated curriculums developed at U.S.F. and U.P. and are typical of the components contained in the field theory of learning.

Field theory defines learning as "change in the cognitive structure, or in the way of perceiving events and giving meaning to them."¹ Taba describes the field theory in learning as that which "extends the concept of the 'wholeness' of the learning situation by demonstrating the role played by the culture and social environments in determining what man responds to and what meaning he gives to what he perceives."² The CEP investigators assumed that the various cultural and social environments in which students are placed for learning experiences shape and direct their perceptions and valuations about nursing. Forces operating in their learning situations include perceptual selectivity, personal goals and needs, personal cultural demands, and previous experiences. In the U.S.F. and U.P. nursing programs, the faculty assist students to identify their position on the learning continuum, state personal objectives for their educational experiences, and participate in the evaluation of progress towards learning goals. Part of this evaluation process involves identification of factors which influence the learning process, such as student-faculty relationships, student-patient relationships, or the thwarting of educational goals due to unforeseen circumstances.

The U.S.F. and U.P. faculties' ideas about learning were to emphasize process rather than product; i.e., facts are important to the degree to which they contribute to the formation of new concepts or facilitate the process of problem-solving. They believed that the process of arriving at these ideas and finding alternative ways of using them to create new knowledge was more

¹Kurt Lewin, Field Theory in Social Science (New York: Harper and Brothers, 1951), p. 74.

²Hilda Taba, Curriculum Development, Theory, and Practice (New York: Harcourt, Brace, and World, 1962), pp. 81-84.

important than the accumulation of specific facts which aid the process. For this reason, the faculties stressed integrated learning and relationships rather than the acquisition of specific content.

Taba indicates that field theory views learning as a social process: one learns by interacting with others.¹ Therefore, throughout the U.S.F. and U.P. programs, the provision for group work assumed high priority in both theory courses and laboratory experiences. Interaction was guided, promoted, and analyzed.

Individual differences are crucial in field theory. In the U.S.F. and U.P. programs, provisions were made for individual differences among students. They were encouraged to state their own learning goals and to plan many of their own learning experiences. Some learnings were acquired through independent study, and adjustments were made in schedules, methods of learning, and forms of evaluation to meet the unique needs of students. To a degree, students were permitted to progress at their own rate of learning, but within the stated objectives of the particular course.

Motivation is central in field theory. Students in the U.S.F. and U.P. programs are highly motivated. Interest and motivation were enhanced by assisting students to identify their basic needs and goals, since role perception conflicts may mitigate motivation. Opportunities to experience success through practice, if not repetition, were planned. Field theory indicates that intrinsic motivation is likely to be a more stable stimulator of learning than extrinsic rewards.²

Theories of learning focus on what the learner does, but the changes

¹Ibid., p. 82.

²Ibid., p. 82.

occurring in the learner depend on what faculty do as teachers. In fact, Gage¹ states that "changes in how learners go about their business of learning occur in response to the behavior of teachers or others in the educational establishment." Much has been written about methods of teaching. The nature of teaching, like nursing, as an art and as a science, also has been debated. However intangible the nature of teaching might be, it seemed reasonable to make the obvious assumption that teaching involves student-teacher relationships and that the teaching-learning process is influenced by the various roles played by the participants. In the U.S.F. and U.P. programs, student-faculty relationships were formalized in the stated objectives of the two curriculums and, therefore, constituted a basis for objective and subjective evaluation in the design of the research project. Provision was made for formal and informal evaluation of learning opportunities and experiences, which constituted the "life space" of students, and the factors related to program planning and scheduling, teaching methods, procedures, and evaluation, which constituted the forces or variables affecting the "life space."

Summary

In this chapter, the theoretical rationale of the CEP's research design has been discussed in terms of: 1) change in students, 2) role perception, and 3) curriculum theory. The various assumptions made by the investigators in formulating the design have been introduced and their origins documented. The research design and the major investigative tool, the Curriculum Evaluation Q-Sort (CEQ), based on this theoretical framework

¹N.L. Gage, "Theories of Teaching," Theories of Learning and Instruction, pt. 1, ch. 11 of 63rd Yearbook of the National Society for the Study of Education, ed. by Ernest R. Hilgard (Chicago: University of Chicago Press, 1964), pp. 271-272.

are described in Chapter 3.

CHAPTER 3

THE RESEARCH DESIGN

As described in Chapter 1, the U.S.F. nursing curriculum is a four-year baccalaureate program offered at a private Catholic urban university. Prospective nursing students are admitted as freshmen to the School of Nursing on the same basis as other freshmen at the University, including CEEB SAT scores, high school grade point averages, and predicted university grade point averages. During their freshman year, all course work is taken in the College of Arts and Sciences. Professional preparation begins with two courses in the sophomore year and increases in depth and complexity throughout the junior and senior years. The reference group for the investigation, the School of Nursing at the University of Portland, also offers a four-year baccalaureate nursing program at a private Catholic urban university. U.P. has comparable admission and retention standards and provides a nursing curriculum similar to U.S.F.'s in objectives and methods of implementation (Appendix C).

Purpose

The purpose of the CEP was to describe and analyze the perceptions of nursing students concerning the professional curriculum as they saw it and as they would have liked it to be. These perceptions were measured against both intellectual and non-intellectual characteristics of the students. The success of students in the new curriculum at U.S.F. was compared with that of those who had completed the similar program at U.P. and with that of students

who had completed the former curriculum at U.S.F.

The major questions for investigation were:

- 1) Is the new curriculum at the U.S.F. School of Nursing achieving the objectives set for it?
- 2) Do the students change as a result of their exposure to the new curriculum?
- 3) How do the U.S.F. new curriculum graduates compare with the old curriculum graduates?
- 4) How do the U.S.F. new curriculum graduates compare with new curriculum graduates at U.P.?
- 5) What are faculty and student reactions to the new program at each institution?

Hypotheses

On the basis of the five questions, eight hypotheses and the rationale for each of them were formulated as follows:

- 1) U.S.F. graduates of the old curriculum (1965-1969) will not differ significantly from graduates of the new curriculum (1969-1972) on State Board Test Pool and National League for Nursing examinations.

This hypothesis was based on the assumption that the stated objectives and purposes of the U.S.F. nursing curriculum are essentially unchanged since 1960, and that students of the same caliber and background continue to be admitted to the program as in 1961. It further was assumed that any differences in the two groups attributable to the planned changes in the curriculum would not be measured by State Board Test Pool or National League for Nursing examinations.

- 2) U.S.F. graduates of the new curriculum (1969 and 1970) will not differ significantly from U.P. graduates of their new curriculum (1971 and 1972) on State Board Test Pool and National League for Nursing examinations.

This hypothesis was based on the assumption that since both schools

were located in urban, religious, private universities, since the stated philosophy and objectives of each curriculum were comparable, and since the approaches to nursing instruction were similar, the examination scores of the two groups would be alike. The assumption of comparability of scores of the two groups was based also on the fact that each school was fully accredited, carried the same number of units in the professional component of the curriculum, and exercised similar admission and retention policies.

- 3) There will be no significant pre-curriculum test differences between beginning students in nursing at U.S.F. (1971 and 1972) and U.P. (1971 and 1972) in the measurement of the following five variables:
 - a. Demographic background
 - b. Academic ability
 - c. Personality characteristics
 - d. Leadership qualities
 - e. Personal attitudes

The third hypothesis was based on the assumption that the same type of student was admitted to the programs at U.P. and at U.S.F. and that the factor of having chosen the same professional goals, ipso facto, would make them alike in these measurable variables.

- 4) There will be no significant post-curriculum test differences among graduates in nursing at U.S.F. (1969 and 1970) and U.P. (1971 and 1972) in:
 - a. Personality characteristics
 - b. Leadership qualities
 - c. Personal attitudes

The fourth hypothesis was based on the assumption that similar students experiencing comparable learning experiences directed towards the same goals would manifest similar change (or lack of change) as a result of the nursing curriculum.

- 5.1) The U.S.F. Class of 1972 will not show significant pre-curricular test differences from the Class of 1973 on personality, leadership ability, and personal preference, nor will they show significant post-curricular test differences from the Class of 1969 on the same

three variables.

This hypothesis was based on the assumption that the U.S.F. Class of 1972 would be similar to other classes admitted to the School of Nursing, thus providing a basis to generalize the findings.

- 5.2) At the end of a professional curriculum in nursing education, students at U.S.F. and U.P. will have changed in their personality characteristics, leadership ability, and personal preference.

This hypothesis was based on the assumption that the specific goal-oriented learning experiences of the nursing program would produce a measurable change in the personality characteristics, leadership qualities, and attitudes of students which had been measured before and after exposure to the professional component of the curriculum.

Up to this point, the hypotheses were based on comparisons of the beginning students at the two institutions, their graduates, and the graduates of both the former and integrated curriculums at U.S.F. The next three hypotheses focus on expectations concerned with significant findings unique to student perceptions at the various curricular levels at U.S.F.

- 6) U.S.F. sophomore, junior, and senior students in nursing will perceive their professional nursing curricular experiences in significantly different patterns.

This hypothesis was based on the assumption that expectations and perceptions of students would change as they progressed from sophomore to senior status in the nursing program.

- 7) There will be no significant difference in the students' perception of the nursing curriculum as it is and as they would like it to be.

This hypothesis was based on the assumption that there would be congruence (fit) between goals of professionally oriented students and those of the program they chose to enter, that nursing students readily would take on

the goals and professional characteristics of the faculty, would tend to like what they experienced, and would share common values.

- 3) Homogeneous subgroups of nursing students within the U.S.F. Classes of 1969-1972 will not similarly evaluate their curricular experiences.

The final hypothesis was based on the assumption that perceptions and expectations of students in the nursing program at U.S.F. would vary according to personality characteristics, scholarship, leadership abilities, and personal attitudes.

The Design

To answer our five major questions and test the eight hypotheses, both quantitative and qualitative data were collected, as described below.

Quantitative Data

- 1) U.S.F. graduating classes of 1965, 1966, 1967, and 1968 (the old curriculum) were compared with the graduating classes of 1969, 1970, 1971, and 1972 (the new curriculum), using State Board Test Pool and National League for Nursing examination scores.

- 2) U.S.F. graduating classes of 1969 and 1970 were compared with U.P. graduates of 1971 and 1972 by a test battery composed of the Omnibus Personality Inventory (OPI), the Edwards Personal Preference Schedule (EPPS), the Leadership Ability Evaluation (LAE), as well as State Board Test Pool and National League for Nursing examination scores. These instruments are described later in this chapter.

- 3) In the Spring of 1969, the first graduates of the new U.S.F. curriculum were given the test battery for later comparison with the post-curriculum test battery of the Class of 1972. The Class of 1973 was given

the pre-curriculum test battery for later comparison with the Class of 1972, which had also taken the test battery prior to beginning the professional component of the curriculum.

4) Demographic data were collected and tabulated for students in both schools, providing, as complete information on each student as was practical in order to describe thoroughly the two sample populations. A seventy-two item questionnaire was devised for this purpose (Appendix D).

5) A seventy-two item Curriculum Evaluation Q-Sort (CEQ) was developed to evaluate the new curriculum from the students' perceptions and was given each Spring to U.S.F. students during the four years of data collection (Appendix E). Each student performed the CEQ twice at each sitting: the first, as she perceived the curriculum "as it really was" (Descriptive CEQ), and the second, "as she would like it to be" (Prescriptive CEQ). It was expected that comparison of the two Q-sorts would provide a measure of student satisfaction with the U.S.F. curriculum.

Qualitative Data

Focused interviews with senior students, four years at U.S.F. and two years at U.P., were conducted in the Spring of each year. The interviews were taped for transcription and analysis in terms of a predetermined set of ideas (Appendix F).

Instruments

An overview of the instruments used in the collection of data follows.

Demographic Questionnaire

A seventy-two item questionnaire was developed to describe and compare

demographic data on U.S.F. and U.P. students completing the nursing programs. The U.S.F. faculty participated in the development of the questionnaire, suggesting variables thought to be significant factors affecting student progress in the curriculum. Particular items were written to elicit information concerning students' leadership activities before entering college as well as during the nursing program. Certain of these variables were selected to use as cross-checks in determining the characteristics of students who might evaluate the curriculum in different ways. These biodata items included:

- Age
- Religion
- Ethnic group
- Marital status
- Social class of father
- Religious order
- Citizenship
- CEEBSAT scores
- Final grade point average

The CEQ

A seventy-two item Q-sort was developed by the project staff.¹ The CEQ items are impersonal, objective, factual statements about the nursing program: its educational objectives, its rationale, and some of the prominent features of the teaching-learning process it attempts to implement and facilitate. The items are, for the most part, simple, declarative statements whose subjects are reiterated and whose predicates are varied, but always in the generalizing present tense and indicative, active mode. The term "student" is included in almost every statement as the direct or indirect object of the predicate or of a closely linked preposition. The items constitute a

¹James C. Stone and Joan L. Green, "The Double Q-Sort as a Research Tool," The Journal of Experimental Education, XI. (Fall, 1971), 81-88.

stratified, representative sample of the almost infinite number of perceptions that students might have regarding the program (or of the plausible statements they or the faculty might make about the program). The strata of the sample are four categories of program features over which the nursing faculty has at least some control and which it can modify in response to students' perceptions and comments if it so desires. The four categories are:

- I. Curriculum: Learning Objectives, Opportunities, and Experiences
- II. Program: Planning, Scheduling, and Evaluation
- III. Instruction: Teaching Styles, Methods, and Procedures
- IV. Interpersonal Relations: Teacher-Student Roles and Relationships

All the items are more or less accurately descriptive or generally characteristic statements of program features. They were selected and written to be sorted into seven piles representing as many points on the rank-order continuum from "least accurately descriptive or generally characteristic" to "most accurately descriptive or generally characteristic," with a mid-point and corresponding pile for statements which are "more or less accurately descriptive or generally characteristic but too difficult to judge." All items are therefore written as positive statements, at least in the sense that none are "reversed" to fit a scale with a natural origin.

The items are selected and written to be sorted two times by each student on each occasion: first, to represent the student's testimony that "these are the facts about the program as I actually perceive them" (Descriptive CEQ), and second, to represent her critical judgment that "these are what I think the features of the program should be" (Prescriptive CEQ).

Test Battery

The Leadership Ability Evaluation (LAE)¹ was selected to assess the decision-making pattern or social climate created by the student when functioning as a leader in influencing other persons or groups. It was administered to U.S.F. and U.P. students prior to exposure to the professional component of their curriculum and again at its culmination.

The concept of leadership used in the test implies "that a person in a leadership capacity is concerned with influencing another person or group to move psychologically toward the leader's objectives."² Four decision patterns are described. A single total score is reported, providing an indicator to acceptable or unacceptable leadership patterns as well as the individual mode scores. The four decision patterns are:

- 1) Laissez Faire
- 2) Democratic-Cooperative
- 3) Autocratic-Submissive
- 4) Autocratic-Aggressive

Descriptions of the decision patterns are included in Appendix G.

The second instrument selected for the pre and post-curriculum test battery was the Edwards Personal Preference Schedule (EPPS).³ It provides a measure of fifteen independent normal personality variables. The names of the variables are:

- 1) Achievement
- 2) Deference
- 3) Order
- 4) Exhibition

¹Russell N. Cassel and Edward J. Stancik, The Leadership Ability Evaluation (Beverly Hills: Western Psychological Services, 1961).

²Ibid., p. 1.

³Allen L. Edward, Edwards Personal Preference Schedule (New York: The Psychological Corporation, 1954).

- 5) Autonomy
- 6) Affiliation
- 7) Intraception
- 8) Succorance
- 9) Dominance
- 10) Abasement
- 11) Nurturance
- 12) Change
- 13) Endurance
- 14) Hetersexuality
- 15) Aggression

These variables are described in Appendix II.

A major reason for including the EPPS in the test battery was because it has been used in a number of studies involving nurses to determine attitudinal changes associated with exposure to nursing experiences, characteristics differentiating nurses from other professional groups, and to predict success of nurses completing programs of preparation.

The Omnibus Personality Inventory (OPI)¹ was selected as the third instrument in the test battery. It was developed to assess certain attitudes, interests, and values relevant to normal intellect and ego activity. The fourteen scales represented in the inventory are:

- 1) Thinking Introversion
- 2) Theoretical Orientation
- 3) Estheticism
- 4) Complexity
- 5) Autonomy
- 6) Religious Orientation
- 7) Social Extroversion
- 8) Impulse Expression
- 9) Personal Integration
- 10) Anxiety Level
- 11) Altruism
- 12) Practical Outlook
- 13) Masculinity-Femininity
- 14) Response Bias

A single score, "Intellectual Disposition Category," also is reported.

¹Paul Heist and George Yonge, Omnibus Personality Inventory, Form F (New York: The Psychological Corporation, 1968).

Definitions of the scales are included in Appendix I. The OPI has been used in other studies related to the impact of baccalaureate degree programs and purports to measure change in college students resulting from academic endeavor and the achievement of educational objectives.

Interviews

A random sample of students (U.S.F. Classes of 1969-1972 and U.P. Classes of 1971-1972) was interviewed in the late Spring of each senior year. Group interviews were conducted with five to six students in a group. A sufficient number of group interviews was held each year to yield a sampling of 20 to 25 percent of each class. The taped interviews were conducted by an educator not connected with either U.S.F. or U.P. Their purpose was to assess in depth the students' reaction to the professional component of the program: its major strengths, its weaknesses, and their suggestions for change or improvement. The sessions were focused through the use of Q-cards.¹ In the Q-card technique, a stack of cards containing a "trigger" phrase is placed before each member of the group. This procedure was designed to result in productive responses and the free flow of opinions in a systematically, but less visibly, structured manner.

Analysis of Data

The basic unit for analysis of the quantitative data was one-way multivariate analysis of variance. This method facilitates a simultaneous test for equal means for a number of groups on some set of variables. Technically, the groups are referred to as the "levels of a factor," and the

¹Joan L. Green and James C. Stone, "Developing and Testing Q-Cards and Content Analysis in Group Interviews," Nursing Research, XXI (July-August, 1972), 342-347.

set of variable means for a particular group as the "vector of means." Hence, the most common hypothesis under test is that the mean vectors of all levels of a factor are equal. This method is superior to the more widely used univariate analysis of variance since it takes into account the correlation between variables. Nevertheless, univariate tests were made when particular characteristics of a test profile were of particular importance and univariate levels of significance were reported.

Another multivariate statistical technique was utilized for the analysis of CEQ data which, unlike standardized tests, does not automatically yield normed scores. A form of factor analysis, the BC-TRY Cluster Analysis, was used to discover a set of dimensions of students' attitudes as measured by the CEQ, and sets of standardized CEQ scores were computed for all program participants.¹ These scores, in turn, functioned as input for analysis of variance, thus enabling effective comparisons of groups.

The taped interviews were analyzed independently using a modified form of content analysis techniques.²

The Sample

Using the seventy-two item biodata questionnaire, comparable information was secured from each senior in the U.S.F. Classes of 1965, 1966, 1967, and 1968 (the old curriculum) and 1969, 1970, 1971, and 1972 (the new curriculum). The same data were secured from U.P. seniors in the Classes of 1971 and 1972. At the time the investigation began (1968), there were

¹Robert C. Tryon and Daniel E. Bailey, Cluster Analysis (New York: McGraw-Hill Co., 1970).

²Richard W. Budd, Robert K. Thorp, and Lewis Donohew, Content Analysis of Communications (New York: Macmillan Co., 1967).

90 freshmen, 100 sophomores, 80 juniors, and 70 seniors enrolled in the new curriculum at U.S.F. In total (U.S.F. and U.P.), there were approximately 800 students in the study population. An analysis of the data supports the generalization of the remarkable homogeneity in the background of the students who are the subjects of this investigation. A descriptive profile of the typical U.S.F. student follows:

She is a Caucasian between 21 and 22 years of age, single, a U.S. citizen, of Roman Catholic faith but not a member of a religious order, who considers herself in excellent health and not suffering from any chronic illness, physical disability, or handicap. If she speaks a foreign language, it is most likely Spanish. The odds are that she has traveled to Europe, Canada, and Mexico. Both her parents are alive and living together. She is the oldest of several brothers and sisters. Her mother is more likely to be Catholic than her father, but it is probable that he, too, is Catholic. Both father and mother are high school rather than college graduates. (College graduation varies from 15% to 32% for fathers and 2% to 27% for mothers.)

In terms of Hollingshead's Index of Social Position,¹ her father either is a skilled worker, owns his own business, is a business administrator of a large concern, or is a semiprofessional, and the family's social class status, based on the father's occupation, ecology of the family residence, and amount of formal education, is middle class, with the mother a full-time homemaker. One out of ten times her father is a member of a health related profession. The odds are double that her mother is (or was) a nurse. Both parents support their daughter's decision to become a nurse and to attend an expensive, private university for this purpose.

Our typical university nurse senior is likely a graduate of a Catholic high school of 500 to 1000 students in an urban community. When in high school, she was engaged in three to four extracurricular activities such as special interest clubs, musical organizations, school publications, or dramatic productions. The odds are she was elected to one or two leadership positions like class officer or special interest group club officer, received two or more academic or citizenship awards, and probably took part in one special instructional program such as advanced placement courses, independent study, or field service projects. In addition, she also was involved in one or more voluntary community service activities such as Candystripping or an officer in the CYA.

¹August B. Hollingshead and Frederick C. Redlich, Social Class and Mental Illness: A Community Study (New York: John Wiley & Sons, 1958), p. 387.

She chose the University of San Francisco either for its geographic location or the reputation of its nursing program, and came as a freshman rather than a transfer student. She likely received some financial aid during her four years as an undergraduate either from university or state scholarship funds. (One-fourth received such for four years.) She may have had a part-time job (as one-half did) and worked approximately from six to sixteen hours per week while carrying an average of sixteen semester hours of credit. She lived either at home or on campus; if on campus, she had a nursing student as her roommate. During her university career, she participated continuously in one or two extracurricular activities but likely did not hold any leadership position. She was awarded one special academic honor and was involved at sometime in one community service activity either as a tutor or counselor.

Upon graduation she expected to go immediately into nursing practice, either in medical-surgical or maternal and child health nursing service in a general hospital. At graduation she expressed future goals related to pursuing an advanced degree program in nursing rather than teaching or supervising in general nursing services.

By comparison, the typical U.P. student is the same as the U.S.F. student, except if she did speak a foreign language, it was more likely to be French or Portuguese rather than Spanish. She was more likely to have attended a public rural coeducational high school of 500 to 2000 students than a Catholic urban girls' secondary school. She probably did not participate in a special instructional program such as advanced placement, independent study, or field service projects while in high school. She was less likely to have had a part-time job while attending the university, but those who did worked 16 to 20 hours per week rather than 6 to 16. And she was more likely to have lived on campus with a fellow nursing student than to have lived at home with her parents.

Summary

This chapter has described the research design (including the rationale, hypotheses, and assumptions on which it was based), the instruments administered, method of data analysis, and the study populations.

Part II, Quantitative Findings, follows.

PART II

QUANTITATIVE FINDINGS

CHAPTER 1

HYPOTHESES 1 AND 2

Hypothesis 1

U.S.F. graduates of the old curriculum (1965-1969) will not differ significantly from graduates of the new curriculum (1969-1972) on State Board Test Pool and National League for Nursing examinations.

Since there had been no changes in the stated objectives of the U.S.F. nursing curriculum, and since students of the same caliber and background were admitted to the program at the beginning of the CEP, it had been assumed that there would be no difference in the achievement of the two groups, as measured by State Board Test Pool or National League for Nursing examinations.

For purposes of analysis, the hypothesis was subdivided into two research hypotheses.

Hypothesis 1-A

It had been expected that U.S.F. graduates of the old curriculum (1965-1968) would not differ from U.S.F. graduates of the integrated curriculum (1969-1972) on State Board Test Pool examinations. The presumption was to accept rather than reject the statistical statement of the hypothesis. Using one-way multivariate analysis of variance, the two groups were compared on the basis of the average standard scores of each student on the five separate examinations. The results are presented in Table 1.

Students enrolled in the old curriculum achieved higher mean scores

on all five of the examinations: Medical Nursing, Surgical Nursing, Obstetrics Nursing, Nursing of Children, and Psychiatric Nursing. The differences in mean scores are statistically significant at or beyond the .01 level of probability on four of the five examinations: Medical Nursing, Surgical Nursing, Obstetrics Nursing, and Nursing of Children; and at the .03 level on the fifth examination: Psychiatric Nursing. The difference between the two mean score vectors of the five tests is statistically significant at the .002 level of probability. In sum, the students enrolled in the old curriculum achieved significantly higher mean scores on all of the five State Board Test Pool examinations. Thus, Hypothesis 1-A is rejected.

Table 1. Comparison of Scores on State Board Test Pool Examinations: U.S.F. Seniors (1965-1968) and U.S.F. Seniors (1969-1972)

<u>Examinations</u>	1965-1968 (N = 178)		1969-1972 (N = 284)		<u>Univariate F</u>	<u>P Less Than</u>
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>		
Med. Nsg.	570.48	80.92	537.54	89.65	15.91	.0001*
Surg. Nsg.	550.89	73.84	524.42	90.31	10.78	.0012*
Obs. Nsg.	574.69	78.64	546.60	95.04	10.87	.0011*
Nsg. of Child.	562.03	79.33	530.75	37.46	15.02	.0002*
Psych. Nsg.	585.26	79.67	567.89	82.08	5.01	.0257

*Specifies significance at the .01 level.

Multivariate F-Ratio for Equality of Mean Vectors

$F_{5,456} = 3.8299$

P less than .0021

Hypothesis 1-B

It had been hypothesized that U.S.F. graduates of the old curriculum (1965-1968) would not differ from U.S.F. graduates of the new curriculum (1969-1972) on NLN examinations. The investigators expected to accept, rather than reject, the statistical statement of the hypothesis. The classes were compared on the basis of percentile scores reported for students in baccalaureate degree programs where there had been consistent use of the same

examinations. The examinations defined as variables were: 1) Normal Nutrition, given at the end of the sophomore year; 2) Maternal-Child Nursing and Nursing of Children, given during the junior year; and 3) Psychiatric Nursing and Public Health Nursing, given in the senior year. The analysis consisted of looking at the vector of mean scores for the two groups and making comparisons, using a one-way multivariate analysis of variance.

A summary of the descriptive data for each variable under analysis for the old and new curriculum groups is presented in Table 2.¹

Table 2. Comparison of Scores on NLN Examinations:
U.S.F. Seniors, 1966-1968 with 1969-1972

<u>Examinations</u>	<u>Mean</u>		<u>S.D.</u>	
	Old (N = 127)	New (N = 238)	Old (N = 127)	New (N = 238)
Normal Nutrition	45.7	23.6	24.9	19.0
Maternal-Child Nursing	51.3	50.7	25.1	27.5
Nursing of Children	46.1	49.6	26.4	27.9
Psychiatric Nursing	70.4	58.3	24.5	27.0
Public Health Nursing	55.5	41.7	24.7	24.8

The multivariate F statistic for testing equality of mean vectors was 34.7 and was found to be significant at the .01 level. Thus, some of the group means are significantly different.

Looking at the univariate F statistic for each of the five variables (Table 3), it is obvious that the significance is a direct result of mean differences in the two groups between the Normal Nutrition, Psychiatric Nursing, and Public Health Nursing variables.

The mean percentile scores for the old curriculum group are significantly higher than the mean percentile scores for the new group when the Normal Nutrition, Psychiatric Nursing, and Public Health Nursing variables

¹The "old" group consists of the Classes of 1966, 1967, and 1968 since the NLN Normal Nutrition examination was not administered to the Class of 1965.

are compared. Maternal-Child Nursing and Nursing of Children mean percentile scores are not significantly different for the two groups. On the basis of these results, the hypothesis of no difference between the two groups is rejected.

Table 3. Univariate Results for Hypothesis 1-B

<u>Variables</u>	<u>Hypothesis Mean Sq.</u>	<u>Univariate F</u>	<u>P Less Than</u>
Normal Nutrition	40501.2	89.9	.0001*
Maternal-Child Nursing	34.0	0.1	.8271
Nursing of Children	1026.7	1.4	.2430
Psychiatric Nursing	12227.9	17.9	.0001*
Public Health Nursing	15917.6	26.0	.0001*

*Specifies significance at the .01 level.

Hypothesis 2

U.S.F. graduates of the new curriculum (1969 and 1970) will not differ significantly from U.P. graduates of their new curriculum (1971 and 1972) on State Board Test Pool and National League for Nursing examinations.

Since both schools of nursing are located in urban, religious, private universities, and since the stated objectives and teaching methods of each curriculum are similar, it was expected that the examination scores of the graduates of both schools would be comparable.

Hypothesis 2-A

Comparisons of mean scores on State Board Test Pool examinations were made between the first two classes of graduates to complete the new program at U.S.F. (1969 and 1970) and the first two classes of graduates to complete the integrated program at U.P. (1971 and 1972). The expectation was that there would be no difference in the mean scores of the two groups on the five examinations. Vectors of means for the two groups were compared using a one-way multivariate analysis of variance (Table 4).

Table 4. Comparison of Scores on State Board Test Pool Examinations:
U.S.F. Seniors (1969 and 1970) and U.P. Seniors (1971 and 1972)

<u>Examinations</u>	<u>U.S.F.</u> (N = 129)		<u>U.P.</u> (N = 29)		<u>Univariate F</u>	<u>P Less Than</u>
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>		
Med. Nsg.	537.82	89.52	471.79	76.79	13.52	.0004*
Surg. Nsg.	519.22	91.50	458.45	32.41	10.83	.0013*
Obs. Nsg.	564.55	96.65	471.34	83.71	23.05	.0001*
Nsg. of Child.	529.94	94.14	471.00	90.67	9.40	.0026*
Psych. Nsg.	575.44	80.61	507.45	70.03	17.62	.0001*

*Specifies significance at the .01 level.

Multivariate F-Ratio for Equality of Mean Vectors

$F_{5,152} = 5.4524$

P less than .0002

The U.S.F. students achieved higher mean scores on all five of the examinations. The difference in mean scores is statistically significant at or beyond the .01 level of probability on all five of the examinations. The difference between the two mean score vectors of five tests is statistically significant at the .0002 level of probability. In sum, the students completing the program at U.S.F. achieved significantly higher mean scores on all five State Board Test Pool examinations. Thus, Hypothesis 2-A is rejected.

Hypothesis 2-B

Comparisons on NLN examinations were made between the graduates of the first two classes to complete the new program at U.S.F. (1969 and 1970) and the first two classes of graduates of the integrated curriculum at U.P. (1971 and 1972). It was expected that there would be no difference between the mean scores of the two groups. Vectors of means computed on the examinations for the U.S.F. and U.P. students were compared using a one-way multivariate analysis of variance (Table 5).

The multivariate F statistic computed to test for equality of mean vectors was 33.6. This was significant at the .01 level. Thus, the means

are not equal over the two groups. When looking at the F's computed for each variable using univariate analysis of variance procedures, the F-ratios were significantly different with the exception of the Medical/Surgical examination. These findings contradict the hypothesis. U.P. students scored significantly higher than U.S.F. students on the Normal Nutrition examination. U.S.F. students were superior on the Maternal-Child Nursing, Nursing of Children, and Psychiatric Nursing examinations.

Table 5. Comparison of Scores on NLN Examinations:
U.S.F. Seniors (1969 and 1970) and U.P. Seniors (1971 and 1972)

<u>Examinations</u>	<u>U.S.F.</u> (N = 89)		<u>U.P.</u> (N = 29)		<u>Univariate</u> F	<u>P Less</u> <u>Than</u>
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>		
Normal Nutrition	20.3	15.3	52.2	27.5	59.6	.0001*
Maternal-Child Nursing	57.5	25.8	29.2	23.8	27.2	.0001*
Nursing of Children	48.9	26.6	26.3	25.6	16.1	.0002*
Medical/Surgical Nursing (Knowledge)	53.2	34.4	54.1	27.1	0.0	.9007
Medical/Surgical Nursing (Application)	49.4	34.8	60.4	27.4	2.4	.1207
Psychiatric Nursing	61.3	26.9	33.6	24.3	24.2	.0001*

*Specifies significance at the .01 level.

Multivariate F-Ratio for Equality of Mean Vectors
33.6 P less than .0001

Summary of Hypotheses 1 and 2 Findings

The investigators had assumed that U.S.F. graduates of the old curriculum (1965-1969) would be like the graduates of the new curriculum (1969-1972) in the scores they made on State Board Test Pool and National League for Nursing examinations. In a word, the statistical tests of difference on the measured variables indicated students who were taught by the old curriculum achieved significantly higher mean scores on all five of the State Board Test Pool examinations as well as on three of the five NLN examinations. Thus, the assumption of no difference is rejected; the old curriculum did a better

job of preparing students specifically for the examinations, partly because, no doubt, the tests were designed in terms of the expectations of traditional curriculums rather than those of new, innovative, or integrated programs.

It had been assumed that graduates of the U.S.F. and U.P. programs would perform comparably on State Board Test Pool and National League for Nursing examinations because they had experienced similar educational programs in similar environmental settings. The findings of the multivariate analysis of variance for the five State Board Test Pool examinations for the U.S.F. Classes of 1969 and 1970 and for the 1971 and 1972 classes at U.P. reveal that the U.S.F. students achieved significantly higher mean scores on all five of the examinations. Significant differences also were found between the same two groups on the NLN examinations. In this comparison, one-way multivariate analysis of variance revealed that U.P. students scored significantly higher in the Normal Nutrition examination, while U.S.F. students scored significantly higher than U.P. students on the Maternal-Child, Nursing of Children, and Psychiatric Nursing examinations. The difference between the two groups on the Medical/Surgical Nursing examination was not statistically different. Thus, it would appear that there are factors, either in differences in students themselves, in faculty, or in the preparing programs, contributing to these differences in achievement. Since the investigators were careful to control for the newness of the programs by testing only the first two years' graduates of each new curriculum, it seems reasonable to assume that the early trials and efforts of faculty working with integrated curriculums was not a factor contributing to the differences.

CHAPTER 2

HYPOTHESES 3 AND 4

Hypothesis 3

There will be no significant pre-curriculum test differences between beginning students in nursing at U.S.F. (1971 and 1972) and U.P. (1971 and 1972) in the measurement of the following five variables:

- a. Demographic background
- b. Academic ability
- c. Personality characteristics
- d. Leadership qualities
- e. Personal preferences

Since it was assumed that similar students were admitted to the nursing program at both U.S.F. and U.P. and that they possessed comparable professional motivations, it was expected that the two groups of students would be alike in these measurable respects. This hypothesis was reformulated into six research hypotheses for statistical treatment. Each of these will be presented in turn.

Hypothesis 3-A.1

The research hypothesis stated that seniors at U.S.F. (1971 and 1972) would be the same age as those at U.P. The statistical statement of the hypothesis tested the mean age difference between seniors at U.S.F. and U.P. for the combined years 1971 and 1972. The expectation was that the results would not be significant, thus indicating that the students from the two universities are comparable. A one-way analysis of variance was used to make the comparison. The results are recorded in Table 6.

Table 6. Comparison of Mean Ages of Seniors:
U.S.F. and U.P. (1971 and 1972)

U.S.F. (N = 175)		U.P. (N = 30)		F	P Less Than
<u>Mean Age</u>	<u>S.D.</u>	<u>Mean Age</u>	<u>S.D.</u>		
22.9	4.1	22.2	2.9	.87	.3529

The results are not significant. The average age of seniors is approximately 22.8 years. The age spread is greater for U.S.F. than U.P. seniors. This may be explained by the number of R.N. students at U.S.F. included in the Classes of 1971 and 1972. Mean age, however, shows no difference.

Hypothesis 3-A.2

The research hypothesis stated that seniors at U.S.F. (1971 and 1972) have the same demographic background as those at U.P. Again, the investigators expected to accept the statistical statement of the hypothesis.

The seniors were compared according to Citizenship, Ethnic Group, Religion, Religious Order, Marital Status, Community Size, and Social Class of Father. Each variable was analyzed separately by means of a chi-square test for two independent samples. The observed distribution breaks for each of the variables are presented in Table 7.

The only significant result is in the variable Community Size. The distribution break indicates that U.S.F. students tend to come from large urban centers while U.P. students were drawn more from rural areas. With this one exception, seniors at U.S.F. and U.P. were similar in demographic background.

Table 7. Chi-Square Comparisons of Demographic Data:
U.S.F. and U.P. Seniors (1971 and 1972)

<u>Citizenship</u>			<u>Ethnic Group</u>			<u>Religion</u>		
	USF	UP		USF	UP		USF	UP
USA	170	29	Cauc	164	26	RC	154	24
Other	5	1	Other	11	4	P	12	3
						Other	9	3

$$X_1^2 = 0$$

$$X_1^2 = 2.47$$

$$X_2^2 = 1.36$$

<u>Religious Order</u>			<u>Marital Status</u>			<u>Community Size</u>		
	USF	UP		USF	UP		USF	UP
Yes	17	0	Single	147	23	Metro	61	4
No	158	30	Married	27	6	Subur	32	3
			Other	1	1	Lg Urb	22	3
						Sm Urb	46	10
						Rural	14	10

$$X_1^2 = 2.44$$

$$X_2^2 = 0.93$$

$$X_4^2 = 24.72 \text{ which is significant at the 0.01 level}$$

Social Class of Father¹

	USF	UP
1	22	5
2	32	2
3	58	13
4	50	8
5	13	2

$$X_4^2 = 3.86$$

Hypothesis 3-B

The research hypothesis established the expectation that U.S.F. and U.P. seniors (1971 and 1972) would have had the same academic ability when measured by the CEEB-SAT examination taken as high school seniors. Therefore,

¹Social Class 1 is the highest on the basis of occupation and education; 5 is the lowest.

the investigators expected to accept the statistical hypothesis.

CEEB SAT Verbal and Math scores were analyzed using one-way multivariate analysis of variance. Sample sizes, means, standard deviations, and F statistics are reported in Table 8.

Table 8. Comparison of CEEB SAT Scores:
U.S.F. and U.P. Seniors (1971 and 1972)

Examinations	U.S.F. (N = 151)		U.P. (N = 29)		Univariate F	P Less Than
	Mean	S.D.	Mean	S.D.		
Verbal	507.2	89.6	496.8	94.8	0.3	0.57
Math	491.6	98.0	461.6	93.6	2.3	0.13

Multivariate F-Ratio for Equality of Mean Vectors
1.3 P less than 0.3

The mean scores of the Verbal and Math portions of the CEEB SAT did not differ significantly for U.S.F. and U.P. students, although U.S.F. students did score slightly higher on both parts of the examination. Thus, the research hypothesis is accepted.

Hypothesis 3-C

The research hypothesis established the expectation that there would be no differences in the personality characteristics of students entering the professional curriculum at either U.S.F. or U.P. Again, the data were collected from seniors who graduated in 1971 and 1972. The investigators expected to accept the statistical statement of the hypothesis, thus demonstrating that the two groups were similar. Vectors of means were compared using a one-way multivariate analysis of variance. Table 9 summarizes the analysis.

Since the multivariate F statistic for 14 and 177 degrees of freedom is very low, the hypothesis of no difference between the personality characteristics of the two groups, as measured by the OPI, is accepted. Thus, the groups were comparable in their personality characteristics. Visual

observation between pairs of means shows that U.S.F. and U.P. seniors are remarkably similar upon entrance to the professional component of the program. The only scale approaching significance is Religious Orientation (RO). In this instance, U.P. seniors score slightly higher than U.S.F. A high score indicates that students tend to reject conventional religious beliefs. The IDC scores also showed no difference.

Table 9. Pre-Curricular Comparisons of OPI Scores:
U.S.F. and U.P. Seniors (1971 and 1972)

Scales	U.S.F. (N = 163)		U.P. (N = 29)		Univariate F	P Less Than
	Mean	S.D.	Mean	S.D.		
TI	48.3	8.1	48.8	8.3	0.1	0.77
TO	45.5	8.9	46.9	9.3	0.6	0.44
Es	52.1	8.3	53.1	9.1	0.3	0.56
Co	48.5	9.9	46.5	10.8	0.9	0.34
Au	52.7	7.4	52.1	8.5	0.2	0.70
RO	46.6	6.2	49.3	7.3	4.5	0.04
SE	51.7	9.1	51.4	8.6	0.0	0.35
IE	48.2	9.3	49.0	9.6	0.2	0.66
PI	56.1	9.5	56.3	10.1	0.0	0.94
AL	51.2	9.7	52.7	9.6	0.5	0.46
Am	58.8	8.3	56.9	8.6	1.3	0.25
PO	48.5	7.9	50.0	7.5	0.9	0.36
MF	44.3	7.3	43.3	7.1	0.5	0.47
RB	51.9	10.3	51.7	11.4	0.0	0.92

Multivariate F-Ratio for Equality of Mean Vectors
1.28 P less than 0.23

Hypothesis 3-D

The research hypothesis established the expectation that there would be no difference in leadership ability, as measured by the LAE, between beginning nursing students at U.S.F. and U.P. The hypothesis was tested on the classes completing the two programs in 1971 and 1972, using one-way multivariate analysis of variance. The findings are presented in Table 10.

For a multivariate F statistic of 0.77, as shown in Table 10, the hypothesis of no difference in leadership ability between U.S.F. and U.P.

students is accepted: i.e., mean scores for the two groups are quite similar across the three scales--Laissez Faire (LF), Democratic-Cooperative (DC), and Autocratic-Submissive (AS)--when beginning the professional component of their programs.

Table 10. Pre-Curricular Comparisons of LAE Scores:
U.S.F. and U.P. Seniors (1971 and 1972)

<u>Scales</u>	<u>U.S.F.</u> (N = 113)		<u>U.P.</u> (N = 30)		<u>Univariate F</u>	<u>P Less Than</u>
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>		
LF	38.7	28.8	39.6	20.9	0.02	0.88
DC	35.6	7.1	34.9	6.1	0.23	0.63
AS	25.3	12.5	28.4	12.1	1.57	0.21

Multivariate F-Ratio for Equality of Mean Vectors
0.77 P less than 0.51

This finding also was confirmed by using univariate analysis of variance of the Total Score, i.e., the "Decision Pattern-Social Climate Structure" score of the LAE. The mean scores for the two groups again are similar. Thus, the research hypothesis is accepted; there is no statistically significant difference in leadership ability, as measured by the LAE, between beginning nursing students at U.S.F. and U.P.

Hypothesis 3-E

U.S.F. and U.P. seniors (1971 and 1972) also were compared at the pre-professional curricular point by using the EPPS. Scores on each of the sixteen scales for each individual were analyzed using one-way analysis of variance. Comparisons were made between the vector means of the two groups. It was expected that the null hypothesis would not be rejected and that the two groups would be similar. Results are summarized in Table 11.

The decision rule is to reject the null hypothesis of no difference in personal preference between the two groups if F is greater than $F_{1,191}$

(.95) = 3.89. Since the computed value of F is 0.67, the statistical hypothesis is accepted; the means of the two groups on the scale scores of the EPPS are not statistically different. There is no difference between beginning U.S.F. and U.P. nursing students in personal preference, as measured by the EPPS.

Table 11. Pre-Curricular Comparisons of EPPS Scores:
U.S.F. and U.P. Seniors (1971 and 1972)

Scales	U.S.F. (N = 163)		U.P. (N = 29)		Univariate F	P Less Than
	Mean	S.D.	Mean	S.D.		
Ach	47.3	10.5	46.3	8.8	0.27	0.61
Def	47.6	9.9	47.3	10.3	0.02	0.89
Ord	46.8	9.6	48.8	8.6	1.13	0.29
Exh	47.6	9.2	49.2	11.4	0.69	0.41
Aut	48.9	9.3	49.9	9.6	0.28	0.60
Aff	53.3	10.0	53.0	10.1	0.03	0.86
Int	51.5	9.5	52.2	8.4	0.13	0.72
Suc	54.5	9.9	51.4	8.7	2.38	0.12
Dom	47.1	10.3	45.2	9.8	0.85	0.36
Aba	49.2	9.2	50.3	10.2	0.35	0.56
Nur	57.2	9.7	58.1	10.1	0.25	0.62
Chg	50.0	9.4	49.3	10.2	0.13	0.72
End	47.8	9.5	48.3	7.8	0.08	0.78
Het	49.9	10.4	51.2	9.7	0.44	0.51
Agg	50.6	9.6	49.1	8.7	0.68	0.41
Con	51.6	9.9	51.0	8.9	0.07	0.79

Multivariate F-Ratio for Equality of Mean Vectors
0.67 P less than 0.82

Summary of Hypothesis 3 Findings

The investigators had assumed that beginning students in the two schools of nursing would be alike in the five measured variables: 1) demographic background, 2) academic ability, 3) personality characteristics, 4) leadership ability, and 5) personal preference. In a word, the statistical tests of difference on the measured variables indicated there was none. In age, citizenship, ethnic origin, religious affiliation, religious order, marital status, social class of father, academic potential, personality

characteristics, leadership ability, and personal preference, the two groups of students were remarkably identical. The lone exception is that U.S.F. students tended to come more from urban centers and U.P. students more from rural areas. Thus, any significant findings which later may be found in curriculum preferences when these students graduate will need to be attributed to other than demographic background, academic and leadership abilities, personality characteristics, or personal preferences.

Hypothesis 4

There will be no significant post-curriculum test differences among graduates in nursing at U.S.F. (1969 and 1970) and U.P. (1971 and 1972) in:

- a. Personality characteristics
- b. Leadership ability
- c. Personal preferences

It had been assumed that similar students experiencing comparable learnings directed towards corresponding goals would manifest identical change (or lack of change) as a result of their nursing curriculum. For purposes of this hypothesis, data were collected from the first two classes to complete the new program at each institution, thus controlling for any variance which might be attributed to refinement of curricular procedures. The assumption was that students entering the program at U.S.F. (1965 and 1966) were similar to those entering U.P. in 1967 and 1968. The hypothesis was subdivided into three research hypotheses for purposes of analysis.

Hypothesis 4-A

Using the OPI at the end of the senior year, U.S.F. students (1969 and 1970) were compared with U.P. students (1971 and 1972). Means of the two groups on the fourteen scales were compared using one-way multivariate analysis of variance. The expectation was that the two groups would be similar.

Results of the analysis are presented in Table 12.

Table 12. Post-Curricular Comparisons of OPI Scores:
U.S.F. Seniors (1969 and 1970) and U.P. Seniors (1971 and 1972)

<u>Scales</u>	<u>U.S.F.</u> <u>(N = 163)</u>		<u>U.P.</u> <u>(N = 29)</u>		<u>Univariate F</u>	<u>P Less Than</u>
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>		
TI	46.4	9.2	49.9	8.3	3.37	0.07
TO	44.2	10.3	45.7	7.9	0.54	0.46
Es	50.1	9.7	53.7	9.5	3.28	0.07
Co	48.3	10.6	54.6	10.4	8.04	0.01*
Au	56.5	9.5	60.0	6.6	3.44	0.06
RO	49.0	8.1	51.4	6.7	2.14	0.15
SE	51.4	9.4	49.1	7.1	1.59	0.21
IE	48.5	10.3	56.1	6.9	14.27	0.00*
PI	58.1	10.0	54.4	7.0	3.46	0.07
AL	54.0	9.5	51.7	7.3	1.49	0.22
Am	58.1	9.3	55.0	9.4	2.58	0.11
PO	45.8	8.7	44.7	6.7	0.39	0.53
MF	43.7	8.2	43.2	8.2	0.10	0.76
RB	50.0	11.3	46.8	11.8	1.76	0.19

*Specifies significance at the .01 level.

Multivariate F-Ratio for Equality of Mean Vectors
2.32 P less than 0.01

Since an F value equal to or greater than 2.32 will occur by chance less than one percent of the time, the hypothesis of no mean difference between the groups is rejected. Nevertheless, probably because of the sample size at U.P., the groups appear to be more alike than different. U.S.F. seniors (1969 and 1970) and U.P. seniors (1971 and 1972) are similar, except on two scales of the OPI. Checking the univariate analysis of variance, U.P. seniors obtained statistically significant higher mean scores than U.S.F. on the Complexity (Co) and Impulse Expression (IE) scales. A high score on these scales describes persons generally as "free and loose." Assuming the probability of a type one error to be less than or equal to 0.05 for all univariate tests, these are the only two scales which produced a statistically significant result. On the Complexity (Co) scale, the mean for U.P. seniors was 54.6, while

for U.S.F. it was 48.3. With respect to the Impulse Expression (IE) scale, the mean score for U.P. was 56.1, and for U.S.F. it was 48.5. Variability of scores on the fourteen scales was quite consistent across both groups. The IDC scores showed no difference. For all intents and purposes, the two groups were similar at the end of their curricular experiences, as measured by the OPI.

Hypothesis 4-B

As expectation was that U.S.F. seniors (1969 and 1970) would be similar to U.P. seniors (1971 and 1972) in leadership ability at the end of their professional curriculums. Using one-way multivariate analysis of variance, the statistical hypothesis was tested. The findings are presented in Table 13.

Table 13. Post-Curricular Comparisons of LAE Scores:
U.S.F. Seniors (1969 and 1970) and U.P. Seniors (1971 and 1972)

<u>Scales</u>	<u>U.S.F.</u> (N = 113)		<u>U.P.</u> (N = 30)		<u>Univariate F</u>	<u>P Less Than</u>
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>		
LF	33.0	26.7	36.6	18.9	0.50	0.48
DC	38.0	5.8	38.0	5.0	0.00	0.99
AS	23.7	13.8	22.1	11.8	0.33	0.56

Multivariate F-Ratio for Equality of Mean Vectors
0.29 P less than 0.83

The expectation had been to accept the statistical hypothesis. The small F value confirms that there is no significant difference between the two groups on a given scale of the LAE. This finding also was confirmed by using univariate analysis of variance of the Total Score, i.e., the "Decision Pattern or Social Climate Structure" score of the LAE. The mean scores for the two groups again are similar. Thus, the research hypothesis is accepted; there is no statistically significant difference in leadership ability, as measured by the LAE, between graduating nursing students at U.S.F. and U.P.

Hypothesis 4-C

This is a third hypothesis comparing U.S.F. seniors (1969 and 1970) and U.P. seniors (1971 and 1972). Their scores on the sixteen scales of the EPPS were compared at the end of the senior year, using one-way multivariate analysis of variance. The results are presented in Table 14.

Table 14. Post-Curricular Comparisons of EPPS Scores:
U.S.F. Seniors (1969 and 1970) and U.P. Seniors (1971 and 1972)

Scales	U.S.F. (N = 163)		U.P. (N = 29)		Univariate F	P Less Than
	Mean	S.D.	Mean	S.D.		
Ach	48.2	10.4	49.3	10.7	0.30	0.58
Def	46.0	9.5	42.1	8.5	4.17	0.04
Ord	47.0	11.0	48.0	10.9	0.17	0.67
Exh	47.0	10.3	48.4	9.8	0.43	0.52
Aut	51.5	10.3	55.5	9.1	3.83	0.05
Aff	50.0	10.0	48.6	8.2	0.49	0.49
Int	50.7	10.0	51.4	9.7	0.15	0.70
Suc	52.6	10.4	51.2	8.8	0.49	0.48
Dem	50.0	11.2	48.2	10.4	0.59	0.44
Aba	44.3	11.0	44.6	6.8	0.02	0.90
Nur	54.2	10.6	52.8	11.1	0.36	0.55
Chg	50.6	10.8	54.0	10.0	2.49	0.12
End	47.1	10.4	46.4	7.4	0.13	0.72
Het	52.4	12.0	55.9	11.7	2.01	0.16
Agg	51.1	9.9	51.6	9.1	0.05	0.82
Con	50.3	10.6	49.1	8.1	0.37	0.55

Multivariate F-Ratio for Equality of Mean Vectors
0.99 P less than 0.47

The null hypothesis is that there is no statistically significant difference between the means of the two groups. Since the probability level of the computed F statistic is 0.47, the hypothesis is accepted. No mean differences were found. U.S.F. seniors who graduated in 1969 and 1970 were similar to U.P. students who graduated in 1970 and 1971, as measured by the EPPS.

Summary of Hypothesis 4 Findings

The graduates of the first two years of the integrated curriculums

at U.S.F. and U.P. were not, for all intents and purposes, significantly different in either personality characteristics, as measured by the OPI; in leadership ability, as measured by the LAE; or in personal preference, as measured by the EPPS. Thus, the investigators' assumption that there would be no difference was confirmed.

If, indeed, significant findings are discovered in U.S.F. students as they move from sophomore to senior status, it reasonably could be assumed that these differences might be due to their curricular experiences and not due to maturation or the fact that these students are atypical of college or professional nursing students in either personality, leadership, or personal preference.

CHAPTER 3

HYPOTHESES 5.1 AND 5.2

Hypothesis 5.1

The U.S.F. Class of 1972 will not show significant pre-curricular test differences from the Class of 1973 on personality characteristics, leadership ability, and personal preference, nor will they show significant post-curricular test differences from the Class of 1969 on the same three variables.

Since the investigators assumed that the U.S.F. Class of 1972 was similar to other classes admitted to the School of Nursing, it was expected that a comparison of the freshmen of 1972 with those of 1973 and a comparison of the seniors of 1972 with those of 1969 would show no difference, thus providing generalizability to the findings from the data collated on the Class of 1972. For purposes of analysis, the hypothesis was divided into two categories, each with three research hypotheses.

Hypothesis 5.1-A

A comparison was made between U.S.F. freshmen of the Classes of 1972 and 1973, using the OPI. As shown in Table 15, there is a statistically significant difference in the scale score Religious Orientation (RO), indicating that, as freshmen, the Class of 1973 was more skeptical of religious values and less conservative in its beliefs than the Class of 1972 as freshmen. On all other scales including the IDC, the two groups were the same. Thus, the research hypothesis that the two groups would show no difference

in personality characteristics, as measured by the OPI, essentially was substantiated; the Classes of 1972 and 1973 as freshmen were alike.

Table 15. Comparison of Pre-Curricular OPI Scores:
U.S.F. Freshmen, Classes of 1972 and 1973

Scales	Class of 1972 (N = 77)		Class of 1973 (N = 82)		Univariate F	F Less Than
	Mean	S.D.	Mean	S.D.		
TI	48.23	8.67	45.78	8.04	3.4262	.0661
TO	47.34	8.51	44.94	8.55	3.1410	.0783
Es	51.44	7.67	51.39	7.84	0.0017	.9669
Co	47.79	10.12	48.91	8.83	0.5573	.4565
Au	51.55	7.53	53.07	7.82	0.8527	.3572
RO	45.95	6.27	50.57	6.26	21.6442	.0001*
SE	52.52	9.56	50.63	8.96	1.6476	.2012
IE	47.19	8.10	50.29	10.37	4.4045	.0375
PI	55.77	9.32	55.38	9.72	0.0659	.7977
AL	51.91	9.13	50.35	9.51	1.1048	.2949
Am	59.83	8.55	56.24	9.68	6.1076	.0146
PO	48.61	8.71	50.43	8.12	1.8528	.1755
MF	44.74	7.24	44.40	6.46	0.0966	.7564
RB	53.27	9.11	49.48	9.23	6.8049	.0100*

*Specifies significance at the .01 level.

Multivariate F-Ratio for Equality of Mean Vectors

$F_{14,144} = 3.3313$

P less than .0002

A second comparison was made between U.S.F. Classes of 1972 and 1973 as freshmen, using the LAE. As shown in Table 16, they were the same; none of the differences between mean scale scores is statistically significant at the .01 level. The research hypothesis that the two groups would show no difference in leadership ability, as measured by the LAE, is substantiated; the freshmen of the Classes of 1972 and 1973 were alike.

Table 16. Comparison of Pre-Curricular LAL Scores:
U.S.F. Freshmen, Classes of 1972 and 1973

Scales	Class of 1972 (N = 76)		Class of 1973 (N = 83)		Univariate F	P Less Than
	Mean	S.D.	Mean	S.D.		
LF	43.47	29.84	50.52	27.74	2.3797	.1250
DC	33.53	6.66	32.46	6.75	1.0070	.3172
AS	28.21	12.70	27.57	12.37	0.1049	.7465

Multivariate F-Ratio for Equality of Mean Vectors
 $F_{3,155} = .8359$ P less than .4761

A third comparison was made between U.S.F. Classes of 1972 and 1973 as freshmen, using the EPPS. As shown in Table 17, there is no statistically significant difference. Thus, the research hypothesis that the two groups would show no difference in personal preferences, as measured by the EPPS, is accepted; the freshmen of the Classes of 1972 and 1973 were alike.

Table 17. Comparison of Pre-Curricular EPPS Scores:
U.S.F. Freshmen, Classes of 1972 and 1973

Scales	Class of 1972 (N = 78)		Class of 1973 (N = 83)		Univariate F	P Less Than
	Mean	S.D.	Mean	S.D.		
Ach	47.36	10.77	48.36	8.83	0.4191	.5184
Def	48.08	11.06	46.69	9.33	0.7465	.3889
Ord	47.99	9.97	47.64	10.47	0.0467	.8292
Exh	47.40	8.93	47.88	10.17	0.1016	.7504
Aut	47.50	8.81	49.71	10.47	2.0889	.1504
Aff	55.33	9.32	51.81	10.44	5.0859	.0255
Int	49.47	9.38	48.54	9.11	0.3877	.5344
Suc	54.82	10.56	52.20	10.78	2.4135	.1223
Dom	45.33	11.03	45.45	10.43	0.0044	.9471
Aba	50.68	8.44	49.73	9.44	0.4462	.5052
Nur	59.05	8.27	55.75	9.14	5.7571	.0176
Chg	48.71	9.41	52.08	8.44	5.7684	.0175
End	47.74	8.68	46.86	8.56	0.4274	.5143
Het	50.46	10.83	51.96	11.40	0.7329	.3933
Agg	49.60	8.79	51.01	9.01	1.0076	.3170
Con	51.33	8.92	49.88	10.95	0.8466	.3590

Multivariate F-Ratio for Equality of Mean Vectors
 $F_{16,144} = .9598$ P less than .5037

Hypothesis 5.1-B

A comparison was made between U.S.F. seniors of the Classes of 1969 and 1972, using the OPI. As shown in Table 18, there is a statistically significant difference on the Autonomy (Au) scale, indicating that seniors of the Class of 1972 were more liberal and non-authoritarian in their thinking and preferred to function independent of "authority imposed by social institutions." On all other scales, the two groups were similar. The difference between the post-test mean score vectors on the OPI for the Classes of 1969 and 1972 is statistically significant beyond the .05 level of probability of a type one error. The IDC score showed no difference. Thus, the research hypothesis that the two groups would show no difference in personality characteristics, as measured by the OPI, essentially is substantiated. With the one exception, the seniors of the Classes of 1969 and 1972 were alike.

Table 18. Comparison of Post-Curricular OPI Scores:
U.S.F. Seniors, Classes of 1969 and 1972

Scales	Class of 1969 (N = 45)		Class of 1972 (N = 77)		Univariate F	P Less Than
	Mean	S.D.	Mean	S.D.		
TI	47.02	8.52	48.48	8.03	0.8959	.3458
TO	43.69	8.85	43.71	8.09	0.0003	.9872
Es	51.49	8.53	53.31	7.85	1.4371	.2330
Co	47.96	9.90	50.25	10.03	1.4969	.2236
Au	54.24	7.48	59.29	6.82	14.4410	.0003*
RO	48.67	7.19	50.00	6.64	1.0770	.3015
SE	51.84	7.96	51.01	9.43	0.2470	.6202
IE	48.56	9.25	52.16	9.77	4.0106	.0475
PI	57.40	8.69	57.47	10.46	0.0013	.9710
AL	52.89	8.90	51.01	10.46	1.0163	.3155
Am	57.93	7.73	58.52	9.29	0.1275	.7217
PO	46.69	7.62	45.08	7.52	1.2910	.2582
MF	42.76	7.37	44.27	6.89	1.3089	.2549
RB	49.02	10.10	48.56	9.73	0.0627	.8027

*Specifies significance at the .01 level.

Multivariate F-Ratio for Equality of Mean Vectors

$F_{14,107} = 2.2358$ P less than .0107

A second comparison was made between U.S.F. seniors of the Classes of 1969 and 1972, using the LAE. As shown in Table 19, the two groups were similar on two of the three scales. There is a statistically significant difference in the Autocratic-Submissive (AS) scale, indicating that the seniors of the Class of 1972 were more likely to make decisions on their own. The research hypothesis that the two groups would show no difference in leadership ability, as measured by the LAE, is substantiated. With the one exception, the seniors of the Class of 1972 were similar to the seniors of the Class of 1969 in leadership ability.

Table 19. Comparison of Post-Curricular LAE Scores:
U.S.F. Seniors, Classes of 1969 and 1972

<u>Scales</u>	<u>Class of 1969</u> (N = 54)		<u>Class of 1972</u> (N = 73)		<u>Univariate F</u>	<u>P Less Than</u>
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>		
LF	33.57	25.34	32.58	29.02	0.0409	.8401
DC	37.26	5.65	39.10	6.63	2.6981	.1030
AS	24.74	11.66	18.36	12.82	8.3078	.0047*

*Specifies significance at the .01 level.

Multivariate F-Ratio for Equality of Mean Vectors
 $F_{3,123} = 3.0152$ P less than .0327

A third comparison was made between U.S.F. seniors of the Classes of 1969 and 1972, using the EPPS. As shown in Table 20, the difference between the post-curricular test mean score vectors of the EPPS for the Classes of 1969 and 1972 is not statistically significant at the .05 level of probability of a type one error. Thus, the research hypothesis that the two groups would show no difference in personal preference, as measured by the EPPS, is accepted. In terms of their concern for their own basic human needs, the seniors of the Classes of 1969 and 1972 were alike.

Table 20. Comparison of Post-Curricular EPPS Scores:
U.S.F. Seniors, Classes of 1969 and 1972

Scales	Class of 1969 (N = 58)		Class of 1972 (N = 79)		Univariate F	P Less Than
	Mean	S.D.	Mean	S.D.		
Ach	47.03	9.06	49.08	10.10	1.4885	.2246
Def	45.93	3.76	43.90	8.67	1.3231	.1793
Ord	47.47	9.73	45.95	8.76	0.9115	.3415
Exh	46.09	7.65	47.04	8.87	0.4318	.5123
Aut	52.90	8.41	50.81	9.45	1.7866	.1836
Aff	46.69	10.26	51.63	9.08	1.3723	.2435
Int	51.90	8.46	49.66	8.93	2.1973	.1406
Suc	52.92	8.54	55.54	11.84	2.0701	.1526
Dom	49.86	10.65	47.77	9.87	1.4019	.2385
Aba	46.83	10.37	44.37	10.21	1.9171	.1685
Nur	53.47	10.09	56.27	8.78	2.9975	.0857
Chg	49.97	8.90	50.76	9.59	0.2435	.6226
End	46.83	9.47	46.72	8.13	0.0049	.9441
Het	54.97	9.79	56.58	10.21	0.8681	.3532
Agg	52.29	9.13	52.06	9.43	0.0204	.8867
Con	49.53	10.74	50.25	9.10	0.1789	.6730

Multivariate F-Ratio for Equality of Mean Vectors
 $F_{16,120} = 1.3571$ P less than .1750

Summary of Hypothesis 5.1

The U.S.F. freshmen of the Classes of 1972 and 1973 were compared before they embarked on the professional component of the curriculum, using the OPI, the LAE, and the EPPS. Were these beginning nursing students the same? The investigators had expected both groups to be similar as freshmen on the three variables. The statistical results indicate that the hypothesis is substantiated. Freshmen in the Class of 1972 were the same as those of 1973 on thirteen of the fourteen scales of the OPI, two of the three scales of the LAE, and all scales of the EPPS. Essentially, these beginning nursing students were similar.

Similarly, the U.S.F. seniors of the Classes of 1969 and 1972 were compared after completing the professional component of the curriculum, using the same three instruments. Were these graduating seniors in nursing the

same? Here the investigators were speculating that while the seniors might be similar, there would be some minor differences as a result of increased sophistication of the faculty in working with the integrated curriculum and devising teaching strategies. The statistical results show that, for all intents and purposes, this hypothesis also is substantiated. The two groups were similar on all but one scale of the OPI, all but one of the LAE, and on all scales of the EPPS. The two differences, though minor in the "hypothesis sense," are worth noting in a "curriculum evaluation sense." The 1972 seniors appeared to be more autonomous in their thinking and more independent in their leadership pattern. This might be explained by "the times," by maturation, or by the strengthening of the leadership thread of the integrated curriculum.

Hypothesis 5.2

At the end of a professional curriculum in nursing education, students at U.S.F. and U.P. will have changed in their personality characteristics, leadership ability, and personal preference.

Since the investigators assumed that the goal-oriented learning experiences of a professional nurse education program would have a definite impact on students, it was expected that the students might change in certain personality features measured before and after exposure to the professional component of the curriculum. This hypothesis was tested with the U.S.F. and U.P. Classes of 1972, the target populations.

Hypothesis 5.2-A

A first research hypothesis stated that students in the U.S.F. Class of 1972 would change in their personality characteristics by the end of the program, as measured by the OPI. As shown in Table 21, there is a significant

difference between pre and post-curricular test scores on the following scales of the OPI:

TO (Theoretical Orientation)
 Es (Estheticism)
 Co (Complexity)
 Au (Autonomy)
 RO (Religious Orientation)
 IE (Impulse Expression)
 PI (Personal Integration)
 PO (Practical Outlook)

Table 21. Comparison of Pre and Post-Curricular OPI Scores:
U.S.F. Seniors, 1972
 (N = 74)

Scales	Pre-Curricular	Post-Curricular	Univariate F	P Less Than
	Mean	Mean		
TI	47.96	48.58	0.5261	.4706
TO	46.23	49.35	12.4676	.0008*
Es	59.70	58.73	7.3432	.0084*
Co	46.92	43.96	8.8779	.0040*
Au	52.26	51.18	103.1575	.0001*
RO	48.65	44.84	30.6804	.0001*
SE	51.15	53.20	1.6291	.2059
IE	46.92	51.78	26.4115	.0001*
PI	44.53	44.31	7.0467	.0098*
AL	47.59	50.27	0.1380	.7114
Am	55.51	57.77	0.9598	.3305
PO	52.89	48.78	21.3331	.0001*
MF	52.18	59.11	0.0783	.7805
RB	51.58	51.19	16.6877	.0002

*Specifies significance at the .01 level.

Multivariate F-Ratio for Equality of Mean Vectors

$F_{14,60} = 13.1350$

P less than .0001

In Theoretical Orientation (TO) and Impulse Expression (IE), the change was an increase on the post-curricular test score, demonstrating shifts in the direction the investigators expected. An increase in Theoretical Orientation indicates that students are more apt to endorse scientific reflections, enjoy speculating about problems "which have challenged experts," like doing assignments requiring original research, or prefer the "man of

ideas to the practical man." An increase in Impulse Expression indicates students are more apt to act on the spur of the moment, express themselves freely and openly, and value sensual reactions.

In Religious Orientation (RO) and Practical Outlook (PO), the change was a decrease in the post-curricular test scores, also indicating shifts in the expected direction. A decrease in Religious Orientation indicates students who now hold religious beliefs based on understanding rather than dogma; one in Practical Outlook indicates persons who are more apt to think "the best theory is one that has the best practical application" and that "it is the responsibility of intelligent leadership to maintain the established order."

The statistically significant change in Estheticism (Es), Complexity (Co), Autonomy (Au), and Personal Integration (PI) was not in keeping with the direction of change which might have been expected from the known objectives and characteristics of the integrated curriculum. There was no change in the IDC. On the basis of the score changes on the OPI, the research hypothesis is accepted.

A second research hypothesis was that U.S.F. students (Class of 1972) would change in their leadership ability by the end of the program, as measured by the LAE. As shown in Table 22, there is a statistically significant difference between the pre and post-curricular test scores on the three scales of the LAE. The changes consist of decreases in the mean scores on the Laissez Faire (LF) and Autocratic-Submissive (AS) scales and an increase in the mean score on the Democratic-Cooperative (DC) scale. This is precisely the change in leadership ability that the faculty expected. The second research hypothesis is accepted.

Table 22. Comparison of Pre and Post-Curricular LAE Scores:
U.S.F. Seniors, 1972
 (N = 70)

<u>Scales</u>	<u>Pre-Curricular</u> <u>Mean</u>	<u>Post-Curricular</u> <u>Mean</u>	<u>Univariate F</u>	<u>P Less Than</u>
LF	42.30	33.37	7.2910	.0038*
DC	33.69	38.86	43.2890	.0001*
AS	28.00	13.80	27.8725	.0001*

*Specifics significance at the .01 level.

Multivariate F-Ratio for Equality of Mean Vectors

$F_{3,67} = 15.0234$ P less than .0001

A third research hypothesis was that U.S.F. students (Class of 1972) would change in their personal preference by the end of the program, as measured by the LPPS. As shown in Table 23, there is a statistically significant difference between pre and post-curricular test scores on the following seven scales of the LPPS:

Def (Deference)
 Ord (Order)
 Aut (Autonomy)
 Aff (Affiliation)
 Aba (Abasement)
 Nur (Nurturance)
 Het (Heterosexuality)

By the time they graduated, the U.S.F. students apparently felt less of a need to be deferent, to affiliate with their peers, to be self-abasing and nurturant or sentimentally caring, and to prefer less structure and order. They had a greater need for autonomy, and were more interested in the opposite sex and in their future roles as mothers and homemakers. These changes were in the direction the faculty expected. The third research hypothesis of 5.2-A is accepted.

Table 23. Comparison of Pre and Post-Curricular EPPS Scores:
U.S.F. Seniors, 1972
 (N = 77)

<u>Scales</u>	<u>Pre-Curricular</u> <u>Mean</u>	<u>Post-Curricular</u> <u>Mean</u>	<u>Univariate F</u>	<u>P Less Than</u>
Ach	47.17	49.40	4.4500	.0382
Def	48.13	43.91	10.0174	.0023*
Ord	48.18	45.88	6.8199	.0109*
Exh	47.19	46.92	0.0638	.8014
Aut	47.57	50.56	10.0236	.0023*
Aff	55.22	51.77	10.1432	.0022*
Int	49.36	49.61	0.0410	.8402
Suc	54.90	55.34	0.1026	.7496
Dom	45.22	47.75	6.0135	.0165
Aba	50.84	44.53	32.5590	.0001*
Nur	59.06	56.27	7.2398	.0086*
Chg	48.56	50.84	3.6226	.0608
End	47.83	46.97	0.8525	.3588
Het	50.52	56.55	23.8819	.0001*
Agg	49.70	51.73	3.7839	.0555
Con	51.12	50.08	0.8476	.3602

*Specifies significance at the .01 level.

Multivariate F-Ratio for Equality of Mean Vectors
 $F_{16,61} = 5.8320$ P less than .0001

Hypothesis 5.2-B

The research hypothesis stated that students at U.P. (Class of 1972) would change in their personality characteristics by the end of the program, as measured by the OPI. The results, using one-way multivariate analysis of variance, are shown in Table 24.

The difference between the pre and post-curricular mean score vectors of the OPI is not statistically significant at the .05 level of probability on a type one error. On the basis of this finding, the expectation that U.P. seniors would change in their personality characteristics, as measured by the OPI, was not confirmed. The research hypothesis is rejected.

Table 24. Comparison of Pre and Post-Curricular OPI Scores:
U.P. Seniors, 1972
 (N = 16)

Scales	Pre-Curricular	Post-Curricular	Univariate F	P Less Than
	Mean	Mean		
TI	50.13	48.19	2.1608	.1623
TO	49.63	44.25	25.1451	.0002
LS	53.69	55.33	0.7861	.3893
CO	47.33	55.19	9.6217	.0073
AU	53.00	60.38	14.1927	.0019
RO	49.25	52.13	3.0160	.1030
SE	50.13	46.06	5.7829	.0296
IE	47.00	54.69	12.5580	.0030
PI	56.50	53.88	1.7449	.2064
AL	52.31	51.56	0.1287	.7248
AM	57.81	54.50	5.4928	.0333
PO	48.13	46.06	1.4320	.2501
MF	43.06	43.44	0.0642	.8035
RB	54.50	44.63	19.1559	.0006

Multivariate F-Ratio for Equality of Mean Vectors

$$F_{14,2} = 8.3426$$

P less than .1121

A second research hypothesis was that U.P. students (Class of 1972) would change in their leadership ability by the time of graduation, as measured by the LAE. As shown in Table 25, the difference between the pre and post-curricular test mean score vectors on the LAE is not statistically significant at the .05 level of probability of a type one error. Hence, the research hypothesis is rejected; the U.P. students did not change in their leadership ability, as measured by the LAE.

Table 25. Comparison of Pre and Post-Curricular LAE Scores:
U.P. Seniors, 1972
 (N = 17)

Scales	Pre-Curricular	Post-Curricular	Univariate F	P Less Than
	Mean	Mean		
LF	34.18	37.06	0.5756	.4591
DC	36.12	38.00	2.1054	.1662
AS	27.59	22.82	1.8340	.1945

Multivariate F-Ratio for Equality of Mean Vectors

$$F_{3,14} = 2.2669$$

P less than .1256

A third research hypothesis was that U.P. students (Class of 1972) would change in their personal preference by the end of the program, as measured by the EPPS. Table 26 indicates there is no statistically significant difference between pre and post-curricular test mean score vectors on the EPPS. Hence, the research hypothesis is rejected; the U.P. students did not change in their personal preference, as measured by the EPPS.

Table 26. Comparison of Pre and Post-Curricular EPPS Scores:
U.P. Seniors, 1972
(N = 17)

<u>Scales</u>	<u>Pre-Curricular</u> <u>Mean</u>	<u>Post-Curricular</u> <u>Mean</u>	<u>Univariate F</u>	<u>P Less Than</u>
Ach	46.06	51.88	11.6108	.0037
Def	46.53	45.71	0.1281	.7252
Ord	43.29	49.00	0.0712	.7931
Exh	50.00	46.29	2.3267	.1467
Aut	49.88	57.94	7.1607	.0166
Aff	54.94	47.41	9.9728	.0061
Int	53.41	49.35	1.8479	.1929
Suc	52.65	49.76	1.8257	.1955
Dom	42.82	44.82	1.0187	.3279
Aba	53.41	46.47	10.4261	.0053
Nur	59.82	53.35	5.0835	.0386
Chg	47.59	55.35	13.2565	.0023
End	43.29	43.41	0.0056	.9414
Het	49.88	54.18	1.8579	.1918
Agg	46.65	48.47	1.2624	.2773
Con	49.41	47.82	0.4725	.5017

Multivariate F-Ratio for Equality of Mean Vectors

$F_{16,1} = 1.9265$ P less than .5184

Summary of Hypothesis 5.2

The Classes of 1972 at U.S.F. and U.P. were compared on a pre/post-curricular test basis, using the OPI, the LAE, and the EPPS. The investigators expected both groups to show measured change on the three variables and in about equal amounts during the three-year interval between sophomore year and graduation. The statistical results showed that the hypothesis is accepted for the U.S.F. students, who did, in fact, show changes on eight scales of

the OPI, three of the LAE, and seven of the EPPS. The hypothesis is rejected for the U.P. students who did not change in personality characteristics, as measured by the OPI; in leadership ability, as measured by the LAE; or in personal preference, as measured by the EPPS. The lack of significance may be a function of sample size since many of the scales on the OPI and the EPPS have small probabilities.

Upon entry to the university, the U.S.F. Class of 1972 has been found to be similar to other beginning groups of nursing students at U.S.F., and, upon graduation, has been found to be similar to other U.S.F. seniors on completion of the program. Change has been demonstrated in the U.S.F. Class of 1972 between freshman and senior years. Therefore, the investigators rationally deduce that the changes in the U.S.F. Class of 1972 might be the result of the impact of the integrated curriculum. The remaining three hypotheses focus on an assessment of those curriculum experiences and students' perceptions and evaluation of them.

CHAPTER 4

Q-TECHNIQUE AND CLUSTER ANALYSIS

From this point in the analysis of the quantitative data, hypotheses 6, 7, and 8 depend on an understanding of Q-technique and cluster analysis. This chapter explains what Q-technique is, how the CEQ was developed, and what is meant by cluster analysis.

Q-Technique

Q-technique involves the forced choice sorting of a series of statements, each printed on a small card, into levels or hierarchies which express the subjects' priorities or preferences. The investigators selected the Q-sort as the primary tool for obtaining students' perceptions of the impact of the curriculum for two reasons: 1) evaluation of diversity of perception, as stated by Cronbach, and 2) objectivity, as noted by Block.

The inception of the Q-sort technique brought with it the means of testing the diversity between people, and the extent of agreement between them regarding a certain problem. The Q-sort is mid-way between the personal and probable bias of the interview and the academic diagnostic tests which measure the Ss [subjects] on various scales.¹

. . . [the Q-sort] provides a convenient means of objectifying the impressions and personality formulations of observers. By so doing, of course, the extent of agreement among people in the way in which

¹Lee J. Cronbach, "Correlations between Persons as a Research Tool," in Psychotherapy, Theory, and Research, ed. by O. Hobart Mowrer (New York: The Ronald Press Company, 1953), p. 377.

concepts are employed can be assessed.¹

In addition to the reasons cited by Cronbach and Block, the Q-technique appealed to the research staff because several of them had used it successfully in other investigations of students' perceptions of training programs.²

As explained in Part I, Chapter 3, the seventy-two item Q-sort was developed by the investigators on the basis of the stated philosophy of the U.S.F. program and its curriculum objectives as implemented by the faculty. It contains the following six characteristics:

- 1) The items are impersonal, objective, factual statements about the nursing program--its educational objectives, its rationale, and some prominent features of the teaching-learning process it attempts to implement and facilitate.
- 2) The items are written as simple declarative sentences in a single, uniform pattern, using a somewhat artificial syntax and grammar to clarify logical relationships among sentence elements and to point up the desired rhetorical emphases upon the referents of these

¹Jack Block, The Q-Sort Method in Personality Assessment and Psychiatric Research (Springfield, Illinois: Charles C. Thomas, 1961), p. 4.

²Jerry D. McCarn, "Inservice Teacher Training: An Evaluation" (unpublished Ph.D. dissertation, University of California, Berkeley, 1969); Norman E. Melick, "An Analysis and Evaluation of Business Education as an Academic Subject Matter Area under the Fisher Bill in the State of California" (unpublished Ph.D. dissertation, University of California, Berkeley, 1969); Raymond James Roberts, Jr., "Summer Institutes for Teachers of Disadvantaged Youth: A Study of Retrospective Appraisals by Participants" (unpublished Ph.D. dissertation, University of California, Berkeley, 1970); James C. Stone, Teachers for the Disadvantaged (San Francisco: Jossey-Bass Inc., 1969); James C. Stone and William J. Schwarz, "The Teaching of Sex Education: An Assessment of Inservice Training" (Berkeley, California: The University of California School of Education, Division of Higher Education) (mimeographed); James C. Stone, "Intern Teachers and Student Teachers at the University of California, Berkeley" (Berkeley, California: The University of California School of Education, Division of Higher Education) (mimeographed).

elements. The term "student" is included in almost every statement as the direct or indirect object of the predicate or of a closely linked preposition.

- 3) The items constitute a stratified, representative sample of the almost infinite number of perceptions that students might have regarding the program. The strata of the sample are four categories of program features over which the nursing faculty has at least some control and which it can modify in response to students' perceptions and comments if it so desires. The four categories are: a) Curriculum: Learning Objectives, Opportunities, and Experiences, b) Program: Planning, Scheduling, and Evaluation, c) Instruction: Teaching Styles, Methods, and Procedures, and d) Interpersonal Relations: Teacher-Student Roles and Relationships.
- 4) The items are all generally characteristic statements of program features. They have been selected and written to be sorted into seven piles representing as many points on the rank-order continuum from "least to most accurately descriptive or generally characteristic," with a mid-point and corresponding pile for statements which are "more or less accurately descriptive or generally characteristic but too difficult to judge."
- 5) The items have been selected and written to be sorted twice by each respondent on each occasion: first, to represent the respondent's testimony that "these are the facts about the program as I actually perceive them," and second, to represent her critical judgment that "these are what I think the features of the program

should be." That is, the respondent first rank-orders the statements as more or less accurately descriptive or generally characteristic of the program as it actually is, and then rank-orders them as more or less important (to her) characterizations of the program as she thinks it should be.

The double Q-sort at one sitting, first in terms of the curriculum as it is, then in terms of how it should be, is a unique feature of this study. The origin of the idea came from an article by Whiting,¹ which the investigators reviewed early in the research planning stage. In discussing possible uses of Q-technique as a measure of change, he offered as an example, among a number of possible uses, the notion of a double Q-sort. The original decision had been to have the students each year perform the Q-sort in the early Fall and again in late Spring. The plan was amended to administer the double Q-sort at one sitting each year in the Spring. Thus, students were asked to perform the Q-sort first in terms of "the way it is" and immediately thereafter in terms of "the way they'd like it to be." The data then were subjected to cluster analysis. The three research hypotheses dependent on the Q-technique are discussed in Chapters 5, 6, and 8.

Cluster Analysis

Students' scores on the individual items of the Descriptive and Prescriptive CEQ's were submitted to cluster analysis to determine the patterns and generality of their responses. Cluster analysis is the general logic by which variables (in this study, Q-sort items) are grouped together, empirically and objectively, on the basis of their similarities and differences.

¹Frank J. Whiting, "Q-Sort: A Technique for Evaluation Perceptions of Interpersonal Relationships," Nursing Research, IV (October, 1955), 70-73.

Variables that form similarly patterned groups, or composites, are termed "collinear clusters." The general logic of cluster analysis has been formulated as a set of procedures in the BC TRY System of computer programs, which was used to find collinear clusters of variables in the Q-sort data.¹

The degree of generality among the students' responses to each of the seventy-two items on the CEQ is revealed by the extent to which individual differences in their responses to any one item correlate with differences in their responses to the other seventy-two items. The levels of generality are based on the size of the N. Of the seventy-two "differences," the clusters tell us which are "general." A low level generality is based on an N which represents one class (N of 93). A high level generality would represent all classes at all levels (N of 1000). At each level of generality, the differences on the seventy-two items are reduced to the common (not unique) differences shown by three, four, or more clusters. Some differences will persist through all levels of generality, thus being the most "general differences," hence, the greatest similarities. Some perceptions of and prescriptions for the curriculum are phenomena which are general to only one class at one level; for example, sophomores of the Class of 1972. Some perceptions of and prescriptions for the curriculum are general to all classes at one level who had the same point of view; for example, sophomores of the Classes of 1971-1974. Some perspectives are general to all students who ever passed through the U.S.F. program; for example, sophomore, junior, and senior students of the Classes of 1969-1972.

By comparing the students' responses to each item with their responses

¹Robert C. Tryon and Daniel E. Bailey, Cluster Analysis (New York: McGraw-Hill Book Company, 1970), pp. 1-5.

to every other item, with respect to the similarity with which they order individual differences, a detailed statement of the relationships of each variable with all of the other variables was summarized in a correlation matrix. Cluster analysis was then used to factor this correlation matrix and group together the items of each Q-sort, casting into each group, or composite, those variables that correlated positively with each other, and especially those whose patterns of correlations with the other variables were similar (collinear). Finally, the defining variables of each composite, or collinear cluster, were selected on the basis of three criteria: each cluster of variables should be 1) as "tight," i.e., collinear, as possible, 2) as nearly independent of the others as possible, and 3) able to account for as much general variability as possible. Thus, cluster analysis of students' responses to the seventy-two items of the Descriptive and Prescriptive CEQ's reduced the number of variables and revealed a much smaller number of composites, or dimensions, which fully account for all the correlations among the seventy-two variables and for all the generality among individual responses to the seventy-two items.

Derivation of Mean Cluster Scores

An individual's score on any Q-sort cluster can be conceptualized as the weighted sum of her standard scores on all of the items in the cluster. The general scoring program of the BC TRY System, FACS,¹ which computes dimension (cluster or factor) scores of individuals, provides both a "nominal weight matrix" and an "effective weight matrix." In the nominal weight matrix, each item that defines a particular dimension is weighted by 1.00, and all

¹FACS is the Factor and Cluster Scoring Program of the BC TRY System.

other items by .00. In the effective weight matrix, each item that defines a particular dimension is weighted by a coefficient between .00 and 1.00, which is a function of the item's average correlation with the other definers of that dimension. Thus, in the simple sum weighting that generates cluster scores for individuals, the defining items of a dimension all have the same nominal weight of 1.00, but they have different effective weights in determining the full variance of the composite score. A cluster score on a particular cluster was computed for an individual subject by weighting (multiplying) her standardized score on each of the defining items of the dimension by the corresponding coefficient in the effective weight matrix, summing (adding) the resulting item scores (products) and rescaling the resulting composite score to yield a cluster score with a standardized mean of 50.00 and a standard deviation of 10.00. In reporting the data, mean cluster scores below 50.00 were described as clusters for which the students failed to agree that the items were (or should be) characteristic of the curriculum. Clusters with mean scores above 50.00 were described as clusters for which the students agreed that the items were (or should be) characteristic of the curriculum.

An assumption made early in the CEP was that certain combinations of CEQ items, cutting across the internal structure of the CEQ, would cluster together in meaningful relationships. These relationships, or clusters of items, might then serve as the basis from which to make recommendations for improvement of the curriculum. Since all of the items were appropriate in some degree to all three levels of the program, the impact of the cluster would have to be defined rationally by the faculty in terms of the objectives of the particular year of the curriculum for which the cluster emerged. Thus, it was expected that certain items related to a given type of laboratory

experience might be influenced significantly enough by teaching methods and practices, evaluation procedures, or student-faculty roles and relationships. to emerge as a cluster which was then labeled or defined by the project staff. As a cluster it would then serve as a recommendation to the faculty (if on the Prescriptive CEQ) that "in such and such a given circumstance, students place high priority on such and such."

In a few instances, clusters of this nature did emerge. For the most part, however, items within a given CEQ category tended to cluster together, perhaps demonstrating merely the strength of the relationship of certain items within the category, but not necessarily indicating any relationship between other items of the Q-sort. In some instances, the CEQ staff tended to think that perhaps the individual items were so discrete in themselves as predictors of curriculum preferences that they could not cluster together in a meaningful fashion.

The four chapters which follow are based on this explanation of Q-technique and cluster analysis.

CHAPTER 5

HYPOTHESIS 6

U.S.F. sophomore, junior, and senior students in nursing will perceive their professional nursing curricular experiences in significantly different patterns.

This hypothesis is concerned with findings unique to U.S.F. students' perceptions for each of the three levels of the curriculum. It was assumed that perceptions and expectations of students would change as they progressed throughout the program, partly because of maturation and partly because certain features of the curriculum would be emphasized or more characteristic at a given level than at another.

The research hypothesis tests for class (sophomore, junior, senior) differences using both Descriptive and Prescriptive CEQ scores. Since the Classes of 1971 and 1972 are represented in all three levels, there is a certain amount of dependence between the groups. The contention, however, is that the students react differently to the CEQ for each level of the curriculum, which is characterized by unique objectives and learning experiences. A one-way multivariate analysis of variance was used to analyze the variables making up the Descriptive and Prescriptive CEQ data.¹

Hypothesis 6-A

As seen in Table 27, the mean item score vectors on each item of the

¹Mean scores and standard deviations of all items for sophomores, juniors, and seniors appear in Appendix K.

CEQ for all sophomores (Classes of 1971-1974) were compared with the corresponding vector of all juniors (Classes of 1970-1973). The mean item score vector of each item for all juniors was then compared with that of all seniors (Classes of 1969-1972). The expectation was that there would be a significant difference in the perceptions of each of the combined groups on the Descriptive CEQ.

Since an F value equal to or greater than 12.15 will occur by chance less than .01 of the time, the experimental hypothesis implying a significant difference between the sophomores and juniors was substantiated. Similarly, the experimental hypothesis comparing juniors and seniors also was substantiated with its F value equal to or greater than 7.67 occurring by chance less than .01 of the time. Juniors perceived their curricular experiences in significantly different ways than sophomores perceived theirs, and seniors perceived their curricular experiences in significantly different ways from the juniors. The critical element of this hypothesis is the shift between and among levels--sophomore, junior, senior--rather than the priority by which the items are scored.

From the univariate analysis of variance procedures, the following observations are noted regarding statistically significant shifts between and among the three class levels:

- 1) Those items which decreased from sophomore to junior and again from junior to senior years are: #32, #41, #45, #49, #51, #59, and #61 (Appendix E). Given the sophomore students' limited experience and exposure, it is reasonable to expect items related to conferences with faculty et al. to have shifted downward. The sophomores seem to be caught up with the faculty as the provider

of learning experiences and the source of expertise and assistance. As the students matured, it appears that they perceived these particular items as less descriptive of the curriculum.

- 2) Those items which increased from the sophomore to the junior and again from the junior to the senior years are: #3, #25, #27, #28, #29, #30, and #39. Therefore, these items were perceived as having increased in their integration throughout the curriculum. Since these particular items shifted upward from year to year, they might be considered as some verification of the simple to complex theme of the curriculum; for example, the gradually increasing awareness of the nurse's role as change agent (#3), the increasing opportunity to assume leadership roles (#27), and the ability to make referrals for patients and families (#29). It is reasonable to expect that these experiences would be emphasized in greater depth from sophomore to senior year.
- 3) Those items which decreased from sophomore to junior year are: #1, #5, #6, #7, #8, #13, #40, #54, #64, #66, and #67. In a word, the sophomore year seemed to be perceived as distinguishable from the junior year by its emphasis on such features as skill labs (#6), group work for sharing learnings (#8), pre and post-laboratory conferences (#7), section and seminar sessions which focus on the application of theory to practice (#5), communication skills (#13), and individualized feedback (#40).
- 4) Those items which decreased from junior to senior year are: #11, #18, #24, #55, #57, #58, #60, and #61. In general, the items perceived as less characteristic of the senior than the junior year

are the value of laboratory experiences which are based on a scientific rationale (#13), better use of faculty as resources in the teaching team (#58), and perception of the faculty as professional role models (#60).

5) Those items which were scored higher in the senior than the junior year are: #23, #43, and #66. Thus, the special features likely to be perceived as more characteristic of the senior than the junior year are related to: a better understanding of low income families (#23), the use of student self-appraisals for evaluating learning (#43), and the treatment of students as autonomous, mature adults (#66).

6) Those items which increased from sophomore to junior year are:

#2, #11, #12, #14, #16, #19, #20, #21, #22, #24, #31, and #52.

Most came from Category I and are related to learning objectives, opportunities, and experiences. In view of the programmatic emphasis of the junior year, this perception was about what the investigators expected. It might be realistic that the junior year students' full exposure to the breadth and depth of professional nursing would result in this emphasis on learning experiences per se.

The research hypothesis that there would be differences in the ways in which sophomores, juniors, and seniors would perceive the curriculum, as measured by the Descriptive CEQ, is substantiated.

Table 27. Multivariate Analysis of Variance in Mean Score Vectors of the Descriptive CEQ:
Sophomores, 1971-1974; Juniors, 1970-1973; and Seniors, 1969-1972

Item No.	Sophomores N = 330		Juniors N = 319		Seniors N = 296		Sophomores vs. Juniors		Juniors vs. Seniors	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Univariate F	P Less Than	Univariate F	P Less Than
1	4.21	1.49	3.97	1.63	3.79	1.66	8.7056	.0033 **	1.9753	.1603
2	4.78	1.62	5.22	1.54	5.25	1.52	17.9775	.0001 *	0.0587	.3037
3	3.95	1.58	4.17	1.57	4.64	1.63	16.2630	.0001 *	13.4643	.0003 *
4	4.01	1.36	3.83	1.42	3.97	1.35	1.3306	.2490	1.4157	.2345
5	3.40	1.61	3.23	1.49	2.97	1.42	8.4145	.0039 **	4.2989	.0385
6	3.62	1.65	2.92	1.39	2.75	1.33	61.6636	.0001 *	1.9390	.1642
7	4.50	1.54	3.59	1.45	3.76	1.41	68.3842	.0001 *	2.2230	.1364
8	4.88	1.63	4.33	1.56	4.10	1.53	38.3241	.0001 *	3.2917	.0700
9	4.39	1.45	4.51	1.48	4.78	1.43	6.2424	.0127	5.3857	.0206
10	4.57	1.47	4.64	1.44	4.51	1.51	0.0008	.9772	1.1249	.2892
11	3.53	1.70	5.17	1.47	4.59	1.55	160.7387	.0001 *	20.3565	.0001 *
12	3.47	1.54	3.89	1.56	3.96	1.57	18.3453	.0001 *	0.2757	.5997
13	5.43	1.50	4.81	1.54	5.05	1.59	23.1895	.0001 *	3.7570	.0529
14	4.66	1.60	4.91	1.58	5.01	1.48	7.8636	.0052 **	0.6017	.4382
15	5.21	1.38	5.14	1.51	5.18	1.38	0.2299	.6318	0.1492	.6995
16	3.87	1.44	4.32	1.43	4.55	1.47	32.8868	.0001 *	3.9015	.0486
17	4.37	1.59	4.55	1.51	4.35	1.54	0.6795	.4100	2.4972	.1144
18	4.92	1.45	5.15	1.53	4.80	1.53	0.4254	.5145	7.9929	.0048 **
19	4.94	1.59	5.63	1.52	5.87	1.35	61.5123	.0001 *	3.9936	.0460
20	4.29	1.44	4.54	1.37	4.57	1.43	7.5250	.0063 **	0.0933	.7661
21	4.43	1.53	4.85	1.41	4.90	1.43	20.1600	.0001 *	0.1522	.6966
22	4.22	1.69	4.71	1.56	4.71	1.46	21.0736	.0001 *	0.0003	.9867
23	3.83	1.52	3.64	1.40	4.24	1.42	0.9808	.3223	25.6669	.0001 *
24	3.45	1.42	4.01	1.50	3.67	1.41	15.9366	.0001 *	8.4862	.0037 **
25	4.86	1.56	5.14	1.43	5.45	1.40	18.0259	.0001 *	6.7542	.0095 **
26	4.78	1.58	4.61	1.53	4.88	1.43	0.1768	.6742	5.0918	.0243
27	2.86	1.46	3.13	1.61	5.03	1.63	123.0560	.0001 *	224.9280	.0001 *
28	3.71	1.31	3.92	1.38	4.35	1.34	20.3217	.0001 *	16.3073	.0001 *
29	3.39	1.42	3.60	1.37	4.45	1.46	40.7953	.0001 *	55.3788	.0001 *
30	3.83	1.53	4.24	1.41	4.57	1.45	31.8666	.0001 *	7.5921	.0060 **

Table 27 continued

Item No.	Sophomores N = 330		Juniors N = 319		Seniors N = 296		Sophomores vs. Juniors		Juniors vs. Seniors	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Univariate F	P Less Than	Univariate F	P Less Than
31	4.31	1.63	4.84	1.60	4.94	1.58	27.6093	.0001 *	0.6639	.4155
32	4.54	1.74	4.29	1.84	3.42	1.84	29.3683	.0001 *	35.3480	.0001 *
33	3.01	1.43	2.96	1.33	2.71	1.33	3.1930	.0743	5.1083	.0241
34	3.51	1.53	3.64	1.34	3.43	1.33	0.0819	.7748	3.3297	.0684
35	3.44	1.54	3.40	1.42	3.54	1.29	0.0882	.7666	1.6053	.2055
36	3.59	1.57	3.68	1.54	3.70	1.37	0.9778	.3230	0.0107	.9177
37	3.58	1.25	3.52	1.23	3.48	1.21	0.8530	.3560	0.1647	.6350
38	4.94	1.55	4.98	1.41	5.07	1.38	0.1340	.7145	0.5825	.4455
39	4.19	1.57	4.71	1.43	5.14	1.41	51.5081	.0001 *	13.2221	.0003 *
40	3.62	1.53	3.13	1.47	3.22	1.51	19.4227	.0001 *	0.6028	.4373
41	4.96	1.52	4.57	1.50	4.18	1.51	31.3304	.0001 *	10.2623	.0015 **
42	3.55	1.62	3.43	1.56	3.29	1.49	3.2449	.0729	1.1040	.2937
43	3.88	1.49	3.49	1.40	3.93	1.45	3.0799	.0796	13.9909	.0002 *
44	3.00	1.39	2.81	1.38	2.97	1.42	1.5369	.2154	2.1041	.1473
45	4.73	1.53	4.59	1.45	3.91	1.54	21.2392	.0001 *	31.2186	.0001 *
46	3.77	1.67	3.60	1.53	3.45	1.59	4.9348	.0266	1.3335	.2485
47	3.49	1.47	3.49	1.59	3.29	1.34	0.8786	.3489	2.7779	.0960
48	2.86	1.45	2.75	1.31	2.60	1.35	3.7868	.0520	1.7760	.1830
49	4.73	1.56	4.49	1.48	4.16	1.40	15.3635	.0001 *	7.6062	.0060 **
50	3.40	1.33	3.55	1.28	3.70	1.43	5.8024	.0162	1.7668	.1841
51	4.57	1.41	4.36	1.28	3.85	1.21	25.4410	.0001 *	23.7542	.0001 *
52	3.70	1.37	3.96	1.41	4.06	1.43	10.1548	.0015 **	0.7046	.4915
53	2.69	1.33	2.71	1.30	2.80	1.37	0.3734	.5414	0.7389	.3935
54	3.50	1.44	3.07	1.27	4.55	1.47	24.2635	.0001 *	0.1085	.7420
55	4.31	1.44	4.37	1.47	3.99	1.44	1.4455	.2296	10.1701	.0015 **
56	3.89	1.48	3.75	1.40	3.55	1.50	5.6573	.0176	2.8340	.0927
57	4.12	1.47	4.51	1.52	3.86	1.60	0.4591	.4982	27.5809	.0001 *
58	4.06	1.37	4.21	1.32	3.65	1.31	1.7580	.1865	27.6319	.0001 *
59	4.94	1.55	4.65	1.55	3.99	1.47	34.2740	.0001 *	28.1599	.0001 *
60	3.82	1.54	3.79	1.37	3.44	1.34	3.8603	.0498	9.3186	.0024 **

Table 27 continued

Item No.	Sophomores N = 330		Juniors N = 319		Seniors N = 296		Sophomores vs. Juniors		Juniors vs. Seniors	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Univariate F	P Less Than	Univariate F	P Less Than
61	4.87	1.30	4.71	1.30	4.19	1.28	21.4555	.0901 *	24.9639	.0001 *
62	4.60	1.34	4.88	1.31	4.73	1.19	5.7194	.0170	2.2121	.1373
63	3.54	1.44	3.35	1.45	3.54	1.56	0.8367	.3467	2.4130	.1207
64	3.42	1.45	2.94	1.28	3.10	1.33	18.5657	.0001 *	2.2449	.1344
65	3.62	1.41	3.40	1.35	3.58	1.31	2.1760	.1406	2.6364	.1016
66	3.87	1.60	3.40	1.52	3.76	1.62	7.4194	.0066 **	3.3168	.0041 **
67	3.91	1.62	3.19	1.55	3.38	1.43	35.8449	.0001 *	2.3346	.1269
68	3.64	1.36	3.45	1.30	3.52	1.28	3.0892	.0792	0.4988	.4803
69	3.08	1.28	3.00	1.23	3.06	1.23	0.4755	.4907	0.3603	.5485
70	3.98	1.25	4.10	1.44	4.20	1.40	3.1099	.0782	0.7510	.3864
71	3.28	1.46	3.25	1.54	3.24	1.53	0.1145	.7352	0.0133	.9067
72	2.78	1.30	2.68	1.34	2.57	1.31	2.8640	.0910	1.1124	.2919

*Difference between item mean scores statistically significant at or beyond the .001 level of probability of a type one error.

**Difference between item mean scores statistically significant at or beyond the .01 level of probability of a type one error.

Multivariate F-Ratios for Tests of Equality of Mean Vectors:
 Sophomores vs. Juniors: $F_{72,871} = 12.1581$, P less than .0001
 Juniors vs. Seniors: $F_{72,871} = 7.6707$, P less than .0001

Hypothesis 6-B

Another expectation was that sophomore, junior, and senior students would make significantly different recommendations for each level of the curriculum, as measured by the Prescriptive CEQ. Using one-way multivariate analysis of variance, the statistical hypothesis was tested. The findings are presented in Table 28. The F value confirms that there is a significant difference between the recommendations of sophomores and juniors and those of juniors and seniors with respect to certain CEQ items for the three levels of the curriculum. From the univariate analysis of variance procedures, the following observations are noted regarding statistically significant shifts between and among the three class levels.

- 1) Those items which decreased from sophomore to junior and again from junior to senior year are #43, #49, and #54. They describe teaching styles and procedures which were scored as low priority for the ideal sophomore curriculum and perceived as of even lesser importance for the ideal upper division.
- 2) Those items which increased from sophomore to junior and again from junior to senior year are: #9, #25, and #27. These items also increased in priority from year to year. They are related to recommendations regarding gaining confidence and making independent judgments in solving nursing problems (#9), assuming leadership (#27), and understanding comprehensive and continuous nursing care (#25).
- 3) Those items which decreased from sophomore to junior year are: #5, #6, #7, #8, #22, #33, #41, #45, and #46. They include recommendations for features related to section and seminar meetings

(#5), group conferences (#7 and #8), skill labs (#6), sufficient time for repetition and practice (#33), individual conferences (#41), and evaluation procedures (#45 and #46).

- 4) Those items which increased from sophomore to junior year are: #3, #14, #16, #18, #19, #24, #29, and #31. They are related to curricular objectives, opportunities, and learning experiences.
- 5) Those items which increased from junior to senior year are: #12, #30, #52, and #57. These items, perceived as having higher priority for the senior rather than for the junior year's ideal curriculum, were related to the faculty taking student suggestions for seminar formats (#57), students gaining confidence in relating to physicians and other health personnel (#12), and students trying alternative methods of solving nursing problems and evaluating the results (#52).
- 6) The one item which decreased from junior to senior year is #51. This recommendation is related to instructors intervening and helping students with difficult nursing problems.

The research hypothesis that there would be statistically significant differences in the recommendations for each level of the curriculum, as measured by the Prescriptive CEQ, is substantiated.

Table 28. Multivariate Analysis of Variance in Mean Score Vectors of the Prescriptive CEQ: Sophomores, 1971-1974; Juniors, 1970-1973; and Seniors, 1969-1972

Item No.	Sophomores N = 327		Juniors N = 320		Seniors N = 283		Sophomores vs. Juniors		Juniors vs. Seniors	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Univariate F	P Less Than	Univariate F	P Less Than
1	4.72	1.73	4.86	1.77	4.66	1.71	0.1230	.7206	2.0227	.1553
2	3.98	1.58	4.21	1.70	4.24	1.67	4.6920	.0306	0.0541	.8162
3	3.70	1.64	3.98	1.71	4.06	1.74	7.5823	.0061 **	0.3236	.5695
4	3.47	1.50	3.48	1.54	3.34	1.51	0.3620	.5475	1.3220	.2506
5	3.74	1.59	3.28	1.64	3.31	1.53	16.8260	.0001 *	0.0785	.7794
6	3.86	1.64	3.31	1.51	3.20	1.61	30.0559	.0001 *	0.6471	.4214
7	3.87	1.56	3.47	1.47	3.28	1.36	23.1749	.0001 *	2.5700	.1903
8	3.87	1.63	3.64	1.49	3.39	1.48	10.6169	.0012 **	3.9108	.0483
9	4.86	1.46	5.05	1.46	5.37	1.35	11.8495	.0007 *	7.5591	.0061 **
10	4.45	1.55	4.43	1.51	4.67	1.53	0.7523	.3860	3.6825	.0553
11	4.08	1.63	4.07	1.68	3.78	1.54	1.7844	.1820	4.5067	.0341
12	3.92	1.55	3.73	1.62	4.10	1.58	0.0090	.9247	3.0987	.0046 **
13	4.52	1.75	4.23	1.73	4.55	1.60	1.5003	.2210	5.6381	.0178
14	4.47	1.52	4.72	1.69	4.83	1.56	7.3715	.0068 **	0.7371	.3909
15	5.04	1.39	5.02	1.42	5.13	1.30	0.1113	.7388	1.1147	.2914
16	4.27	1.47	4.47	1.57	4.72	1.48	9.3298	.0024 **	4.3097	.0382
17	3.99	1.62	4.13	1.62	4.18	1.63	2.1804	.1402	0.1562	.6928
18	4.78	1.60	5.21	1.51	5.05	1.63	10.9993	.0010 *	1.4763	.2247
19	4.63	1.60	5.33	1.59	5.52	1.50	53.2531	.0001 *	2.2237	.1363
20	4.17	1.51	4.25	1.55	4.29	1.66	0.8670	.3521	0.0962	.7566
21	4.43	1.62	4.22	1.53	4.17	1.48	5.0231	.0253	0.1510	.6978
22	4.23	1.57	3.98	1.65	3.80	1.58	9.2725	.0024 **	2.0231	.1553
23	3.27	1.38	3.43	1.45	3.32	1.46	1.1982	.2740	0.8822	.3479
24	3.15	1.38	3.50	1.39	3.29	1.42	7.0991	.0079 **	3.4680	.0622
25	4.13	1.57	4.25	1.61	4.65	1.55	8.1232	.0045 **	9.3097	.0024 **
26	4.34	1.49	4.38	1.62	4.53	1.56	1.0737	.3004	1.4738	.2251
27	3.86	1.61	4.18	1.54	5.40	1.51	70.4937	.0001 *	92.3410	.0001 *
28	3.50	1.33	3.56	1.42	3.68	1.38	1.3598	.2439	1.1149	.2913
29	3.40	1.34	3.72	1.38	3.74	1.37	12.4780	.0005 *	0.0329	.8562
30	4.34	1.52	4.26	1.53	4.72	1.38	1.7521	.1860	14.7018	.0002 *

Table 23 continued

Item No.	Sophomores N = 327		Juniors N = 320		Seniors N = 283		Sophomores vs. Juniors		Juniors vs. Seniors	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Univariate F	P Less Than	Univariate F	P Less Than
31	4.40	1.55	4.63	1.64	4.83	1.44	9.3258	.0024 **	2.5507	.1106
32	5.02	1.56	4.88	1.74	4.63	1.86	4.9130	.0269	3.2401	.0722
33	4.16	1.62	3.93	1.59	3.81	1.61	6.8717	.0090 **	0.7308	.3929
34	4.20	1.49	3.92	1.49	4.04	1.34	4.9967	.0257	0.9739	.3240
35	3.67	1.63	3.65	1.44	3.64	1.43	0.0309	.8605	0.0066	.9353
36	4.30	1.55	4.29	1.46	4.19	1.41	0.3370	.5618	0.7780	.3780
37	3.39	1.42	3.35	1.38	3.38	1.37	0.0974	.7551	0.0752	.7841
38	4.37	1.53	4.19	1.55	4.39	1.50	0.7325	.3923	2.5158	.1131
39	4.30	1.48	4.37	1.35	4.53	1.33	2.2315	.1356	2.0895	.1487
40	4.82	1.46	4.88	1.44	4.79	1.47	0.0450	.8320	0.6106	.4348
41	3.88	1.42	3.71	1.41	3.48	1.34	8.3023	.0041 **	4.2901	.0387
42	4.77	1.54	4.65	1.55	4.57	1.61	2.0970	.1480	0.4032	.5256
43	4.05	1.57	3.83	1.36	3.96	1.38	2.4976	.1144	1.0936	.2960
44	3.91	1.75	3.88	1.64	3.78	1.48	0.5079	.4763	0.4907	.4839
45	4.44	1.43	4.10	1.46	3.97	1.46	15.8439	.0001 *	1.2365	.2665
46	4.06	1.75	3.87	1.56	3.56	1.65	8.4645	.0038 **	5.2370	.0224
47	4.13	1.51	4.10	1.50	4.14	1.41	0.0079	.9292	0.1580	.6911
48	2.91	1.62	2.73	1.61	2.41	1.44	9.7313	.0019 **	6.4600	.0112 **
49	4.78	1.38	4.76	1.30	4.22	1.38	8.7437	.0032 **	23.5249	.0001 *
50	2.76	1.38	3.07	1.37	2.88	1.35	5.1747	.0232	2.9660	.0854
51	3.85	1.45	3.90	1.38	3.53	1.32	1.7242	.1895	10.4445	.0013 *
52	3.89	1.38	3.92	1.44	4.24	1.35	3.7012	.0547	8.1417	.0045 **
53	3.47	1.52	3.72	1.51	3.67	1.48	4.7598	.0294	0.1458	.7027
54	4.31	1.51	4.09	1.55	3.71	1.43	15.1004	.0002 *	9.4442	.0022 **
55	4.15	1.56	3.89	1.53	3.89	1.50	6.1532	.0133	0.0009	.9764
56	4.06	1.51	3.89	1.35	3.98	1.40	1.7458	.1868	0.4926	.4830
57	3.70	1.41	3.46	1.34	3.87	1.34	0.2345	.6284	13.0429	.0004 *
58	3.24	1.34	3.18	1.36	3.36	1.36	0.0832	.7731	2.8318	.0928
59	3.48	1.52	3.49	1.49	3.27	1.44	0.8153	.3668	3.4488	.0637
60	3.50	1.54	3.73	1.49	3.61	1.50	2.8347	.0926	0.9054	.3416

Table 2b continued

Item No.	Sophomores		Juniors		Seniors		Sophomores vs. Juniors		Juniors vs. Seniors	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Univariate F	P Less Than	Univariate F	P Less Than
61	4.20	1.51	4.46	1.52	4.41	1.45	5.1923	.0239	0.1671	.6329
62	4.03	1.43	4.13	1.43	4.25	1.26	2.5637	.1097	1.1829	.2771
63	3.73	1.60	3.76	1.60	3.77	1.53	0.0944	.7588	0.3067	.9350
64	3.37	1.59	3.26	1.49	3.11	1.40	3.0300	.0821	1.5616	.2118
65	3.61	1.56	3.74	1.44	3.59	1.44	0.3437	.5579	1.4819	.2240
66	5.22	1.63	5.09	1.55	5.34	1.53	0.0174	.9951	3.6389	.0566
67	4.32	1.48	4.17	1.50	3.99	1.43	5.1788	.0231	2.0607	.1515
68	3.62	1.44	3.84	1.44	3.61	1.36	1.2931	.2558	4.0307	.0450
69	3.00	1.39	2.95	1.34	3.03	1.32	0.0308	.9607	0.5017	.4790
70	2.76	1.48	2.88	1.48	2.78	1.43	0.5442	.4609	0.6533	.4192
71	2.83	1.48	2.93	1.53	2.64	1.42	0.1253	.7235	5.9520	.0149 **
72	4.32	1.52	4.24	1.58	4.25	1.54	0.4860	.4859	0.0028	.9577

*Difference between item mean scores statistically significant at or beyond the .001 level of probability of a type one error.

**Difference between item mean scores statistically significant at or beyond the .01 level of probability of a type one error.

Multivariate F-Ratios for Tests of Equality of Mean Vectors:
 Sophomores vs. Juniors: F72,856 = 4.4702, P less than .0001
 Juniors vs. Seniors: F72,856 = 3.3436, P less than .0001

Summary

The data shows that the students identified features of the real and ideal curriculum which were and/or should be unique to each level: sophomore, junior, and senior. Other features were identified as being and/or should be introduced in the sophomore year and gradually built upon throughout the program. Similarly, some features were perceived as **receiving** and/or should receive their greatest emphasis in the sophomore year, and then gradually decrease in emphasis throughout the program.

As measured by the Descriptive and Prescriptive CEQ's, there were statistically significant differences in students' perceptions of and prescriptions for each level of the curriculum. Thus, the hypothesis was substantiated.

CHAPTER 6

HYPOTHESIS 7

There will be no significant difference in the U.S.F. students' perception of the nursing curriculum as it is and as they would like it to be.

This hypothesis is based on the assumption that there is congruence (fit) between goals of professionally oriented students and those of the program they choose to enter, that nursing students readily take on the goals and professional characteristics of the faculty, that they tend to like what they experience, and that they share common values. The findings reported in this chapter are derived from a repeated measures univariate analysis of individual CEQ items. They have been arbitrarily selected on the basis of a mean score above 5.00 ("most characteristic") or below 3.00 ("least characteristic") on either or both CEQ's for each of the three levels (sophomore, junior, and senior years). The sample was structured by selecting every fourth subject's response. This resulted in a sample population of 84 for the four classes of sophomores, 80 juniors, and 70 seniors. The hypothesis has been divided into three research hypotheses.

Hypothesis 7-A

The research hypothesis established the expectation that there would be no difference in the mean score value of selected CEQ items between the Descriptive and Prescriptive CEQ's, as perceived by a structured sample of four classes of sophomores. Nine items were selected for repeated measures

univariate analysis of variance on the basis of their mean scores above or below the cut-off points on either CEQ for the total population.

Table 29. Repeated Measures Univariate Analysis of Variance in Mean Score Vectors of the Descriptive and Prescriptive CEQ's:
Sophomores, 1971-1974
(N = 327; n = 84)

Item No.	Descriptive CEQ Mean	Prescriptive CEQ Mean	Univariate F	P Less Than
13	5.46	4.82	9.6272	.0027*
15	5.23	5.06	0.8816	.3505
27	2.86	4.05	27.8374	.0001*
32	4.69	4.90	0.9639	.3291
48	2.89	2.99	0.2085	.6492
53	2.58	3.46	14.9136	.0003*
66	3.64	5.15	34.7220	.0001*
70	4.06	2.63	54.1893	.0001*
71	3.11	2.82	1.9960	.1615

*Specifies significance at the .01 level.

As shown in Table 29, five items were statistically significant at or beyond the .01 level. Of these, three (#27, #53, and #66) increased in their mean score values from the Descriptive to the Prescriptive CEQ, indicating that these features were less characteristic of the real curriculum and high priority recommendations for the ideal one. Two items decreased (#13 and #70). The sophomores appear to be saying that the curriculum would be improved if it emphasized opportunities for students to assume leadership roles in directing the nursing care of groups of patients (#27), faculty supported students' decisions in problem-solving (#53), and faculty treated students as autonomous, mature, and responsible adults (#66). The sophomores also appear to be saying that the ideal curriculum might well give less emphasis to experiences related to effective communication and human interaction (#13), and faculty-student social relationships which are initiated by students (#70).

In a word, sophomores seem to want a more in-depth, responsible, challenging exposure to nursing and less "mickey mousing" with social functions

and group processes. On the basis of the evidence, the research hypothesis is rejected; there were significant differences in the ways sophomore students perceived the actual curriculum and their recommendations for the ideal one.

Hypothesis 7-B

The research hypothesis established the expectation that there would be no significant difference in the mean score values of selected CEQ items between the Descriptive and Prescriptive CEQ's, as perceived by a structured sample of four classes of juniors. Eighteen items were selected for repeated measures univariate analysis of variance on the basis of their mean scores above or below the cut-off points on either CEQ for the total population.

Table 30. Repeated Measures Univariate Analysis of Variance in Mean Score Vectors of the Descriptive and Prescriptive CEQ's:
Juniors, 1970-1973
(N = 319; n = 80)

<u>Item No.</u>	<u>Descriptive CEQ</u> Mean	<u>Prescriptive CEQ</u> Mean	<u>Univariate F</u>	<u>P Less Than</u>
2	5.09	4.21	17.2351	.0001*
6	2.93	3.49	6.5847	.0122
9	4.70	5.14	3.1860	.0782
11	5.46	4.28	34.5183	.0001*
15	5.30	4.95	3.1446	.0801
18	5.04	5.30	1.9662	.1648
19	5.60	5.64	0.0319	.8588
25	5.31	4.61	9.9003	.0024*
33	2.78	3.85	20.0895	.0001*
44	3.05	3.85	10.9675	.0014*
48	2.78	2.79	0.0045	.9469*
53	2.59	4.04	37.5574	.0001*
64	2.96	3.10	0.4185	.5196
66	3.25	5.01	44.9783	.0001*
69	3.24	2.81	6.2193	.0148
70	4.19	2.86	35.6140	.0001*
71	3.26	2.83	3.3632	.0705
72	2.68	4.11	27.2254	.0001*

*Specifies significance at the .01 level.

As shown in Table 30, ten items were statistically significant at or beyond the .01 level. Of these, five (#33, #44, #53, #66, and #72) increased

in their mean score values from the Descriptive to the Prescriptive CEQ, indicating that these features were less characteristic of the real curriculum and high priority recommendations for the ideal one. Four items (#2, #11, #25, and #70) decreased, and one (#48) stayed the same. The juniors seem to be saying that more time should be given for reinforcing their learnings (#33), consideration should be given to external factors influencing their learnings (#44), more support should be provided by faculty for students' decision-making in problem-solving (#53), differences of opinion between faculty and students should be brought out into the open (#72), and faculty should accord students more respect by treating them as autonomous, mature adults (#66).

Juniors also appear to be saying that less emphasis should be given to all that jazz about lifelong learning (#2), working with people of all ages (#11), concepts about comprehensive and continuous care (#25), and student-faculty social activities initiated by students (#70). The need for detailed directions in laboratory experiences (#48) was less characteristic of the real curriculum, and the juniors would appear to have it stay at the same low priority level in the ideal one. In a word, the juniors' recommendations for improving the curriculum focus on teaching styles, program planning, and student-faculty social relations rather than the learning experiences themselves.

On the basis of the data reported in Table 30, the research hypothesis is rejected; there were significant differences in the ways junior students perceived the actual curriculum and their recommendations for the ideal one.

Hypothesis 7-C

The research hypothesis established the expectation that there would be no difference in the mean score value of selected CEQ items between the

Descriptive and Prescriptive CEQ, as perceived by a structured sample of four classes of seniors. Twenty-two items were picked for repeated measures univariate analysis of variance on the basis of their mean scores above or below the cut-off points on either CEQ for the total population.

Table 31. Repeated Measures Univariate Analysis of Variance in Mean Score Vectors of the Descriptive and Prescriptive CEQ's:
Seniors, 1969-1972
(N = 283; n = 74)

Item No.	Descriptive CEQ	Prescriptive CEQ	Univariate F	P Less Than
	Mean	Mean		
2	5.20	4.15	18.7683	.0001*
5	2.85	3.14	1.7329	.1922
6	2.69	2.86	0.6869	.4100
9	4.65	5.38	14.4848	.0003*
13	4.92	4.80	0.2960	.5881
14	5.14	4.81	1.6412	.2043
15	5.18	5.14	0.0385	.8451
18	4.85	4.86	0.0027	.9584
19	5.64	5.34	1.7085	.1953
25	5.65	4.76	20.5472	.0001*
27	4.76	5.11	2.3247	.1317
33	2.78	2.70	9.7739	.0026*
38	4.77	4.36	4.1134	.0462
39	5.22	4.46	12.1023	.0009*
44	3.28	3.70	3.0190	.0866
48	2.70	2.23	4.3090	.0415
50	3.78	2.85	21.2844	.0001*
53	2.88	3.85	15.7864	.0002*
66	3.69	5.28	36.1624	.0001*
70	4.41	2.76	52.2773	.0001*
71	3.38	2.70	8.3257	.0052*
72	2.64	4.35	46.6544	.0001*

*Specifies significance at the .01 level.

As shown in Table 31, eleven items were statistically significant at or beyond the .01 level. Of these, four (#9, #53, #66, and #72) increased in their mean score values from the Descriptive to the Prescriptive CEQ, indicating that these features were less characteristic of the real curriculum and high priority recommendations for the ideal one. Seven decreased (#2, #25, #33, #39, #50, #70, and #71).

The seniors appear to be convinced that the curriculum would be strengthened if the faculty only would treat them like the grown up "pros" they think they are: letting them make judgments, supporting their decisions, and getting differences of opinion out on the table for open discussion. The seniors appear to reinforce several features they perceived as less characteristic of the real curriculum and ones that should be given even less priority in the ideal one: planning time to reinforce learnings, withholding guidance until asked for, and student-faculty social relationships.

Conversely, they also seem to be saying that the revised curriculum should put less emphasis on the importance of continuing self-education (they've had it with schooling!), choice of learning options (they are impatient to get going), and concepts of comprehensive and continuous health care (they're tired of being brainwashed!). In a word, the seniors appear to be saying, "Hey, we're 21; we're about to graduate and begin professional practice. So wake up and recognize us as your new colleagues!"

On the basis of the data shown in Table 31, the research hypothesis is rejected; there were significant differences in the ways senior students perceived the actual curriculum and their recommendations for the ideal one.

Summary

At each level of the curriculum, the sophomores, juniors, and seniors clearly defined areas for improving the program. Hence, the hypothesis that there would be no difference in students' perceptions as they recalled their experiences and as they wished they had been is rejected. Sophomores, juniors, and seniors seemed to agree that there is room for improvement in the faculty's recognition of them as responsible, mature adults and their support for student decisions in problem-solving. They want the faculty to stop being

concerned about faculty-student social relationships. Upper division students also seemed to feel that too much emphasis was placed on concepts related to comprehensive and continuous health care and the concern for lifelong education, and not enough on the importance of open discussion of issues on which there were differences of opinion.

All other differences in the ways students perceived the actual curriculum and their recommendations for the ideal one were unique to each level: sophomore, junior, senior.

CHAPTER 7

CLUSTER ANALYSIS OF THE CEQ'S

In this chapter, an overview will be presented of the clusters which emerged at all three levels of the U.S.F. curriculum--sophomore, junior, senior--based on a four-year sample of students at each level. The clusters are presented in two parts: 1) those emerging from all three levels for the Descriptive CEQ, and 2) those emerging from all three levels for the Prescriptive CEQ.

Descriptive CEQ

Cluster analysis of the Descriptive CEQ by all students at the end of their sophomore, junior, and senior years resulted in five clusters each for the sophomore and juniors, and eight for the seniors. These are shown in Tables 32, 33, and 34.

Table 32. Cluster Analysis of the Descriptive CEQ:
Sophomores, 1971-1974
 N = 330

Cluster I: Value of Instructors' Regard and Mean Cluster Score = 47.25
Concern for Students as Individuals

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
66	Instructors treat students like autonomous, mature, and responsible adults and respect their individual interests, abilities, and goals.	.5329
67	Instructors show discreet interest, genuine concern, and sympathetic consideration for the personal conflicts and learning difficulties of students.	.4469
42	Instructors evaluate each student's progress individually, judging it in relation to her abilities, interests, prior learnings, and previous learning experiences.	.4447

The students do not believe that instructors demonstrate regard and concern for them as individuals by treating them like autonomous, mature, and responsible adults and by taking into account their interests, abilities, and goals, particularly when evaluating their achievements and progress in the nursing program.

Cluster II: Value of Team Teaching Mean Cluster Score = 56.25

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
58	Team teaching provides opportunities for instructors to use each other as resources in implementing the educational objectives of the nursing program.	.6018
59	Team teaching provides opportunities for students to learn and benefit from the special interests and capabilities of a variety of instructors.	.5870

The students agree that team teaching provides opportunities for them to learn from the special interests of instructors and that team teaching gives instructors themselves opportunities to use each other as resource persons.

Cluster III: Value of Individualized Instruction

Mean Cluster Score = 44.00

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
36	Instructors individualize students' learnings by helping them choose learning objectives and plan learning experiences appropriate to their individual needs and goals.	.6444
35	Instructors help students formulate their <u>own</u> learning objectives in the light of the <u>stated</u> educational objectives of the nursing program's curriculum.	.5882

The students doubt that instructors individualize instruction by helping them choose their own learning objectives and plan their learnings in relation to individual needs and goals as well as the educational goals of the nursing program.

Cluster IV: Value of Laboratory Experiences for Understanding the Needs of Persons from Differing Backgrounds

Mean Cluster Score = 50.13

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
23	Laboratory experiences help students understand the financial and health problems of lower-income families.	.5863
22	Laboratory experiences provide opportunities for students to work with persons from a variety of social class and cultural backgrounds.	.5245

The students agree that laboratory experiences provide opportunities for them to work with persons from a variety of social class and cultural backgrounds and so help them understand the financial and health problems of lower-income families.

Cluster V: Value of Faculty as Professional Role Models Mean Cluster Score = 54.13

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
60	Members of the nursing faculty are the professional role models for students in the nursing program.	.5868
61	Members of the nursing faculty are not only educators but also competent professional nursing practitioners.	.5620

The students agree that the nursing faculty are professional role models for them because they are not only competent nursing educators but also competent professional nursing practitioners.

Table 33. Cluster Analysis of the Descriptive CEQ:
Juniors, 1970-1973
 N = 319

Cluster I: Value of Instructors' Informal and Social Relationships with Students Mean Cluster Score = 48.88

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
70	Instructors participate in and contribute to the informal social activities initiated by students when they are invited and whenever it is possible for them to do so.	.8208
71	Instructors initiate informal social contacts with students to provide opportunities for timely and fruitful exchange of ideas about matters of mutual interest.	.5065
41	Instructors encourage students to make appointments for individual conferences whenever they feel a need for additional assistance or further support and encouragement.	.2883

The students are not convinced that instructors participate in informal and social activities initiated by them, that they initiate such activities themselves, and that they encourage students to make appointments for individual conferences whenever they feel a need for them.

Cluster II: Value of Faculty as Professional Role Models Mean Cluster Score = 53.38

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
61	Members of the nursing faculty are not only educators but also competent professional nursing practitioners.	.6614
60	Members of the nursing faculty are the professional role models for students in the nursing program.	.6135

The students agree that members of the nursing faculty are educators, are competent professional nursing practitioners, and, as such, serve as professional role models for students in the nursing program.

Cluster III: Value of Team Teaching

Mean Cluster Score = 55.50

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
59	Team teaching provides opportunities for students to learn and benefit from the special interests and capabilities of a variety of instructors.	.6870
58	Team teaching provides opportunities for instructors to use each other as resources in implementing the educational objectives of the nursing program.	.5840

The students agree that team teaching provides opportunities for them to learn from the special interests of instructors and that team teaching gives instructors themselves opportunities to use each other as resource persons.

Cluster IV: Value of Group Conferences

Mean Cluster Score = 50.00

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
8	Group work and conferences enable students to share learning opportunities and thus to benefit from the laboratory experiences of their peers.	.6392
7	Group conferences before and after each laboratory experience provide opportunities for students to communicate their learning needs and objectives to their instructors.	.5242

The students are divided in their beliefs that group work and conferences provide opportunities for them to share their learnings and their needs for additional experience with their peers and instructors.

Cluster V: Value of Instructors' Regard and Concern for Students as Individuals Mean Cluster Score = 41.25

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
40	Instructors recognize and respond to students' needs for positive feedback of their achievements to encourage them to make further progress.	.6008
66	Instructors treat students like autonomous, mature, and responsible adults and respect their individual interests, abilities, and goals.	.5048
65	Instructors reasonably expect no more of students than they would of themselves in comparable nursing problem situations.	.4462
67	Instructors show discreet interest, genuine concern, and sympathetic consideration for the personal conflicts and learning difficulties of students.	.3953
42	Instructors evaluate each student's progress individually, judging it in relation to her abilities, interests, prior learnings, and previous learning experiences.	.3865

The students doubt that instructors demonstrate regard and concern for them as individuals by recognizing and responding to their needs for positive feedback of their achievements; by treating them like autonomous, mature, and responsible adults; by respecting their interests, abilities, and goals; by holding reasonable expectations of them in nursing problem situations; by showing discreet interest and sympathetic consideration for their personal conflicts and learning difficulties; and by evaluating their progress in relation to their own abilities, interests, learnings, and experiences.

Table 34. Cluster Analysis of the Descriptive CEQ:
Seniors, 1969-1972
 N = 296

Cluster I: Value of Team Teaching Mean Cluster Score = 48.25

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
59	Team teaching provides opportunities for students to learn and benefit from the special interests and capabilities of a variety of instructors.	.8515
58	Team teaching provides opportunities for instructors to use each other as resources in implementing the educational objectives of the nursing program.	.5639

The students agree that team teaching fails to provide opportunities for them to learn from the special interests of instructors and that team teaching does not lend itself to opportunities for instructors to use each other as resource persons.

Cluster II: Value of Instructors' Informal and Social Relationships with Students Mean Cluster Score = 48.50

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
70	Instructors participate in and contribute to the informal social activities initiated by students when they are invited to do so and whenever it is possible for them to do so.	.6822
71	Instructors initiate informal social contacts with students to provide opportunities for timely and fruitful exchange of ideas about matters of mutual interest.	.5280
41	Instructors encourage students to make appointments for individual conferences whenever they feel a need for additional assistance or further support and encouragement.	.3613

The students agree that instructors are not readily accessible and available to them for conferences and informal social contacts and that instructors are not interested in participating in student-initiated informal social activities.

Cluster III: Value of Instructors' Regard and Concern for Evaluating Students as Individuals Mean Cluster Score = 42.88

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
42	Instructors evaluate each student's progress individually, judging it in relation to her abilities, interests, prior learnings, and previous learning experiences.	.6018
53	Instructors support students' decisions regarding problem-solving methods, even when those decisions are contrary to ones they themselves might make in similar situations.	.5379
66	Instructors treat students like autonomous, mature, and responsible adults and respect their individual abilities, interests, and goals.	.4759
56	Instructors listen to and consider students' evaluative comments about the nursing program in general and individual laboratory experiences in particular.	.4710
43	Instructors consider students' own self-appraisals in evaluating their learnings, progress, and position on the learning continuum.	.4003

The students agree that instructors fail to evaluate them as individuals; to support their decisions regarding problem-solving methods; to treat them as autonomous adults; to respect their abilities, interests, and goals; to consider their evaluative comments; or to value their own self-appraisals.

Cluster IV: Value of Faculty as Professional Role Models Mean Cluster Score = 47.88

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
61	Members of the nursing faculty are not only educators but also competent professional nursing practitioners.	.6605
60	Members of the nursing faculty are the professional role models for students in the nursing program.	.6347

The students question that members of the nursing faculty are educators, are competent professional nursing practitioners, and, as such, serve as professional role models for them in the nursing program.

Cluster V: Value of Group Conferences

Mean Cluster Score = 49.25

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
8	Group work and conferences enable students to share learning opportunities and thus to benefit from the laboratory experiences of their peers.	.6157
7	Group conferences before and after each laboratory experience provide opportunities for students to communicate their learning needs and objectives to their instructors.	.5708

The students are skeptical that group work and conferences provide opportunities for them to share their learnings and their needs for additional experiences with their peers and instructors.

Cluster VI: Value of Laboratory Experiences as Preparation for Professional Nursing Intervention

Mean Cluster Score = 44.50

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
32	Laboratory experiences provide opportunities for students to perform a variety of technical procedures employed in professional nursing care.	.5464
14	Laboratory experiences help students function effectively with patients who are acutely ill, as well as with those who are on self-care.	.4422
15	Laboratory experiences provide opportunities for students not only to observe but also to initiate definitive nursing action in caring for people's health needs.	.4288

The students agree that laboratory experiences fail to provide opportunities for practical preparation for professional nursing care, i.e., to perform a variety of technical procedures, to observe and initiate definitive nursing action in caring for people's health needs, and to function effectively with patients who are acutely ill as well as with those who are on self-care.

Cluster VII: Value of Individualized
Instruction in the Planning
of Laboratory Experiences

Mean Cluster Score = 63.88

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
39	Instructors permit students to exercise some choice in the selection of learning opportunities appropriate to their individual learning needs and objectives.	.5624
38	Instructors require students to exercise initiative and take responsibility for planning and communicating their learning needs and objectives for each laboratory experience.	.5367

The students agree that faculty individualize their instruction in laboratory experiences, not only by permitting students to exercise some choice in the selection of learning opportunities appropriate to their individual learning needs and objectives, but also by requiring them to take initiative and responsibility for planning and communicating their needs and objectives.

Cluster VIII: Value of Laboratory Experiences
for the Development of Profes-
sional Roles in the Community

Mean Cluster Score = 56.75

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
29	Laboratory experiences help students gain confidence in their ability to refer patients and their families to appropriate community family service agencies.	.6172
3	Laboratory experiences make students aware of the nurse's role as a change agent in the community as well as in professional practice.	.5168

The students agree that laboratory experiences are effective in teaching them professional attitudes and understandings essential to nursing practice and comprehensive health care for patients, their families, and the community.

Findings

Value of Team Teaching and Value of Faculty as Professional Role

Models are the two clusters identified by all three groups as characteristic of the curriculum at each level. Another cluster, related to the faculty's concern for students as individuals, occurred at all three levels, but with a different twist. For example, at the sophomore level, the emphasis is on learning difficulties; at the junior level, on the needs for positive feedback; and at the senior one, faculty support for student decisions in problem solving. Value of Instructors' Informal and Social Relationships with Students and the Value of Group Conferences were two clusters identified by both juniors and seniors. The remaining clusters, two at sophomore, one at junior, and four at senior levels, were unique to the curriculum at those levels, as perceived by the students at that level. The clusters at the senior level all relate to preparation for the "real" world.

Prescriptive CEQ

Cluster analysis of the Prescriptive CEQ by all students at the end of their sophomore, junior, and senior years resulted in three clusters for the sophomores, three for juniors, and seven for seniors. These are shown in Tables 35, 36, and 37.

Table 35. Cluster Analysis of the Prescriptive CEQ:
Sophomores, 1971-1974
 N = 327

Cluster I: Value of Instructors' Informal and Social Relationships with Students Mean Cluster Score = 34.88

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
70	Instructors [should] participate in and contribute to the informal social activities initiated by students when they are invited to do so and whenever it is possible for them to do so.	.6801
71	Instructors [should] initiate informal social contacts with students to provide opportunities for timely and fruitful exchange of ideas about matters of mutual interest.	.6582

The students are firm in their belief that instructors should not participate in informal and social activities initiated by students and also should not initiate such activities themselves.

Cluster II: Value of Laboratory Experiences for Students Becoming Lifelong Learners Mean Cluster Score = 43.50

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
24	Laboratory experiences [should] help students appreciate the importance of published research in the improvement of professional nursing care.	.6936
2	Laboratory experiences [should] make students aware of the need for continuing self-education in professional nursing practice.	.4702

The students are not convinced that laboratory experiences should help them appreciate the importance of published research in the improvement of professional nursing care and also should make them aware of the need for continuing self-education and lifelong learning.

Cluster III: Value of Laboratory Experiences Mean Cluster Score = 51.50
for Developing Professional
Understandings and Skills

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
25	Laboratory experiences [should] help students understand the concept of comprehensive and continuous health care for patients and their families.	.6225
29	Laboratory experiences [should] help students gain confidence in their ability to refer patients and their families to appropriate community family service agencies.	.5179
30	Laboratory experiences [should] help students gain confidence in their ability to make realistic plans for assisting families to achieve and maintain a high level of health.	.4972
21	Laboratory experiences [should] help students develop skill in assisting patients to move from a <u>dependent</u> to an <u>independent</u> role in their recuperation from illness.	.4734
31	Laboratory experiences [should] help students gain confidence in their ability to teach the essentials of health care to patients and their families.	.4425

The students tend to agree that laboratory experiences should help them understand the concept of comprehensive health care and gain confidence in their ability to refer patients, to make realistic plans for assisting families, to teach the essentials of health care. and to develop skill in assisting patients to move from a dependent to an independent role.

Table 36. Cluster Analysis of the Prescriptive CEQ:
Juniors, 1970-1973
 N = 320

Cluster I: Value of Instructors' Informal and Social Relationships with Students Mean Cluster Score = 36.25

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
70	Instructors [should] participate in and contribute to the informal social activities initiated by students when they are invited to do so and whenever it is possible for them to do so.	.7690
71	Instructors [should] initiate informal social contacts with students to provide opportunities for timely and fruitful exchange of ideas about matters of mutual interest.	.6675

The students agree that instructors should not participate in informal and social activities initiated by students and also should not initiate such activities themselves.

Cluster II: Value of Instructors' Regard
and Concern for Students as
Individuals

Mean Cluster Score = 53.00

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
44	Instructors [should] consider <u>external</u> factors that influence the learning process in evaluating students' achievements and progress.	.5686
42	Instructors [should] evaluate each student's progress individually, judging it in relation to her abilities, interests, prior learnings, and previous learning experiences.	.5548
67	Instructors [should] show discreet interest, genuine concern, and sympathetic consideration for the personal conflicts and learning difficulties of students.	.3070
66	Instructors [should] treat students like autonomous, mature, and responsible adults and respect their individual interests, abilities, and goals.	.5332
64	Instructors [should] communicate empathy for students' learning problems based on recollection of their own experiences as learners in the process of becoming professional nurses.	.2375

The students agree that instructors should demonstrate regard and concern for them as individuals by taking into account their interests, abilities, and goals as well as their personal conflicts and learning problems, especially when evaluating their achievements and progress in the nursing program.

Cluster III: Value of Time in the Learning Process

Mean Cluster Score = 53.00

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
33	Laboratory experiences [should be] planned and scheduled so as to provide sufficient time for students to reinforce their learnings through repetition and practice.	.6190
54	Instructors [should be] sensitive to students' needs for repetition and/or reinforcement of their learnings to insure adequate comprehension and skill.	.4712
32	Laboratory experiences [should] provide opportunities for students to perform a variety of technical procedures employed in professional nursing care.	.4282

The students agree that laboratory experiences should be planned and scheduled to provide sufficient time for students to reinforce their learnings through repetition and practice and opportunities for them to perform a variety of technical procedures employed in professional nursing care, and also that instructors should be sensitive to their needs for repetition and/or reinforcement of their learnings to insure adequate comprehension and skill.

Table 37. Cluster Analysis of the Prescriptive CEQ:
Seniors, 1969-1972
 N = 283

Cluster I: Value of Instructors' Informal and Social Relationships with Students Mean Cluster Score = 33.88

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
70	Instructors [should] participate in and contribute to the informal social activities initiated by students when they are invited and whenever it is possible for them to do so.	.7347
71	Instructors [should] initiate informal social contacts with students to provide opportunities for timely and fruitful exchange of ideas about matters of mutual interest.	.6396

The students seriously question whether instructors should participate in informal and social activities initiated by them and whether the faculty should initiate such activities themselves.

**Cluster II: Value of Instructors' Regard
and Concern for Individualized
Learning and Evaluation**

Mean Cluster Score = 54.75

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
42	Instructors [should] evaluate each student's progress individually, judging it in relation to her abilities, interests, prior learnings, and previous learning experiences.	.6290
66	Instructors [should] treat students like autonomous, mature, and responsible adults and respect their individual interests, abilities, and goals.	.4963
36	Instructors [should] individualize students' learnings by helping them choose learning objectives and plan learning experiences appropriate to their individual needs and goals.	.4724
67	Instructors [should] show discreet interest, genuine concern, and sympathetic consideration for the personal conflicts and learning difficulties of students.	.4695
44	Instructors [should] consider external factors that influence the learning process in evaluating students' achievements and progress.	.4368
47	Instructors [should] attempt to find out what students already know and can do before undertaking to teach them new understandings and skills.	.4343

The students agree that instructors should individualize student learning experiences, evaluate their accomplishments on an individual basis, and respect them as autonomous adults in considering external factors which may influence their learning needs and progress, manifesting appropriate discretion for any personal difficulties and concerns.

Cluster III: Value of Time in the Learning Process

Mean Cluster Score = 50.00

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
33	Laboratory experiences [should be] planned and scheduled so as to provide sufficient time for students to reinforce their learnings through repetition and practice.	.7608
54	Instructors [should be] sensitive to students' needs for repetition and/or reinforcement of their learnings to insure adequate comprehension and skill.	.4850
32	Laboratory experiences [should] provide opportunities for students to perform a variety of technical procedures employed in professional nursing care.	.4534

The students are divided in their belief that laboratory experiences should be planned and scheduled to provide sufficient time for them to reinforce their learnings through repetition and practice and opportunities for them to perform a variety of technical procedures employed in professional nursing care, and also that instructors should be sensitive to their need for repetition and/or reinforcement of their learnings to insure adequate comprehension and skill.

Cluster IV: Value of Team Teaching

Mean Cluster Score = 41.50

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
58	Team teaching [should] provide opportunities for instructors to use each other as resources in implementing the educational objectives of the nursing program.	.6790
59	Team teaching [should] provide opportunities for students to learn and benefit from the special interests and capabilities of a variety of instructors.	.6062

The students do not agree that team teaching should provide opportunities for them to learn from the special interests of instructors and should give the instructors themselves opportunities to use each other as resource persons.

Cluster V: Value of Faculty as Professional Role Models Mean Cluster Score = 49.88

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
60	Members of the nursing faculty [should be] not only educators but also competent professional nursing practitioners.	.5793
61	Members of the nursing faculty [should be] the professional role models for students in the nursing program.	.5504

The students are divided in their conviction that members of the nursing faculty should be educators, competent professional nursing practitioners, and, as such, should serve as professional role models for them.

Cluster Vi: Value of Laboratory Experiences for Understanding the Needs of Persons from Differing Backgrounds Mean Cluster Score = 44.50

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
23	Laboratory experiences [should] help students understand the financial and health problems of lower-income families.	.6405
22	Laboratory experiences [should] provide opportunities for students to work with persons from a variety of social classes and cultural backgrounds.	.6370

The students do not agree that laboratory experiences should provide opportunities for them to work with persons from a variety of social classes and cultural backgrounds and thus help them understand the financial and health problems of lower-income families.

Cluster VII: Value of Laboratory Experiences for Teaching the Essentials of Planned Nursing Interventions and Care Mean Cluster Score = 65.13

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
18	Laboratory experiences [should] help students gain confidence in their ability to plan nursing interventions in accordance with scientific principles.	.3594
19	Laboratory experiences [should] help students appreciate the importance of establishing priorities in planning nursing care.	.2965
27	Laboratory experiences [should] provide opportunities for students to assume leadership roles in directing the nursing care of groups of patients.	.2326
16	Laboratory experiences [should] help students gain confidence in their ability to initiate change in the plan for a patient's nursing care.	.1713

The students strongly recommend that laboratory experiences should provide opportunities to teach the use of principles in planning priorities for nursing intervention and should help them gain confidence in their ability to make independent judgments in affecting change in nursing care.

Findings

The cluster, Value of Instructors' Informal and Social Relationships with Students, was the only one identified by all three groups as an unvalued characteristic of the ideal curriculum at each level. One cluster, related in general to the notion of the faculty's concern for students as individuals, occurred at both junior and senior levels, but with a different twist. For example, at the junior level, the emphasis was on faculty empathy for students as learners; at the senior level, individualization of options for students as learners. Time for professional practice was identified by both juniors and seniors. The remaining clusters, two at sophomore, zero at junior, and four at senior levels, were unique as recommended features for the ideal curriculum at those levels. Of the additional clusters at the senior level, two were recommendations affecting the faculty (team teaching and professional role models), one was a recommendation related to more emphasis on understanding the social-cultural background of patients and their families, and the other was related to the seniors' belief that the ideal curriculum should provide for the development of confidence in students to assume leadership roles in planning and providing for professional nursing care: in a word, preparation for the "real" world.

Descriptive versus Prescriptive CEQ Clusters

When the clusters from the Descriptive and Prescriptive CEQ's were compared for each level of the curriculum, it was apparent that sophomores' recommendations for the ideal curriculum were not related directly to their perceptions of the curriculum as they experienced it. In the curriculum as sophomores experienced it, the clusters focused on the egocentric needs of students, whereas in the curriculum as they wished it to be, they seemed to

be asking for more in-depth experiences to prepare them as professionals, perhaps through more intensive and extensive faculty-student interaction.

Juniors seemed more of one mind in describing the actual curriculum. (Five clusters emerged.) However, they appeared more divergent in their expectations for the curriculum as they wished it would be. (Only three clusters emerged.) On the Descriptive CEQ, juniors seemed to focus on the means by which the curriculum was implemented, i.e., team teaching, faculty as role models, group conferences, faculty-student relationships, concern for students as individuals. The definers were items from Categories II, III, and IV. On the Prescriptive CEQ, juniors appeared to maintain their concern for student-faculty relationships and treatment as individuals, and apparently saw the need for more time for their own professional development.

Seniors agreed that four features of the curriculum as they experienced it were identical to those which also should characterize the ideal curriculum. These are faculty-student social relationships, team teaching, faculty as professional role models, and concern for students as individuals.

The two remaining clusters on each CEQ showed that seniors apparently were concerned on both Q-sorts with their laboratory experiences as preparation for professional practice. However, this emphasis on the clinical aspects of their training focused on different points in each of the four clusters.

Some Observations

For curriculum evaluation, of equal import as the number of clusters or the repetition of clusters from level to level is the mean score of each cluster. As mentioned on page 86, a standard score of 50.00 or over indicates that half or more of the students agree that the cluster is (or should be) characteristic of the curriculum; scores below 50.00 indicate that the students

agree that the cluster is not characteristic of the curriculum as they experienced it or wished they had experienced it.

On the Descriptive CEQ:

- 1) Sophomores (Table 32) identified as characteristic features for their level of the program the following clusters: Value of Team Teaching (Cluster II) and Value of Faculty as Professional Role Models (Chapter V). As less characteristic features they identified: Value of Instructors' Regard and Concern for Students as Individuals (Cluster I) and Value of Individualized Instruction (Cluster III). Lastly, they were neutral about Value of Laboratory Experiences for Understanding the Needs of Persons from Differing Backgrounds (Cluster IV).
- 2) Juniors (Table 33) identified as characteristic features for their level of the program the following clusters: Value of Team Teaching (Cluster III) and Value of Faculty as Professional Role Models (Cluster II). As less characteristic features they identified: Value of Instructors' Informal and Social Relationships with Students (Cluster I) and Value of Instructors' Regard and Concern for Students as Individuals (Cluster V). Lastly, they tended to be divided on Value of Group Conferences (Cluster IV) for sharing learnings with their peers.
- 3) Seniors (Table 34) identified as characteristic features for their level of the program two clusters: Value of Individualized Instruction in the Planning of Laboratory Experiences (Cluster VII) and Value of Laboratory Experiences for the Development of Professional Roles in the Community (Cluster VIII). As less characteristic,

they identified the following six clusters:

Value of Team Teaching (Cluster I)

Value of Instructors' Informal and Social Relationships with
Students (Cluster II)

Value of Instructors' Regard and Concern for Evaluating Students
as Individuals (Cluster III)

Value of Faculty as Professional Role Models (Cluster IV)

Value of Group Conferences (Cluster V)

Value of Laboratory Experiences as Preparation for Professional
Nursing Intervention (Cluster VI)

It appeared that the seniors were the most critical of the three groups of students for the curriculum as it was.

On the Prescriptive CEQ:

- 1) Sophomores (Table 35) identified as less important features for their level of the program the following clusters: Value of Instructors' Informal and Social Relationships with Students (Cluster I) and Value of Laboratory Experiences for Students Becoming Lifelong Learners (Cluster II). On the other hand, they seemed to agree that a more important feature was one cluster, Value of Laboratory Experiences for Developing Professional Understandings and Skills (Cluster III). (Knowing sophomores, this is to be expected!)
- 2) Juniors (Table 36) identified as less important features for their level of the program the one cluster, Value of Instructors' Informal and Social Relationships with Students (Cluster I). They put as their top priority two clusters: Value of Instructors' Regard

and Concern for Students as Individuals (Cluster II) and Value of Time in the Learning Process (Cluster III). (Knowing the junior year curriculum which attempted to introduce students in considerable depth to more complex learnings, those reactions were about par for the course!)

- 3) Seniors (Table 37), like juniors, identified as more important features for their level of the program two clusters: Value of Instructors' Regard and Concern for Individualized Learning and Evaluation (Cluster II) and Value of Laboratory Experiences for Teaching the Essentials of Planned Nursing Interventions and Care (Cluster VII). The seniors were evenly divided concerning the cluster Value of Time in the Learning Process (Cluster III) (saying, in effect, there probably would be time if faculty would provide for it). The seniors would place less emphasis in the ideal curriculum on the following four clusters:

Value of Instructors' Informal and Social Relationships with Students (Cluster I) (like sophomores or juniors)

Value of Team Teaching (Cluster IV)

Value of Faculty as Professional Role Models (Cluster V)

Value of Laboratory Experiences for Understanding the Needs of Persons from Differing Backgrounds (Cluster IV)

In effect, to paraphrase, the seniors appeared to be saying, "We don't care how friendly you are or how you do things. All we're asking is for you to teach us what we need to know, give us enough time to get it, and treat us as individuals." Not a bad prescription for the success of a professional nurse education program!

Summary

In this chapter, the clusters which emerged on each CEQ at all three levels of the curriculum, based on a four-year sample of students at each level, were presented and compared. Cluster analysis will be used in the following chapter to test the relationship between homogeneous sub-groups of students, as determined by the test battery, and the clusters which emerged for all senior classes, 1969-1972.

CHAPTER 8

HYPOTHESIS 8

Homogeneous subgroups of nursing students within the U.S.F. Classes of 1969-1972 will not similarly evaluate their curricular experiences.

It had been assumed that perceptions and expectations of students about the nursing program might vary according to differences in personality, scholarship, leadership patterns, and personal attitudes. The subgroups were defined by the individual scales of the test battery. This hypothesis was divided into eight statistical hypotheses for purposes of multiple correlational analysis, using data from the combined senior classes, 1969-1972.¹

Hypothesis 8-A.1

A comparison was made between OPI scale scores of U.S.F. seniors for the years 1969 to 1972 and the ways they perceived their curricular experiences as seniors. The expectation was that there would be a significant relationship between variables underlying the measures of personality and the clusters defining student curricular experiences.

The computer derived Pearson Product-Moment Correlation Coefficients are presented in Table 38. An .01 level of significance was selected for comparison purposes with a critical value of r occurring for values of r greater than or equal to .15.

¹The independent variables for these eight statistical hypotheses are the cluster scores for the combined group of all seniors (Tables 34 and 37).

Table 38. Correlations of OPI Scale Scores (U.S.F. Seniors, 1969-1972)
and the Descriptive CEQ

OPI Scales	Clusters for Descriptive CEQ (N = 274)							
	I	II	III	IV	V	VI	VII	VIII
TI	-.00	-.00	-.14	-.03	-.02	-.03	-.04	.18*
TO	-.04	-.08	-.12	.04	-.00	-.02	.04	.13
Es	.07	.06	-.09	.03	-.03	.04	-.01	.03
Co	.04	.07	-.12	-.01	.03	.02	-.04	.20*
Au	.01	.17*	-.17*	.08	-.02	-.03	-.02	.05
RO	.07	.10	-.10	.08	.04	.01	.03	.04
SE	.02	-.08	-.02	-.12	.02	-.04	-.06	.08
IE	.03	.16*	-.02	-.02	.06	.03	-.12	.14
PI	-.05	-.14	-.07	-.06	-.14	-.12	.04	.05
AL	-.06	-.14	-.08	-.07	-.08	.01	.05	.06
AM	.06	-.13	-.20*	-.03	-.10	-.05	.01	.15
PO	.04	-.03	-.21*	-.02	.04	.05	-.00	-.12
MF	-.12	-.09	.11	-.01	-.10	-.08	.10	.01
RB	-.01	-.20*	-.05	-.04	-.07	-.05	.08	.07

*Specifies significance at the .01 level.

Only eight correlations were significant at the .01 level. They were concentrated in Clusters II (Value of Instructors' Informal and Social Relationships with Students), III (Value of Instructors' Regard and Concern for Evaluating Students as Individuals), and VIII (Value of Laboratory Experiences for the Development of Professional Roles in the Community). Of the OPI scales, TI (Thinking Introversion), Co (Complexity), Au (Autonomy), IE (Impulse Expression), Am (Altruism), PO (Practical Outlook), and RB (Response Bias) were significantly correlated with one or more of the cluster scores. For all intents and purposes, there is no relationship between OPI scale scores of seniors and the Descriptive CEQ. The hypothesis is rejected.

Hypothesis 8-A.2

This hypothesis tests the relationship between OPI scale scores of U.S.F. seniors (1969 to 1972) and their recommendations for the curriculum based on the Prescriptive CEQ. The correlation matrix demonstrating the

relationship between the seven Prescriptive cluster scores and the fourteen scales of the OPI appears in Table 39. Correlations greater than .15 were significant at a level of .01.

Table 39. Correlations of OPI Scale Scores (U.S.F. Seniors, 1969-1972) and the Prescriptive CEQ

OPI Scales	Clusters for Prescriptive CEQ (N = 274)						
	I	II	III	IV	V	VI	VII
TI	.00	-.02	-.15*	.08	.06	.07	.15*
TO	-.01	-.02	-.13	.05	.04	.10	-.07
Es	-.07	-.03	-.09	.12	.05	.07	-.07
Co	.04	.02	-.11	.13	-.05	.15*	-.13
Au	-.14	.03	-.08	.01	.07	.04	-.13
RO	-.03	-.04	.03	-.06	-.05	.21*	-.04
SE	.01	-.09	-.10	.09	.02	.07	-.11
IE	-.04	.04	.02	.04	-.02	.15*	-.14
PI	-.06	-.14	-.12	.08	.04	-.04	-.05
AL	-.06	-.18*	-.12	.05	.05	.01	-.06
Am	-.09	-.08	-.14	.14	.06	-.06	-.11
PO	-.01	.00	.16*	-.11	-.08	-.04	.09
MF	.08	-.01	-.01	-.10	-.05	-.03	.02
RB	-.02	-.15*	-.12	.05	.08	.01	-.06

*Specifies significance at the .01 level.

Only eight correlations were significant. They are concentrated in Clusters II (Value of Instructors' Regard and Concern for Individualized Learning and Evaluation), III (Value of Time in the Learning Process), VI (Value of Laboratory Experiences for Understanding the Needs of Persons from Differing Backgrounds), and VII (Value of Laboratory Experiences for Teaching the Essentials of Planned Nursing Interventions and Care). OPI scales denoted by TI (Thinking Introversion), Co (Complexity), RO (Religious Orientation), IE (Impulse Expression), AL (Anxiety Level), PO (Practical Outlook), and RB (Response Bias) have one or more significant correlations. The hypothesis stated that there would be a strong relationship between the two sets of scores. This is not supported by the data.

Hypothesis 8-B.1

The scholarship of U.S.F. seniors (1969 to 1972), as indicated by senior class rank percentiles and final grade point averages, was compared with their cluster scores on the Descriptive CEQ. A relationship was said to exist if the correlation coefficients computed between the variables were significantly different from zero. For N = 292 the correlations were significant if they exceeded the critical value of .15. The correlations are presented in Table 40.

Table 40. Correlations between GPA and Class Ranking (U.S.F. Seniors, 1969-1972) and the Descriptive CEQ

Variables	Clusters for Descriptive CEQ (N = 292)							
	I	II	III	IV	V	VI	VII	VIII
Percentile	-.08	-.05	-.01	-.05	-.14	-.07	.06	.03
Final GPA	-.04	-.01	-.00	-.00	-.08	-.06	.03	-.02

*Specifies significance at the .01 level.

The results indicate that there are no significant correlations between scholarship and the curriculum perceptions of U.S.F. seniors, as measured on the Descriptive CEQ. The hypothesis is rejected.

Hypothesis 8-B.2

It was hypothesized that there would be a significant relationship between U.S.F. seniors' (1969-1972) recommendations regarding the curriculum and their final grade point average and class rank percentile scores. The correlation matrix between the seven cluster scores developed from the Prescriptive CEQ and the scholarship variables is presented in Table 41.

A correlation was considered to be significant if it exceeded .15. Since there were no values in the correlation table greater than this, none

of the relationships was significant; thus, the research hypothesis is rejected.

Table 41. Correlations between GPA and Class Ranking (U.S.F. Seniors, 1969-1972) and the Prescriptive CEQ

Variables	Clusters for Prescriptive CEQ (N = 279)						
	I	II	III	IV	V	VI	VII
Percentile	-.08	.06	-.05	.12	.03	-.01	-.05
Final GPA	-.09	.08	-.08	.07	.04	.03	.01

*Specifies significance at the .01 level.

Hypothesis 8-C.1

It was hypothesized that there would be a significant relationship between the leadership ability of U.S.F. seniors (1969-1972) and the way they perceived their curricular experiences. Leadership ability was defined by the scores on three scales of the LAE: Laissez Faire, Democratic-Cooperative, and Autocratic-Submissive. The expectation was that there would be a significant relationship between leadership and cluster variables. The correlation matrix is shown in Table 42.

Table 42. Correlations of LAE Scale Scores (U.S.F. Seniors, 1969-1972) and the Descriptive CEQ

LAE Scales	Clusters for Descriptive CEQ (N = 269)							
	I	II	III	IV	V	VI	VII	VIII
LF	-.02	.01	-.01	-.15	.08	-.09	.08	.03
DC	-.06	.00	.06	-.05	.03	.11	-.05	-.06
AS	.04	-.05	-.03	.09	.00	-.08	.04	.03

*Specifies significance at the .01 level.

A correlation was considered significant if it exceeded a critical value of .16. Since none of the correlations is greater than this value, none of the relationships is significant. The hypothesis is rejected.

Hypothesis 8-C.2

It had been hypothesized that there might be a significant relationship between senior students' prescriptions for the curriculum and their individual leadership pattern profiles. Correlations between the seven Prescriptive CEQ cluster scores and the three scales of the LAE were determined. The findings are presented in Table 43.

Table 43. Correlations of LAE Scale Scores (U.S.F. Seniors, 1969-1972) and the Prescriptive CEQ

LAE Scales	Clusters for Prescriptive CEQ (N = 261)						
	I	II	III	IV	V	VI	VII
LF	-.01	-.02	.06	.07	.06	.06	-.05
DC	.10	-.03	.04	.02	-.11	-.08	.08
AS	-.07	-.01	.07	-.04	.11	.03	-.06

*Specifies significance at the .01 level.

No correlations exceeded the critical value of .16 at the .01 level of significance. Therefore, students who are either Laissez Faire (LF), Democratic-Cooperative (DC), or Autocratic-Submissive (AS) tend to make recommendations for the curriculum which are independent of their leadership profiles. The hypothesis is rejected.

Hypothesis 8-C.3

It was hypothesized that there would be a significant relationship between the LAE Total Score (i.e., the "Decision Pattern" or "Social Climate Structure" score) of the U.S.F. seniors (1969-1972) and their perceptions of the curriculum, as measured by the Descriptive CEQ. A significant correlation occurs if one or more of the coefficients exceed .15. The correlation matrix is presented in Table 44.

Table 44. Correlations between LAE Total Score
(U.S.F. Seniors, 1969-1972) and the Descriptive CEQ

	Clusters for Descriptive CEQ (N = 270)							
	I	II	III	IV	V	VI	VII	VIII
LAE Total	-.02	.00	-.02	-.13	.08	-.09	.09	.04

*Specifies significance at the .01 level.

A correlation was considered significant if it exceeded .15. Since there were no values greater than this, none was significant; thus, Hypothesis 8-C.3 is rejected.

Hypothesis 8-C.4

It had been hypothesized that there might be a relationship between U.S.F. senior students' leadership decision-making pattern scores, as measured by the LAE, and their recommendations for the curriculum, as measured by the Prescriptive CEQ. Correlations between the seven prescriptive cluster scores and the LAE Total Score (decision-making pattern) are shown in Table 45. Correlations at .15 are considered significant.

Table 45. Correlations between LAE Total Score
(U.S.F. Seniors, 1969-1972) and the Prescriptive CEQ

	Clusters for Prescriptive CEQ (N = 262)						
	I	II	III	IV	V	VI	VII
LAE Total	-.02	-.02	-.05	.06	.08	.06	-.07

*Specifies significance at the .01 level.

Since there were no significant correlations between any of the seven Prescriptive CEQ clusters and the decision-making pattern of U.S.F. seniors, as measured by the LAE, the research hypothesis is rejected.

Hypothesis 8-D.1

It was expected that there would be a significant relationship between the scale scores on the EPPS of U.S.F. seniors (1969 to 1972) and the way in which they perceived their curricular experiences, as measured by the Descriptive CEQ. The sixteen scale scores of the EPPS were correlated with the means of individual student scores on each of the eight clusters. For $N = 292$ a significant correlation would exist if the computed r exceeds .15. The correlation matrix appears in Table 46.

Table 46. Correlations of EPPS Scale Scores (U.S.F. Seniors, 1969-1972) and the Descriptive CEQ

EPPS Scales	Clusters for Descriptive CEQ (N = 292)							
	I	II	III	IV	V	VI	VII	VIII
Ach	-.01	.02	-.03	-.02	.03	.00	.02	.08
Def	-.05	-.08	.05	.03	.02	-.02	.03	-.11
Ord	-.09	-.04	.03	-.03	.10	.03	-.04	-.12
Exh	.03	.07	.02	.03	.00	-.09	-.02	.05
Aut	-.02	.12	-.06	-.02	.03	-.06	.05	.05
Aff	.03	.00	.08	.00	-.05	-.06	.05	-.03
Int	-.06	-.07	-.02	.01	.02	.06	-.01	-.01
Suc	.07	-.10	.08	.02	-.00	.01	-.04	-.09
Dom	-.03	-.02	-.02	-.08	-.02	-.04	-.00	.17*
Aba	.04	.10	.04	.06	.01	.05	-.04	-.08
Nur	.00	-.06	.05	.07	-.09	-.01	.01	.01
Chg	.02	.15	-.07	-.00	-.00	.10	-.06	.05
End	-.02	-.14	.03	-.05	-.04	-.05	.09	-.16*
Het	.11	-.01	-.05	.06	.00	.02	-.02	.11
Agg	-.10	.03	-.08	-.09	.01	.01	.01	.01
Con	.04	-.02	.09	.10	.04	-.03	.07	-.04

*Specifies significance at the .01 level.

Only two comparisons are significant at the .01 level. These are Dom (Dominance), which correlates significantly with Cluster VIII (Value of Laboratory Experiences for the Development of Professional Roles in the Community), and End (Endurance), which also correlates significantly with the same cluster. In general there is no relationship between the scale scores on the EPPS for

seniors graduating in the years 1969 to 1972 and their perceptions of the curriculum, as measured by the Descriptive CEQ; hence, Hypothesis 8-D.1 is rejected.

Hypothesis 8-D.2

This is the last hypothesis testing the relationship between measurable characteristics of U.S.F. seniors (1969 to 1972) and their perceptions of and prescriptions for the curriculum, as measured by the CEQ. In this instance, the expectation was to test the significance of the relationship between the sixteen scale scores of the EPPS and the curriculum recommendations of U.S.F. seniors, as measured by the Prescriptive CEQ. For an N = 279, correlations greater than .15 were considered significant. The correlation matrix between the two sets of variables is presented in Table 47.

Table 47. Correlations of EPPS Scale Scores (U.S.F. Seniors, 1969-1972) and the Prescriptive CEQ

EPPS Scales	Clusters for Prescriptive CEQ (N = 279)						
	I	II	III	IV	V	VI	VII
Ach	-.05	-.06	.04	-.00	.10	.05	-.03
Def	.05	-.02	-.05	.02	.00	-.04	.08
Ord	-.05	-.00	.07	-.06	-.04	-.05	.21*
Exh	.01	-.05	-.05	.03	-.05	.09	-.01
Aut	.01	.01	-.05	.00	-.04	.05	-.16*
Aff	.01	-.05	.08	.02	-.00	-.07	.03
Int	.04	-.01	-.02	-.00	-.04	-.00	-.02
Suc	-.03	.01	.06	.04	.06	-.06	.03
Dom	.09	-.08	-.17*	.07	.04	.03	-.06
Aba	.05	.14	-.06	-.04	-.02	-.07	.13
Nur	.01	.02	-.01	.08	-.05	-.01	.04
Chg	.05	.04	.05	-.02	-.05	.06	-.09
End	-.01	-.09	-.01	.07	.10	-.08	-.07
Het	-.10	.05	.11	-.14	-.02	.04	.03
Agg	-.03	.06	-.00	-.03	-.01	.03	-.09
Con	-.01	-.06	-.04	.03	.01	-.07	-.10

*Specifies significance at the .01 level.

Only three correlations are significant at the .01 level: Ord (Order) and Aut (Autonomy), which correlate with Cluster VII (Value of Laboratory Experiences for Teaching the Essentials of Planned Nursing Interventions and Care), and Dom (Dominance), which correlates with Cluster III (Value of Time in the Learning Process). Thus, Hypothesis 8-D.2 is rejected.

Summary of Hypothesis 8 Findings

It had been expected that the descriptions of the curriculum as it is and priorities recommended for the ideal curriculum, as seen in clusters emerging from the CEQ, would be significantly influenced by the personalities, attitudes, leadership patterns, and scholarship of the first four groups of U.S.F. seniors to complete the integrated curriculum.

The finding is that there was no strong relationship between OPI scale scores, EPPS scale scores, LAE decision-making scores, or academic prowess, as measured by GPA and rank in class, and the clusters emerging from either the Descriptive or Prescriptive CEQ. In other words, these measurable aspects of student characteristics and abilities have no statistically significant relationship to either student perceptions or recommendations for the curriculum, as determined by the CEQ. At this point, it appears that the CEQ is an independent indicator of students' evaluation of their curricular experiences. Therefore, we might conclude that by and large the students' evaluation of the curriculum is an objective response to the CEQ, independent of their academic standing, personality characteristics, or leadership ability. If indeed homogeneous subgroups do exist within the student population and if these groups do perceive the curriculum in unique patterns, this would have to be determined by further research.

CHAPTER 9

THE TARGET POPULATION

Before presenting the qualitative findings of this investigation (which follow in Part III), an analysis of the responses of the U.S.F. Class of 1972 should be considered. This class has been followed over the four-year period of the study and is described as the target population. If this class of students is similar to the total population, then perhaps the findings related to the target population's curriculum perceptions are generalizable to those of other classes at U.S.F. This generalizability is essential for making curricular recommendations based on the findings of the investigation.

Germane to this overview of the Class of 1972 are some data previously reported in Chapter 4. For example, the class was similar to the freshmen who followed them as well as to the seniors who had graduated four years before them. Yet, despite this wide-ranging similarity, the Class of 1972 did change from freshman to senior years in a number of ways; for example, on eight scales of the OPI, all three of the LAE, and seven of the EPPS.

Analysis of the biographical data of the Class of 1972 shows remarkable similarity to the typical U.S.F. student profile presented in Part I, Chapter 3. Some minor differences in the Class of 1972 were:

- 1) more students came from broken homes;
- 2) more parents of the students had received a college education;
- 3) a greater proportion of parents was employed in higher status

- positions;
- 4) a higher percentage of the students had graduated from private Catholic girls' high schools; and
 - 5) more were junior college transfers or transfers to nursing from other major programs.

These differences might be a reflection of the changing social scene, i.e., family problems resulting from increased emotional stress associated with higher level occupations and greater financial status, and the result of changes in higher education.

In this chapter, the look at the Class of 1972 will be through the significant findings of the item and cluster analyses which emerged when students sorted the Descriptive and Prescriptive CEQ's throughout the three years they were in the professional component of the nursing program. The findings will be presented by identifying the consistency and shifting of items and clusters at each level of the curriculum.¹ The key question is: are the descriptions and recommendations of the Class of 1972, the target population, consistent or unique from year to year? Q-items will be examined first, followed by Q-clusters.

Q-Item Analysis

The method used to analyze the data in this section parallels the approach used in Hypothesis 7 (Chapter 6).

As Sophomores

As shown in Table 48, the Class of 1972 as sophomores scored fifteen

¹Mean scores and standard deviations of each item for both CEQ's for the Class of 1972 as sophomores, juniors, and seniors can be found in Appendix L.

items at statistically significant levels. Of these, eight (#1, #13, #27, #33, #42, #53, #66, and #72) increased in their mean score values from the Descriptive to the Prescriptive CEQ, indicating that they were less characteristic of the real curriculum and high priority recommendations for the ideal sophomore one. Seven items decreased (#2, #8, #23, #25, #41, #50, and #70), indicating that these items were considered significantly less important for the ideal curriculum than they are in the actual sophomore curriculum.

Table 48. Repeated Measures Univariate Analysis of Variance in Mean Score Vectors of the Descriptive and Prescriptive CEQ's:
Sophomores, Class of 1972
(N = 82)

<u>Item No.</u>	<u>Descriptive CEQ</u> <u>Mean</u>	<u>Prescriptive CEQ</u> <u>Mean</u>	<u>Univariate F</u>	<u>P Less Than</u>
1	4.00	5.03	15.7000	.0002*
2	5.19	3.99	34.2576	.0001*
8	5.15	3.92	32.9597	.0001*
13	4.07	4.86	11.8717	.0010*
18	5.10	4.65	3.6883	.0589
19	5.14	4.68	5.1167	.0268
23	3.72	3.01	8.2505	.0054*
25	5.10	4.14	17.4612	.0001*
27	2.89	3.76	15.6633	.0002*
32	4.42	5.07	5.5524	.0213
33	2.83	4.08	18.8607	.0001*
41	5.22	3.78	51.8315	.0001*
42	3.75	4.97	20.1785	.0001*
48	2.96	3.26	1.3904	.2423
49	4.72	4.93	0.7160	.4003
50	3.56	2.67	18.4341	.0001*
53	2.74	3.63	11.1236	.0014*
66	4.19	5.74	42.8001	.0001*
69	3.00	3.11	0.2229	.6383
70	4.21	2.42	66.7407	.0001*
71	3.26	2.92	2.1229	.1496
72	2.74	4.47	53.8767	.0001*

*Difference between item mean scores statistically significant at or beyond the .001 level of probability of a type one error.

As sophomores, the Class of 1972 appears to be saying that the curriculum could be strengthened by more realistic preparation for the future characterized by increased opportunities to assume leadership roles and

increased emphasis on communication and human interaction. As sophomores, the Class of 1972 also made significant recommendations for more time to reinforce their learning and for faculty to support decisions made by students, to treat students as adults, and to be able to air differences between and among students and faculty more openly.

As sophomores, they also seem to be saying that the revised curriculum should put less emphasis on faculty participation in student social activities and the need for individual student appointments or group conferences, and decrease the emphasis placed on concepts of comprehensive and continuous health care, financial problems of lower income groups, and the importance of continued self-learning.

As Juniors

As shown in Table 49, the Class of 1972 as juniors scored ten items at statistically significant levels. Of these, seven (#33, #40, #44, #53, #54, #66, and #72) increased in their mean score values from the Descriptive to the Prescriptive CEQ, indicating that they were less characteristic of the real curriculum and high priority recommendations for the ideal junior one. Three decreased (#2, #25, and #71), indicating that these items were considered significantly less important for the ideal junior curriculum than they were in the actual junior curriculum.

As juniors, the Class of 1972 appears to be saying that the curriculum could be strengthened by more faculty sensitivity for students' time for learning so as to reinforce depth of comprehension in and acquisition of skills. As juniors, the Class of 1972 appears to want to be treated as adults by the faculty and to receive faculty support for student decision making, positive feedback concerning learning achievement, and have the opportunity for open

discussion of differences of opinion. Also important to this seems to be the notion that faculty consider external factors influencing student achievement when evaluating progress.

As juniors, they also are saying that the revised curriculum should put less emphasis on concepts related to the importance of comprehensive and continuous care and the need for lifelong learning. Further, this class appears to indicate little interest in participating in faculty initiated social activities.

Table 49. Repeated Measures Univariate Analysis of Variance in Mean Score Vectors of the Descriptive and Prescriptive CEQ's:
Juniors, Class of 1972
(N = 82)

Item No.	Descriptive CEQ	Prescriptive CEQ	Univariate F	P Less Than
	Mean	Mean		
2	5.05	4.25	11.6632	.0011*
14	5.10	5.01	0.1227	.7271
15	5.13	4.95	0.7180	.3994
18	5.18	5.18	0.0000	1.0000
19	5.53	5.11	2.7476	.1014
25	5.04	4.06	20.8646	.0001*
33	2.98	3.85	11.8379	.0010*
40	2.96	5.05	64.5900	.0001*
44	2.70	4.28	30.8887	.0001*
48	2.75	2.71	0.0248	.8754
49	4.48	5.04	9.8174	.0025
53	2.85	3.63	13.4632	.0005*
54	2.85	4.11	31.3340	.0001*
66	3.53	5.20	38.2516	.0001*
69	3.08	2.88	1.1449	.2879
71	3.63	2.84	11.3478	.0012*
72	2.56	4.46	62.8172	.0001*

*Difference between item mean scores statistically significant at or beyond the .001 level of probability of a type one error.

As Seniors

As shown in Table 50, the Class of 1972 as seniors scored thirteen items at statistically significant levels. Of these, seven (#9, #32, #33, #40, #53, #66, and #72) increased in their mean score values from the

Descriptive to the Prescriptive CEQ, indicating that they were less characteristic of the real curriculum and high priority recommendations for the ideal senior one. Six decreased (#2, #21, #25, #50, #70, and #71), indicating that these items were considered significantly less important for the ideal curriculum than they are in the actual senior curriculum.

Table 50. Repeated Measures Univariate Analysis of Variance in Mean Score Vectors of the Descriptive and Prescriptive CEQ's:
Seniors, Class of 1972
(N = 80)

<u>Item No.</u>	<u>Descriptive CEQ</u> <u>Mean</u>	<u>Prescriptive CEQ</u> <u>Mean</u>	<u>Univariate F</u>	<u>P Less Than</u>
2	5.15	4.11	18.4416	.0001*
5	2.86	3.01	0.4084	.5247
6	2.55	3.20	8.0379	.0059
9	4.51	5.19	11.4472	.0012*
14	5.01	5.08	0.0780	.7809
15	5.18	4.98	1.0237	.3127
19	5.84	5.56	1.5622	.2151
21	5.10	4.21	23.7061	.0001*
25	5.34	4.60	11.4018	.0012*
27	5.01	5.30	1.5622	.2151
32	3.39	5.05	45.7409	.0001*
33	2.46	4.56	64.0423	.0001*
40	3.13	5.06	67.2683	.0001*
48	2.68	2.59	0.1902	.6640
50	3.44	2.71	11.0750	.0014*
53	2.75	3.55	11.5963	.0011*
66	4.21	4.33	26.7888	.0001*
69	3.15	2.95	0.8461	.3605
70	4.36	2.58	73.3272	.0001*
71	3.44	2.44	22.0979	.0001*
72	2.99	4.16	24.4037	.0001*

*Difference between item mean scores statistically significant at or beyond the .001 level of probability of a type one error.

As seniors, the Class of 1972 appears to be saying that the curriculum could be strengthened in ways similar to improving the junior year, i.e., allowing more time for reinforcement of learning, getting positive feedback from faculty, getting faculty support for student decision making, and being treated as adults and allowed to participate in open discussion of differences

of opinion between faculty and students. In addition, for the senior curriculum, it also was indicated that students be given more opportunity to make independent judgments in nursing situations and to provide more opportunities to perform technical procedures as students.

As seniors, they also seem to be indicating that the ideal curriculum should put less emphasis on the same features that also were of lesser importance for the junior year: concepts related to comprehensive care and the need for lifelong learning, and participation in jointly initiated social affairs between students and faculty. As sophomores, the Class of 1972 had scored faculty guidance in self-directed learning activities (#50) as less characteristic of the real curriculum. This item also was less important for the ideal senior curriculum, along with decreased emphasis on learnings related to change of dependency roles of patients.

Comparison of CEQ Items

Putting it in a nutshell, the answer to the question about shifts and consistency of Q-items when sorted by the target population as sophomores, juniors, and seniors is that there is a remarkable uniformity of values unique to the class throughout their time in the nursing program. As juniors, they tended to focus primarily on process rather than the nature and objectives of learning experiences. The shifts of values occurred in objectives related to laboratory experiences, particularly in the sophomore and senior years. The consistency and shifts with respect to the clusters formed by the Class of 1972 at all three levels follows.

Cluster Analysis of the CEQAs Sophomores

The clusters from the sophomores' Descriptive CEQ are shown in Table 51 and those from their Prescriptive CEQ in Table 52.

Table 51. Cluster Analysis of the Descriptive CEQ:
Class of 1972 as Sophomores
 N = 82

Cluster I: Role of Faculty in Formulating Learning Experiences Mean Cluster Score = 50.88

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
61	Members of the nursing faculty are not only educators but also competent professional nursing practitioners.	-.6916
35	Instructors help students formulate their <u>own</u> learning objectives in the light of the <u>stated</u> educational objectives of the nursing program's curriculum.	.6231

The students are unable to judge the professional competency of the faculty but agree that instructors assist students in clarifying the relationship between individual learning objectives and program goals.

Cluster II: Value of Laboratory Experiences for Understanding the Needs of Persons from Differing Backgrounds Mean Cluster Score = 48.88

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
23	Laboratory experiences help students understand the financial and health problems of lower-income families.	.7174
22	Laboratory experiences provide opportunities for students to work with persons from a variety of social class and cultural backgrounds.	.5898

The students agree that laboratory experiences do not provide opportunities for them to work with persons from a variety of social classes and cultural backgrounds and thus help them understand the financial and health problems of low-income families.

Cluster III: Value of Instructors' Regard
and Concern for Students as
Individuals

Mean Cluster Score = 49.25

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
66	Instructors treat students like autonomous, mature, and responsible adults and respect their individual abilities, interests, and goals.	.6671
42	Instructors evaluate each student's progress individually, judging it in relation to her abilities, interests, prior learnings, and previous learning experiences.	.6344

The students do not agree that they are treated as adults by the faculty nor that they are evaluated individually in relationship to their other experiences.

Table 52. Cluster Analysis of the Prescriptive CEQ:
Class of 1972 as Sophomores
 N = 82

Cluster I: Value of Team Teaching Mean Cluster Score = 42.88

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
58	Team teaching [should] provide opportunities for instructors to use each other as resources in implementing the educational objectives of the nursing program.	.8464
59	Team teaching [should] provide opportunities for students to learn and benefit from the special interests and capabilities of a variety of instructors.	.4450

The students doubt that team teaching will provide opportunities for students to learn from the interests of instructors or that team teaching gives instructors themselves opportunities to use each other as resource persons.

Cluster II: Value of Instructors' Informal and Social Relationships with Students Mean Cluster Score = 32.88

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
70	Instructors [should] participate in and contribute to the informal social activities initiated by students when they are invited and whenever it is possible for them to do so.	.7678
71	Instructors [should] initiate informal social contacts with students to provide opportunities for timely and fruitful exchange of ideas about matters of mutual interest.	.7408

The students firmly agree that instructors should not participate in the informal and social activities initiated by them, nor should they initiate such activities themselves.

Cluster III: Value of Instructors' Regard
and Concern for Students as
Individuals

Mean Cluster Score = 57.38

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
42	Instructors [should] evaluate each student's progress individually, judging it in relation to her abilities, interests, prior learnings, and previous learning experiences.	.7130
67	Instructors [should] show discreet interest, genuine concern, and sympathetic consideration for the personal conflicts and learning difficulties of students.	.6700
44	Instructors [should] consider <u>external</u> factors that influence the learning process in evaluating students' achievements and progress.	.6412

The students believe that evaluation of their progress should be influenced by the faculty's concern and respect for their merit and worth as individuals.

As shown in Tables 51 and 52, the Class of 1972 as sophomores developed three clusters in each CEQ. One cluster (Value of Instructors' Regard and Concern for Students as Individuals) is common to both CEQ's (Tables 51 and 52, Cluster III). Hence, in the sophomore year as it was and as they wished it had been, the students appear to be concerned that the faculty treat them as individuals. The unique clusters (Table 51, Clusters I and II) relate to the role of faculty in structuring learning experiences, and laboratory experiences related to other social classes. The other unique clusters (Table 52, Clusters I and II) are related to the values of team teaching and student-faculty social relationships.

As Juniors

The clusters identified by the Class of 1972 as juniors are shown in Table 53 for the Descriptive CEQ and Table 54 for the Prescriptive CEQ.

Table 53. Cluster Analysis of the Descriptive CEQ:
Class of 1972 as Juniors
 N = 82

Cluster I: Value of Faculty as Role Models Mean Cluster Score = 51.00
for Leadership

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
27	Laboratory experiences provide opportunities for students to assume leadership roles in directing the nursing care of groups of patients.	.7076
61	Members of the nursing faculty are not only educators but also competent professional nursing practitioners.	.6758
60	Members of the nursing faculty are the professional role models for students in the nursing program.	.5424
49	Instructors are readily available to assist students when they need help in new and complex learning situations.	.5099
62	Instructors give evidence of keeping up with recent developments and improvements in the professional practice of nursing.	.4799

The students tend to agree that the professional competence and ready availability of well-informed instructors provided role models for them and encourage them to assume leadership roles in directing the nursing care of groups of patients with whom they work in their laboratory experiences.

Cluster II: Value of Laboratory Experiences for Professional Nursing Intervention Mean Cluster Score = 61.63

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
15	Laboratory experiences provide opportunities for students not only to observe, but also to initiate definitive nursing action in caring for people's health needs.	.7115
32	Laboratory experiences provide opportunities for students to perform a variety of technical procedures employed in professional nursing care.	.6222

The students agree that laboratory experiences provide opportunities for practical preparation for professional nursing care, i.e., to perform a variety of technical procedures and initiate definitive nursing action in caring for patient's health needs.

Cluster III: Effect of Evaluation on Planning Family Health Care Mean Cluster Score = 46.75

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
46	Constant evaluation of students' progress in the nursing program helps them to diagnose their own learning needs and set their own learning objectives.	.6817
30	Laboratory experiences help students gain confidence in their ability to make realistic plans for assisting families to achieve and maintain a high level of health.	.4458

The students doubt that constant evaluation of their progress in the nursing program helps them diagnose their learning needs, set their own learning objectives, or gain confidence in their ability to make realistic plans for assisting families to achieve high levels of health.

Cluster IV: Value of Laboratory Experiences Mean Cluster Score = 52.88
for Understanding the Needs of
Persons from Differing Backgrounds

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
22	Laboratory experiences provide opportunities for students to work with persons from a variety of social class and cultural backgrounds.	.7348
23	Laboratory experiences help students understand financial and health problems of lower-income families.	.6847

The students agree that laboratory experiences provide opportunities for them to work with persons from a variety of social class and cultural backgrounds and thus to understand the financial and health problems of low-income families.

Cluster V: Value of Team Teaching Mean Cluster Score = 56.88

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
59	Team teaching provides opportunities for students to learn and benefit from the special interests and capabilities of a variety of instructors.	.7297
58	Team teaching provides opportunities for instructors to use each other as resources in implementing the educational objectives of the nursing program.	.7186

The students are convinced that team teaching provides opportunities for them to learn from the special interests of instructors and that team teaching gives instructors themselves opportunities to use each other as resource persons.

Table 54. Cluster Analysis of the Prescriptive CEQ:
Class of 1972 as Juniors
 N = 82

Cluster I: Value of Instructors' Regard Mean Cluster Score = 60.13
and Concern for Students as
Individuals

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
66	Instructors [should] treat students like autonomous, mature, and responsible adults and respect their individual abilities, interests, and goals.	.7090
72	Differences of opinion and point of view between and among instructors and students [should be] openly and honestly expressed, rationally discussed, and objectively resolved.	.6941

The students firmly agree that instructors should respect them as individuals and should be objective and open about differences of opinion between themselves and faculty, particularly in relationship to their abilities, interests, and goals.

Cluster II: Value of Laboratory Experiences Mean Cluster Score = 47.50
Related to Family Referrals

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
29	Laboratory experiences [should] help students gain confidence in their ability to refer patients and their families to appropriate community family service agencies.	.7306
10	Laboratory experiences [should] help students gain confidence in their ability to recognize how people cope with crises and to function <u>effectively</u> in stressful situations.	.5504
25	Laboratory experiences [should] help students understand the concept of comprehensive and continuous health care for patients and their families.	.4104

The students do not agree that laboratory experiences should help them gain confidence in their ability to provide comprehensive, continuous, and effective health care for patients and their families by making appropriate referrals, particularly in crises or stress situations.

Cluster III: Value of Instructors' Informal and Social Relationships with Students

Mean Cluster Score = 37.13

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
70	Instructors [should] participate in and contribute to the informal social activities initiated by students when they are invited and whenever it is possible for them to do so.	.7422
71	Instructors [should] initiate informal social contacts with students to provide opportunities for timely and fruitful exchange of ideas about matters of mutual interest.	.7321

The students are convinced that instructors should not participate in informal and social activities initiated by them nor initiate such activities themselves.

Cluster IV: Value of Individualization of the Evaluation Process

Mean Cluster Score = 53.13

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
44	Instructors [should] consider <u>external</u> factors that influence the learning process in evaluating students' achievements and progress.	.6420
42	Instructors [should] evaluate each student's progress individually, judging it in relation to her abilities, interests, prior learnings, and previous learning experiences.	.6349
46	Constant evaluation of students' progress in the nursing program [should] help them to diagnose their own learning needs and set their own learning objectives.	.5024

The students agree that instructors should employ individualized criteria, standards, and procedures in evaluating their achievements and progress, and that constant evaluation of this sort helps them diagnose their own learning needs and set their own learning objectives.

As shown in Tables 53 and 54, the Class of 1972 as juniors identified five clusters on the Descriptive CEQ (Clusters I through V) and four on the Prescriptive CEQ (Clusters I through IV). No cluster was common to both CEQ's. However, four were repeated from the sophomore year:

Cluster IV, Table 53, is the same as Cluster II, Table 51;

Cluster I, Table 54, is the same as Cluster III, Table 51;

Cluster III, Table 54, is the same as Cluster II, Table 52;

Cluster I, Table 54, is the same as Cluster III, Table 52.

As Seniors

The clusters identified by the Class of 1972 as seniors are shown in Tables 55 and 56 for the Descriptive and Prescriptive CEQ's.

Table 55. Cluster Analysis of the Descriptive CEQ:
Class of 1972 as Seniors
 N = 80

Cluster I: Value of Team Teaching Mean Cluster Score = 51.38

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
59	Team teaching provides opportunities for students to learn and benefit from the special interests and capabilities of a variety of instructors.	.8137
58	Team teaching provides opportunities for instructors to use each other as resources in implementing the educational objectives of the nursing program.	.6657

The students agree that team teaching provides opportunities for them to learn from the special interests of instructors and that team teaching gives instructors themselves opportunities to use each other as resource persons.

Cluster II: Time to Integrate Learning

Mean Cluster Score = 43.38

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
33	Laboratory experiences are planned and scheduled to provide sufficient time for students to reinforce their learnings through repetition and practice.	.6937
6	Skill labs at the beginning of laboratory experiences prepare students to achieve their learning objectives for those experiences.	.4129
55	Instructors help students to integrate their knowledge of general principles of nursing science by interrelating their learnings from various areas of nursing practice.	.3983
21	Laboratory experiences help students develop skill in assisting patients to move from a dependent to an independent role in their recuperation from illness.	.3874
52	Instructors encourage students to try alternative methods of solving nursing problems and to evaluate the results of their decisions.	.3188

The students doubt that laboratory experiences provide sufficient time for them to reinforce their learning and develop skill in moving patients from a dependent to an independent role, that skill labs prior to laboratory experiences are valuable, or that instructors help them integrate their knowledge and encourage them to use alternative methods to solve nursing problems and to evaluate the results of their decisions.

Cluster III: Value of Laboratory Experiences for Developing Students' Leadership Roles Mean Cluster Score = 65.50

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
19	Laboratory experiences help students appreciate the importance of establishing priorities in planning nursing care.	.6981
27	Laboratory experiences provide opportunities for students to assume leadership roles in directing the nursing care of groups of patients.	.6754
31	Laboratory experiences help students gain confidence in their ability to teach the essentials of health care to patients and their families.	.4819

The students enthusiastically agree that laboratory experiences are effective in helping them establish priorities in planning nursing care, assume leadership in directing patient care, and gain confidence in teaching health care to patients and their families.

Cluster IV: Value of Laboratory Experiences in Coping with Diverse Nursing Problems Mean Cluster Score = 61.75

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
13	Laboratory experiences help students identify the components of effective communication and interaction in their relationships with people.	.6780
25	Laboratory experiences help students understand the concept of comprehensive and continuous health care for patients and their families.	.6656
10	Laboratory experiences help students gain confidence in their ability to recognize how people cope with crises and to function effectively in stressful situations.	.3787
14	Laboratory experiences help students function effectively with patients who are acutely ill, as well as with those who are on self-care.	.2902

The students are firm in their belief that laboratory experiences are effective in helping them learn how to interact with people, understand the concept of comprehensive and continuous health care, gain confidence in coping with crisis situations, and work with acutely ill patients or those on self-care.

Cluster V: Value of Nursing Faculty as
Professional Role Models

Mean Cluster Score = 51.13

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
60	Members of the nursing faculty are the professional role models for students in the nursing program.	.6998
61	Members of the nursing faculty are not only educators but also competent professional nursing practitioners.	.6503

The students agree that members of the nursing faculty are educators, are competent professional nursing practitioners, and, as such, serve as professional role models for them in the nursing program.

Table 56. Cluster Analysis of the Prescriptive CEQ:
Class of 1972 as Seniors
 N = 80

Cluster I: Value of Instructors' Informal and Social Relationships with Students Mean Cluster Score = 31.38

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
70	Instructors [should] participate in and contribute to the informal social activities initiated by students when they are invited and whenever it is possible for them to do so.	.8039
71	Instructors [should] initiate informal social contacts with students to provide opportunities for timely and fruitful exchange of ideas about matters of mutual interest.	.7840

The students seriously doubt that instructors should participate in social activities initiated by them or that faculty should initiate such activities themselves.

Cluster II: Value of Faculty as Professional Role Models Mean Cluster Score = 51.88

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
61	Members of the nursing faculty [should be] not only educators but also competent professional nursing practitioners.	.8079
60	Members of the nursing faculty [should be] the professional role models for students in the nursing program.	.6473

The students agree that members of the nursing faculty should be competent educators and professional nursing practitioners, and, as such, serve as professional role models for them in the nursing program.

Cluster III: Value of Laboratory Experiences Mean Cluster Score = 55.63
in Helping Students Learn How to
Function Effectively in Relation
to Patients and Their Families

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
21	Laboratory experiences [should] help students develop skill in assisting patients to move from a dependent to an independent role in their recuperation from illness.	.8262
10	Laboratory experiences [should] help students gain confidence in their ability to recognize how people cope with crises and to function effectively in stressful situations.	.5609
13	Laboratory experiences [should] help students identify the components of effective communication and interaction in their relationships with people.	.4883

The students agree that laboratory experiences should help them learn how to function effectively in helping patients become independent of them in crisis situations, and in interacting and communicating with people.

Cluster IV: Value of Team Teaching Mean Cluster Score = 40.00

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
58	Team teaching [should] provide opportunities for instructors to use each other as resources in implementing the educational objectives of the nursing program.	.7659
59	Team teaching [should] provide opportunities for students to learn and benefit from the special interests and capabilities of a variety of instructors.	.5560

The students doubt that team teaching should provide opportunities for them to learn from the special interests of instructors and that team teaching gives instructors themselves opportunities to use each other as resource persons.

Cluster V: Value of Instructors' Regard
and Concern for Students as
Individuals

Mean Cluster Score = 58.00

<u>Item No.</u>	<u>Item Statement</u>	<u>Factor Coeff.</u>
66	Instructors [should] treat students like autonomous, mature, and responsible adults and respect their individual interests, abilities, and goals.	.7567
72	Differences of opinion and point of view between and among instructors and students [should be] openly and honestly expressed, rationally discussed, and objectively resolved.	.7019
43	Instructors [should] consider students' own self-appraisals in evaluating their learnings, progress, and position on the learning continuum.	.3727
67	Instructors [should] show discreet interest, genuine concern, and sympathetic consideration for the personal conflicts and learning difficulties of students.	.6806
64	Instructors [should] communicate empathy for students' learning problems based on recollection of their own experience as learners in the process of becoming professional nurses.	.4460

The students enthusiastically and firmly support the idea that instructors should treat them as autonomous, mature adults, manifest concern and empathy for personal conflicts and learning difficulties, include self-evaluation in the measurement of achievement of learning goals, and be willing to discuss differences of opinion which may arise.

As shown in Tables 55 and 56, the Class of 1972 as seniors identified five clusters on both CEQ's. Two were common to both CEQ's: faculty as professional role models (Table 55, Cluster V, and Table 56, Cluster II) and team teaching (Table 55, Cluster I, and Table 56, Cluster IV). Four clusters were repeated from previous years. These were Clusters I, II, IV, and V from Table 56. Cluster IV is the same as Cluster I in Table 55, and Cluster II is the same as Cluster V in Table 55.

Comparison of CEQ Clusters

On the Descriptive CEQ, the Class of 1972 as sophomores agreed on three clusters. One was a high scoring cluster, identified as more characteristic of the curriculum as the sophomores remembered it. This cluster was unique: it did not appear for the Class of 1972 at the junior or senior levels. The unique cluster was Cluster I, Role of Faculty in Formulating Learning Experiences. Through two low scoring clusters, the sophomores identified a few less characteristic features of their curriculum experiences, Clusters II and III, which describe learning related to other social classes or ethnic groups, and instructors' regard and concern for students as individuals. The cluster related to different social backgrounds reappeared on the Descriptive CEQ at the junior level (Table 52, Cluster IV) and shifted from a lesser characteristic feature at the sophomore level to a more characteristic one at the junior level. It did not reappear for the senior year. The cluster related to concern for students as individuals (Table 51, Cluster III) reappeared on the second CEQ for the sophomores as a high priority item for the ideal curriculum with a 57.38 mean cluster score (Table 52, Cluster III). It also reappeared at the junior level on the Prescriptive CEQ (60.13 in Cluster I

of Table 54) and at the senior level on the Prescriptive CEQ at 58.00 (Table 56, Cluster V). Thus, the faculty's concern for students as individuals was highly prized by the Class of 1972 as a desirable feature of the curriculum at all levels.

There were only two other clusters on the Prescriptive CEQ by the Class of 1972 as sophomores, both of lesser priority for the ideal curriculum. These were Cluster I (team teaching) and Cluster II (faculty-student social and informal relationships). The team teaching cluster reappeared as a more characteristic feature of the junior curriculum on the Descriptive CEQ (Table 53, Cluster V) and again as a characteristic feature on the Descriptive CEQ at the senior level (Table 55, Cluster I). However, it appeared as a lesser priority feature of the ideal curriculum on the senior Prescriptive CEQ (Table 56, Cluster IV). Not only did the cluster on informal and social relationships appear as a low priority item for the sophomore's ideal curriculum (Table 52, Cluster II), it also appeared as a low priority item for the ideal curriculum at the junior (Table 54, Cluster III) and senior (Table 56, Cluster I) levels.

On the Descriptive CEQ, the Class of 1972 as juniors agreed that two clusters were unique to the curriculum as it is. These were laboratory experiences as preparation for professional practice (Table 53, Cluster II) and the influence of evaluation on planning for family care (Table 53, Cluster III). The latter was a low scoring cluster, hence a less characteristic feature of the present curriculum.

Another cluster, the faculty as professional role models (Table 53, Cluster I) was perceived as a characteristic feature of the junior curriculum. It reappeared as a characteristic feature of the senior curriculum (Table 55,

Cluster V) and a continuing recommendation for the ideal program in the senior year (Table 56, Cluster II).

The cluster about individualization of the evaluation process (Table 54, Cluster IV) was a positive recommendation for the ideal junior curriculum and was unique for that level. Another unique cluster from the junior Prescriptive CEQ was learnings related to patient referrals (Table 54, Cluster II). It was valued as of lesser priority for the ideal curriculum.

Clusters not yet discussed are those identified by the Class of 1972 as seniors which are unique to either CEQ at that level. On the Descriptive CEQ, unique clusters are preparation for leadership roles in nursing (Table 55, Cluster III) and coping with diverse nursing problems (Table 55, Cluster IV). Both are scored as highly characteristic of the senior curriculum as it is. The third unique senior cluster was time for integration of learnings (Table 55, Cluster II). As seniors, the Class of 1972 perceived this as an unlikely feature of the curriculum as they experienced it.

One final cluster emerged from the Prescriptive CEQ for the Class of 1972 as seniors which has not yet been mentioned. It was Cluster III in Table 56, experiences with patients and their families. This cluster was unique and was strongly recommended by the Class of 1972 as seniors as a very desirable feature of the ideal senior year curriculum.

To return to the question posed at the beginning of the chapter: are the descriptions and recommendations of the Class of 1972 consistent or unique? In terms of cluster analysis, the answer is "yes" to each alternative. There was a consistency in the recommendations which emerged from year to year with regard to concern for students as individuals, team teaching, informal student-faculty relationships, and faculty as professional role models. The shifts

in recommendations for and descriptions of the curriculum are seen in those clusters having to do with learning experiences that were unique to each level.

Summary

Analysis of Q-items as sorted by the Class of 1972 when sophomores, juniors, and seniors showed a remarkable uniformity revealing that some basic values concerning selected aspects of the curriculum tended to persist throughout the four-year period. The cluster analysis of the Descriptive and Prescriptive CEQ's also revealed a strong consistency in the students' perceptions and recommendations from year to year.

On the basis of the demonstrated change in personality, leadership, and personal attitudes which occurred in the Class of 1972 and the similarities of this class to other U.S.F. classes, the findings regarding the target population and its curriculum perceptions and prescriptions may be generalized to other U.S.F. populations.

It appears significant for curriculum implementation that not only did four classes of sophomores, juniors, and seniors over time develop consistent patterns of responses to curricular experiences, but that a given class of students also developed a characteristic pattern of response which persisted throughout its three-year experience in the professional component of the program. Thus, a group of students appears to react to a curricular experience simply because they are sophomores (or juniors or seniors) and yet also reacts, in a different way, simply because they are "the Class of 19__."

CHAPTER 10

SUMMARY OF THE QUANTITATIVE FINDINGS

Re the Students

The graduates of the integrated curriculum at U.S.F. outperformed the graduates of U.P.'s integrated curriculum on State Board Test Pool examinations and National League for Nursing examinations (Part II, Chapter 1, Hypothesis 2), but, in turn, were outperformed by the U.S.F. graduates of the traditional curriculum on both sets of examinations (Part II, Chapter 1, Hypothesis 1).

Beginning students in nursing at U.S.F. (Classes of 1969 and 1970 as freshmen) were similar to beginning students at U.P. (Classes of 1971 and 1972 as freshmen) in demographic background, personality characteristics, personal attitude, and academic prowess (Part II, Chapter 2, Hypothesis 3). They were similarly alike at graduation (Part II, Chapter 2, Hypothesis 4). Likewise, the beginning U.S.F. Class of 1972 was similar to the beginning U.S.F. Class of 1973, and the U.S.F. graduating class of 1972 was like the senior class of 1969 in background, personality, and academic ability (Part II, Chapter 3, Hypothesis 5.1).

The U.S.F. Class of 1972 (the target population) changed significantly in personality and attitude from freshman to senior years, whereas the 1972 graduating class at U.P. did not (Part II, Chapter 3, Hypothesis 5.2).

Re the Curriculum

On the basis of item analysis of the Descriptive and Prescriptive CEQ's, there were significant differences on both Q-sorts in the way U.S.F. sophomores, juniors, and seniors either perceived their actual curriculum or prescribed for the ideal one (Part II, Chapter 5, Hypothesis 6).

On the basis of item analysis of the Descriptive and Prescriptive CEQ's, there were significant differences at each level (sophomore, junior, and senior) between U.S.F. students' perceptions and recommendations for the curriculum (Part II, Chapter 6, Hypothesis 7).

The clusters defining U.S.F. seniors' perceptions of the actual curriculum and/or recommendations for the ideal one did not correlate significantly with their personality characteristics, personal preference, or leadership ability.

On the basis of cluster analysis for the curriculum as they experienced it (Part II, Chapter 7), sophomore students at U.S.F. said that the less characteristic features of the first year of the professional component of the program were: a) faculty concern for students as individuals, and b) personalized instruction. The more characteristic features of the actual sophomore curriculum were: a) team teaching, b) laboratory experiences with people from other cultures, and c) the perception of faculty as professional role models.

On the basis of cluster analysis for the ideal sophomore curriculum, students at U.S.F. said that a major recommendation for the ideal first-year professional program was: laboratory experiences should be related to professional understandings and skills.

On the basis of cluster analysis for the curriculum as they experienced

it (Part II, Chapter 7), junior students at U.S.F. said that the less characteristic features of the second year of the professional component of the program were: a) respect for students as individuals, and b) informal student-faculty social relationships. The more characteristic features of the actual junior curriculum were: a) the perception of nursing faculty as professional role models, b) team teaching, and c) group conferences.

On the basis of cluster analysis for the ideal junior curriculum at U.S.F., major recommendations for the ideal second year professional program were: a) time to reinforce learnings, and b) need for faculty to demonstrate more concern for an interest in students as individuals.

On the basis of cluster analysis for the curriculum as they experienced it, seniors at U.S.F. said that the less characteristic features of the third year of the professional component of the program were: a) team teaching, b) student-faculty social relationships, c) faculty concern for evaluating students as individuals, d) group conferences for sharing learnings with peers, e) laboratory experiences as preparation for professional nursing intervention, and f) perception of nursing faculty as professional role models. The more characteristic features of the actual senior curriculum were: a) individualized instruction in planning laboratory experiences, and b) laboratory experiences for the development of professional roles in the community.

On the basis of cluster analysis for the ideal senior curriculum, students at U.S.F. said that major recommendations for the ideal program for the last year were: a) faculty should be more concerned about evaluating students as individuals, and b) laboratory experiences should teach the essentials of planned nursing interventions.

In addition, when comparing class level responses on the Descriptive CEQ, sophomores and juniors perceived the faculty as role models, whereas the seniors did not. At all levels (sophomore, junior, and senior), students did not agree that it was particularly characteristic for faculty to treat them as individuals. Juniors and seniors perceived student-faculty social interaction as less characteristic of the actual curriculum. Finally, sophomores did not identify individualized instruction as characteristic of the curriculum at that level, while seniors scored it as highly characteristic of the actual senior curriculum (Part II, Chapter 7).

Furthermore, when comparing class level responses from the cluster analysis for the Prescriptive CEQ (Part II, Chapter 7), students at all three levels (sophomore, junior, and senior) placed low priority on the importance of student-faculty social interaction anywhere in the curriculum, and juniors and seniors both are concerned for the adequacy of time in the learning process in their respective levels of the curriculum.

Finally, the U.S.F. Class of 1972 demonstrated patterns of consistency as well as uniqueness in their descriptions and recommendations for the curriculum at all three levels: sophomore, junior, and senior (Part II, Chapter 9).

PART III

QUALITATIVE FINDINGS

CHAPTER 1

INTERVIEWS WITH U.S.F. STUDENTS

One method of assessing the impact of the integrated nursing curriculum at U.S.F. was through the CEQ, as reported in Part II; the second approach was through group interviews. A random sample of approximately one-third of the senior class was interviewed each of four years at U.S.F. and each of two years at U.P. The interviews were limited to seniors in their final semester because the investigators wanted an assessment of the students' experience in the professional component of the baccalaureate program as well as their overall reaction to their liberal education.¹ An additional interview was conducted with the U.S.F. nursing faculty and is reported in Chapter 3.

Rationale

Interviewing was included in the project design to extend the basis of information and feedback, to supplement and round out the hard data analysis, to provide a reflective form of in-depth response which might help to explain, explicate, or interpret the quantitative findings, and to obtain a measure of the students' feelings about the program. Group rather than individual interviews were selected because the investigators believed that several students

¹The investigators made the decision to tap the retrospective evaluation perceptions of senior students each of the four years in preference to interviewing any one class at the end of its freshman, sophomore, junior, and senior years. While this procedure might have yielded a developmental-maturational viewpoint, the value of senior students' reflective view over a four-year period was more germane to the purposes of this study.

"rapping" on the same topic would be more productive than individual responses.

The advantages and disadvantages of group interviews were explored before adopting the method for the CEP.¹ Group interviews yield a diversified array of responses, while simultaneously evoking additional information that might not otherwise be elicited. They also create the opportunity for immediate validation of responses by the group.

Merton et al.² noted that group interviews are especially productive when the groups are socially and intellectually homogeneous. He believes educational homogeneity outranks all other factors in producing effective group interviews. Homogeneity has been characteristic of the U.S.F. and U.P. interview groups. Most of the students were homogeneous in educational and sociocultural backgrounds (Part II, Chapter 2), had been exposed to a variety of learning opportunities with comparable objectives (Part I, Chapter 1), and yet had diverse enough individual and interpersonal contacts to permit identification and validation of the commonalities of the curriculum through the comparison of their particular experiences.

Convinced that the rationale for group interviews was a good one, the investigators set about the task of developing a technique which would compensate for the known disadvantages and yet capitalize on the unique values of group over individual interviews. Called the Q-card technique,³ the procedure evolved during the first two years' experience with the CEP. The

¹Joan L. Green and James C. Stone, "Developing and Testing Q-Cards and Content Analysis in Group Interviews," Nursing Research, XXI (July-August, 1972), 342-347.

²R.K. Merton, et al., Focused Interview, rev. ed. (Glencoe, Illinois: Free Press, 1956), p. 137.

³Green and Stone, "Q-Cards and Content Analysis," pp. 342-347.

interviews were structured through the use of Q-cards, the items of which stemmed from and related directly to the CEQ statements (Appendix E). By the third year the Q-card items had developed into "trigger" phrases or single words to which the students responded in whatever way seemed appropriate. This resulted in greater spontaneity and covered more ground in less time. A logical sequencing of the items was created by the manner in which the Q-card items were ordered. The ordering also facilitated the process of analysis and helped to maintain consistency from interview to interview and from year to year. The items and the order in which they were presented appear in Appendix F. A stack of Q-cards was placed before each student, so that her attention was directed to the specific item being discussed: a visual reminder for staying on the subject while still being able to participate freely and openly, thus permitting full exploration of each topic, maintaining continuity, and discouraging an interviewee from monopolizing the discussion.

The interviews, with five to six students per group, were conducted by a staff member of the project, who was not a nurse educator and thus was able to provide a more objective atmosphere for the conduct of the interviews. The interviews took place in an informal atmosphere with coffee and refreshments in a room with homelike decor. Although the use of a tape recorder may have been a distracting factor, the information collected at the end of each interview indicated that it made no difference at all. The necessity for recording was explained to each group, and students were assured that no names would be used in the transcriptions. At the conclusion of each interview, the tapes were given to one of the students for safekeeping until after graduation. The students appreciated these efforts to protect their

rights as individuals and to guarantee confidentiality.

The interviews were analyzed by a variation of content analysis, "a systematic technique for analyzing message content and message handling."¹ Its use in a modified form in the CEP established a link between the communication of messages obtained from students and the quantitative findings gained through the CEQ. By careful analysis of interview content, the investigators hoped to substantiate the statistical data and to elicit additional areas of student concern. The use of content analysis was not extended to intercorrelation technique. Coding, scoring, tallying, and ranking the interview content were done independently by two other CEP staff members. The highest and lowest ranking statements which emerged were used as a basis for summarizing the significant findings of the interview data. During this process it became apparent to the investigators that the categories² of the CEQ were appropriate "handles" for coping with the presentation and analysis of interview data. A fifth category of analysis, not a part of the CEQ, emerged from the group interviews. This category refers to the value of a liberal arts education. Within the five categories, comments have been organized into favorable and unfavorable reactions to the curriculum.

As here reported, this analysis of the interviews contains selected verbatim comments which reflect ideas that were repeated from group to group each year. Also reported are verbatim statements which reflect a wide diversity of points of view whenever this was the case. In a general way, the

¹R.W. Budd, et al., Content Analysis of Communications (New York: Macmillan Co., 1967), p. 2.

²

- I. Curriculum: Learning Objectives, Opportunities, and Experiences
- II. Program: Planning, Scheduling, and Evaluation
- III. Instruction: Teaching Styles, Methods, and Procedures
- IV. Interpersonal Relations: Teacher-Student Roles and Relationships

number of statements quoted tends to indicate the frequency and intensity with which the notion was discussed.

Curriculum: Learning Objectives,
Opportunities, and Experiences

Favorable Reactions

Re preparation for professional practice and the professional role:

Before we came to nursing, really, I just kind of had a completely different idea of what nursing was. I kind of just pictured one patient, more or less, and just giving the patient a lot of care. And I didn't have any idea that there were all these other things involved, like team leading, and organizing, and having so many responsibilities. And I think now, especially after doing team leading and med. surg. nursing, and I look back at everything, I think really how very narrow my focus was when I came into nursing. And now all of a sudden there are so many different pathways you can take in nursing.

I had no idea about the wide spectrum of things that are in nursing. And I think this changed my thoughts about nursing, because I saw more fields and more interests, and I didn't know nursing was anything connected with these things. I never thought of a nurse as being professional before. It's a very professional thing.

Before, I thought nurses were subordinate to doctors, and they did everything that doctors said. Now I feel that nurses are a separate thing, and they have their own way of handling patients. They take into consideration the doctor's plans, but they organize it. They need extra knowledge themselves.

I'm so glad that it's the way it is. My idea of nursing when I came in is different from my idea of nursing now, the idea of a professional nurse really being able to use interpersonal relationships and to care about people in a really constructive way, not just this kind of sympathetic how to take care of them kind of a thing.

I came into the nursing program with an idea of nursing that's completely changed. But one thing that has stuck all the way through and that they have really developed in me is the fact that nursing is really caring. I've been able to put myself in situations and really care.

Working as an aide I see a conflict between what I learn in school as a professional nurse and what professional nurses practice on the floor. Somewhere between school and working a lot of nurses seem to forget the ideals they were taught. I wonder if that's going to happen to me.

In sophomore year we learned a lot of necessary introductory material, but in junior year we started feeling more like nurses.

I first got my professional attitude in junior year.

As a senior the people in the hospitals treat you like you were part of the staff. You were expected to be part of a staff.

The senior year was the first time that I could question a doctor's order. I could really talk with the doctors when they came on the floor. Whereas before, I was nervous.

Professional nurse makes me think of the words change agent.

As a professional nurse you've got a responsibility to other people besides yourself.

The concept of professional nurse is an ongoing kind of thing that's been instilled. It's not just something you've gotten and so you do it. It's a part of you.

Professional has a different connotation than I used to think it would. It's not knowing the procedures and being a good staff nurse. It's more of an involvement in a lot of things.

Re the learning objectives and experiences of the senior year:

Senior year, I feel, has just really rounded out things. I felt like more of a nurse than I had ever felt before.

In senior year you got things new that related to something old instead of being thrown into a whole new ball game every time.

Senior year was like the culmination of all four years, besides just the physical things of being four years later than when you started. It seemed like everything, or at least most things, came together.

In senior year I felt like I'd learned something. I could really put it into practice.

I think the senior year, for me it's really been great, and it's like you put all of your experiences from the other years all together, and you're able to function as a whole.

Senior laboratory experiences are better. You get the whole picture with the whole day, not these little half days here and there when we just come into the middle of the picture.

It's worth going through all the other years just to be a senior. Really.

Things come together in the senior year from the whole three years.

Re integration of learnings in the nursing program:

To me "wholeness" describes junior year. I think because all of our

experiences were very much related. We were caring for mothers and babies and children and adults. We had a family that we followed through, which was sort of like an introduction to public health. It was tying everything together. I think, in many ways, it was sort of like an application of what had come the year before.

The clinical experience labs are where you put everything together, where you put it all to practice, and where you're able to synthesize, and where I found that's where I fit core content together.

Sophomore year's the first year that we got introduced into the clinical area. At the end of the year, they put things together. But at the beginning, it was like bits and pieces.

When we were freshmen, I didn't know beans about what microbiology was supposed to do, and I really didn't even realize the importance of anatomy and physiology all that well. As far as the physiology part was concerned, anatomy yes, but physiology no. Chemistry is another good one.

Re knowledge and foundation of scientific principles:

I was thinking that this program is geared a lot to principles. My experience in applying them right now is nil. I feel a real lack of confidence.

I have a certain amount of confidence. I knew that as a baccalaureate nurse I would not have certain skills. I have confidence that basically I know what I'm doing, but other than that, it gets a little shaky.

Some things I just don't know. If someone put a suction machine in front of me, I would just laugh. And when you are supposed to know how to disconnect it, and if something goes wrong, you are supposed to know what to do. It's kind of pathetic!

That's my big argument with a lot of people. Like my mom's a nurse, graduated from a three-year college, and she will say that we girls don't know how to do this and we don't know how to do that, and I will say, "What's important about knowing how to put down a tube? Is that as important as knowing what to look for once it's down?"

I think that I got the most realistic picture when I was an aide working summers and vacations; you carry a patient load, and this is more realistic than just having one patient to care for in, say, four or five hours. And I think that you really get a chance to practice the knowledge that you have gained, and sometimes you surprise yourself in that you can do it! I feel confident about going to work in a hospital position.

I've never catheterized a patient, and I think that in a crisis situation I could go on and do it. And I don't think that I've ever even seen it done, but I would know what to do, and I could read the manual. But the principles, these I know. These have been drummed into my head, and with that background, I think that I could go and do it if I had to. And it

would take only a short amount of time for me to learn this.

I see a need to know and apply scientific principles.

Re needs of people from other cultures:

Taking care of a patient from a different cultural background who didn't speak English was a really good experience. It made me aware that this type of problem does arise in nursing.

Instructors are always bringing up other cultures in class when they talk about diets or health teaching.

Although we hated doing world health projects in the sophomore year, the projects gave us a really good tie with different cultures.

I feel I'm very open-minded about other cultures because of this program.

Visiting families from minority groups would be more beneficial. That way I could learn about different cultures as well as families.

It is frustrating to see how seldom individual needs of patients from other cultures are met in the hospital.

We had a good chance of running into different types of cultures in San Francisco. We probably could have been exposed more.

You couldn't learn just from listening. You have to experience other cultures.

Re gaining confidence through team leading experiences:

I felt secure in making decisions while team leading.

I gained a lot of information about myself from having to put myself through team leading.

I was really well equipped to handle team leading.

The team leading experience gave me the most confidence in senior year.

Team leading provided us with a chance to bring together all that we'd been learning in psychiatric nursing and community health.

You just don't know how much you already know about anatomy, physiology, and pathology. It just comes together in team leading.

I felt I had a good background in group process and leadership for team leading.

Team leading was fun for us, because we had beginning students from another school underneath us.

Team leading was a goody. I wish we had more of it.

In our team leading I learned in the negative sense the good things that it should be. I learned in the opposite direction. It was hard at first, because I had to figure out that I was learning in a different way.

I think I really had the feeling that as a team leader you were in a position to do something as far as change and to recognize things and to pass that on to the staff.

It really struck me the responsibility I have for the people under me too, as far as their growth and this being very important and really accomplishing the purpose that we all have meeting the patients' needs.

Team leading was a shock. That was the first time, I think, I felt a little bit more like a nurse and the first time I realized I actually had something upstairs that I could really count on.

Unfavorable Reactions

Re learning experiences related to families:

They should definitely change the family experiences. They were just a lot of busy work and meaningless.

One family experience would be worthwhile, but three are too many. The Older Family Experience was more useless than the others.

Some students had to travel in areas of San Francisco that weren't safe in order to do their family experience.

We griped about families two years ago, saying we had too many, and they still had the same amount, and they're still planning to have the same amount!

Family experiences are bunk. They aren't worth a whole week at any time.

Family week was sort of a nice vacation. I prayed for that family week, that "free" week you called it in sophomore year.

It was good the way we went to visit families in the sophomore year, but the seminar on it was just a drag. At first it's interesting, but they just really dragged it out too much.

I didn't learn anything in my expanding family experience, because my own way of life was very similar to that of the family I visited.

It was a waste of seminar time for everybody to tell about their family experience. They were all normal families.

In the family experience, you are always trying to find problems that are

not there, just to use the problem-solving process.

I wouldn't have minded family experience for just the sophomore year. The junior year family experience was very repetitious.

The junior year family experience could be a follow through in obstetrics or outpatient clinic experience. The junior family experience does not need to be a whole year.

Re learning objectives and experiences in the first clinical year:¹

In the very beginning of the sophomore year, they should have given us more of an orientation.

The sophomore year was like living in a camper. You were always going to a new place.

You were always having to adjust to a new instructor in the sophomore year.

In the sophomore year I had all the theory thrown at me, and going to all these different areas, I just didn't get how the two things correlated.

In sophomore year I felt like I was in a circus or something, being hauled from here to there.

Going into surgery was the high point of the sophomore year. But it was those darn family weeks every two weeks. I'd just get comfortable in the hospital, then get pulled out for a week of family week.

More, deeper learning experience should be presented to us in the sophomore year, and useless experiences, like nursery school stuff, should be alleviated.

We could have had more clinical experience in the sophomore year.

We messed around so much in the sophomore year.

I didn't feel like I learned anything in the sophomore year other than maybe family.

Re gaps in subject matter content:

As far as integration goes, it is a great idea, a great principle, but I think that the faculty sure has to work out a better balance, because the integration has sort of been weighted on the side of the behavioral sciences, and as a result, we really don't know the pathophysiology of the body like we should. And this is something that we are concerned about.

¹At U.S.F. the first clinical nursing experiences are in the sophomore year.

I feel that nutrition is really about the weakest point.

I would like to have changed the drugs and nutrition and have more physiology and pathophysiology. Like the only organ that we really know is the liver, and even if they taught us pathophysiology in the sophomore year, go back and review it when we are seniors, because even now I have forgotten things about the liver, just in this period of time.

One of the problems with nutrition is that we pick up from the faculty their negative feelings about nutrition. And the way it was presented. They weren't that enthusiastic about it.

There were always overlaps and duplications on lectures, and so much repetition of the psychological stuff. A certain amount of repetition is good for reinforcing and emphasizing, but after that, it gets boring. And I think that it is kind of degrading in a way.

I think that here I am paying all this money, and they are teaching us something that we've been taught five times before, so I would fall asleep. You get to the point where you turn off and on according to what's important and what is not. For example, we needed nutrition, and we didn't get it. There were a lot of these areas where they just didn't seem organized.

That's the problem though: when we took chemistry, we took microbiology, anatomy and physiology, and chemistry all at one time. And that is really hard to assimilate all at once and then draw on later.

Re the first professional nursing position:

Here we come flocking in, supposedly so much more educated, and then we say that we haven't done this and that procedure or whatever. Then they ask exactly what we did learn in our program. It's sort of, well, you are put on the defensive. "Well, I learned things!"

I've come across prospective employers saying that all B.S. nurses and baccalaureate nurses know is what's in the books. And that's why I was so excited about this one internship program, because it's for a baccalaureate graduate. They will rotate you also, and teach you the techniques, and that will give me confidence. As far as going into a hospital and their saying to put down a nasogastric tube: I've never put one down before, and there are a couple of other things that I haven't done. And I can just hear them saying, "Where did she graduate from?" And that kind of scares me.

I think that I need quite a few months of a sort of support from the other nurses on the floor so that I would be able to pick up the treatment, see their routine that they have to do, and then I would say that a year from now this kind of education would be of a lot more value, because then I could apply new things. Anything new that came into a hospital I'm sure that I could put into my system really fast. I could transfer my knowledge into it. So I don't think that we need any more floor experience or experience in working with machinery, or like giving intravenous

feedings, or these types of things. I just hope that I can pick it up fast.

I have a certain amount of confidence, in that when I went for my interview, the woman said that she knew that as a baccalaureate nurse I would not have certain skills and that they were set up to help fill these gaps, and this was a minor deal. But knowing that they expect this from me gives me a certain amount of confidence that I could rely on them. And I have a confidence that, basically, I know what I'm doing.

I'm sure all of us right now, especially since we are about to graduate, think that we need a few more years. But I think that once we get out--just the fact that people do seem to regard four-year graduates as knowing something, and just from having talked to other people, I think that it helps give me confidence.

You could say that I know why I'm doing something, but I don't know what I'm doing. But they look at you and wonder what you really did learn. And you are thrown into a situation--and I think it's mainly the timing as a new graduate--and you don't know everything. I think, however, that this was one good aspect of the program, that you can keep learning.

Restatement of Main Points

So far as "Curriculum: Learning Objectives, Opportunities, and Experiences" is concerned, the favorable reactions focused on the following six areas:

- 1) depth and quality of preparation for professional practice and what constitutes the professional role,
- 2) learning objectives and experiences of the senior year,
- 3) integration and synthesis of learnings as a process occurring chiefly in the clinical areas and during the upper division,
- 4) students' general knowledge of and foundation for scientific principles,
- 5) emphasis placed on the needs of people of other cultures, and
- 6) gaining confidence as professionals through team leading experiences.

The unfavorable reactions within the category of "Curriculum: Learning Objectives, Opportunities, and Experiences" were:

- 1) emphasis and approach to learning experiences related to families,
- 2) learning objectives and experiences of the first clinical year,
- 3) gaps in subject matter content, and
- 4) anxiety over first professional nursing position and expectations of employers.

Program: Planning, Scheduling, and Evaluation

Favorable Reactions

Re evaluation of students:

I don't know if it's because of the rotation that we're in, but we're pretty much on our own for all three rotations, and we know that the instructor's there somewhere that we can get a hold of when we want her. But other than that, we don't have to report back on everything we did or tell the instructor about the whole day, or have this pre and post-conference that we always had before. Now, if we felt that we needed an evaluation conference, we had an evaluation conference.

The instructors and administration and people concerned with nursing are very good in telling you where you stand.

Evaluations were really supportive, but sometimes they were a little difficult to take.

It's good that the student was able to choose for herself if she wanted an evaluation, because it was her own responsibility.

You get used to evaluation. You're always being evaluated first by one and then by another teacher, and you start evaluating yourself just automatically almost.

Evaluation is so important in nursing because nursing is you as an individual. You have to overcome your inadequacies.

I criticized myself on a tape in the senior year. When the public health instructor listened to it, the things she said were exactly what I had picked out.

You learn from evaluation. You don't feel condemned or anything, because it's the only way you can grow.

Positive feedback is pretty good too.

This constant evaluation I always found to be just so much pressure, but I'm so grateful that I had it. Because I was constantly made to look at

myself. I know I would have just tended to move along through the four years, and everything would have been fine. I wouldn't take a long, hard look at myself. I'd rather just avoid it.

In junior year I had one experience where the instructor had a card on every student: things to be improved and positive things. You got that once a week, and you read that, and it really built you up. This makes the relationship between an instructor and a student closer. You know how the faculty always say, "You can get me whenever you want. My office hour is this, this, and that." Yet, you always feel funny to go and make an appointment. But at the time when the teacher hands you the card, which you read and give back, it's a chance for you to talk anything over with her. I really like that kind of evaluation.

I just felt like this year, because there weren't all these evaluations all the time, a great weight was lifted off my shoulders. I felt so free to be able to just do, to work like I want to work, and to work like I know how to work, without feeling like every move I made and every statement I made was being judged.

Re grading and competition:

You compete with yourself so much more for perfection than other students do, because you feel the responsibility.

I wanted to learn for my own benefit; I didn't feel pressured by the instructors.

I don't really feel like there's that much competition throughout the program.

The competition with me is "I," me competing with myself.

There isn't that much competition in our class.

I never felt any real pressure that I had to keep up with anybody.

Re testing for core content knowledge:

Learning about the various and expanding fields in nursing was an interesting part of core class.

If we had had the senior year nursing theory before the senior year, we wouldn't have been able to grasp it as well.

Core content ought to have many more guest lecturers, because they are good and know their subjects.

I don't care whether or not the teachers attend each other's lectures; they know what's going on.

As far as testing methods, the senior year was best.

I wish I had more overwhelming experiences like systems analysis this senior year. Most of the time you go to classes and you don't even take notes.

Some of the lectures like kidney transplants were good.

I wish we had more things like transplants in class. The locomotion thing was good, but not adequate.

Unfavorable Reactions

Re conduct, content, and evaluation of theory courses:

Students can learn much of the information which is presented in core class on their own, and the information they need to have explained isn't.

Much of the material covered in the senior year core class is repetitive of that covered in the sophomore year, except for a little bit that goes a little bit deeper.

The senior year theory classes are not especially complex so far as patient care, learning about diseases, etc. goes.

In the junior year I did not see core content as common to all the clinical areas.

Core content in the senior year was just nothing, just a waste of time.

The first lecture in senior year on systems analysis is overwhelming. You'd rather come back after the summer and have a little bit of "do you remember."

Some of the core classes are a big disappointment because they are not integrated more or don't include enough anatomy and physiology.

I didn't care for the senior theory. It wasn't what I expected it to be. A lot was history and future changes, and you can only get so much of that.

A lot of the senior lectures were repetitious. There must have been about four lectures on systems analysis. It seemed like such a waste.

I don't know about the senior lectures. Maybe we were supposed to be able to know what we wanted to learn and learn it on our own, and lectures were only supposed to be a stimulant.

I was very disappointed in the core classes. I could learn much of the information presented in core class on my own, and the information that should be explained isn't.

The lectures on death the senior class had were kind of repetitive of those the class had as sophomores.

Health teaching and communications were presented at the sophomore level and repeated at the senior level. I felt they were more beneficial at the sophomore level.

Senior year was a disappointing year to me because I didn't like the way the core classes were run. I couldn't see the relevancy of a lot of the lectures.

Students know who is a good lecturer and who isn't, so sometimes they don't bother to turn up. Therefore, the class is pretty empty lots of times.

I always thought we should have more pharmacology, because what we got in the sophomore year was so poor. It was nothing.

I'm afraid I've overlooked some things in core content that probably were more meaningful than I thought at the time. They were abstract, so I overlooked them.

When core content topics are repeated for review, they should be reviewed in less time proportionately, so that repetition is not a problem. Repetitious material does not need the same amount of time as it did the first time it was covered.

The pathophysiology gets crammed into two lectures and is overwhelming. The haphazard stuff takes three or four lectures.

If we had had lectures on systems analysis in the sophomore year, we might have been able to integrate it better.

A lot of physiology presented in the senior year should have been presented earlier.

We had only bits and pieces of pharmacology and nutrition, and we couldn't integrate them into a solid foundation.

The whole faculty should sit down together to make up the core content for all three years, so that they all know what all the students are being taught.

My attention span was improved much more by just listening to some of my classmates than to the instructors in lectures.

I guess I see either repetition or no relationship between lectures. I figured that some of this could be eliminated.

I wish we had more of anatomy and physiology in senior theory. This year we had hardly any, and it really disappoints me.

We're not the first ones to say that we need more anatomy and physiology; we've all been saying it, but no one has carried through.

We complain about repetition of material often. It's not really such greater depth than we have had before.

Re individualization of the evaluation process:

I have a very specific weakness I want to talk about, and that is the method of testing. During all four years, I was finally satisfied with a test, the last one we had. The questions weren't ambiguous.

I think that evaluations could be used even more so to help students by having little periodic ones instead of one big one at the end.

When I think of evaluation, I think of great potential, but I don't know if they're used in the way that they could. But maybe you had wished that evaluation could have been more of a spontaneous thing in the sense that it could have been more of a learning experience. I see evaluations as a way of getting to know that instructor, and yet there was always a barrier, that she was always a teacher. The evaluation conference was so structured, and I felt that every evaluation that I ever had was so structured and lacking in spontaneity and just humanness.

I think the first year, in some ways, even though we had some support, we had a lot more negative feedback. I don't know whether they were trying to help us make up our minds that we were either going to cut out now or make it through all three years or what. Thinking back, not about me particularly, I think I can remember kids saying they'd go in and get really torn apart.

Re inconsistencies in students' evaluations:

I found that the evaluations seemed to be a big part with our class; we all hated the evaluations. And one reason that I hated them so terribly was because each teacher would set up certain criteria that she wanted met, but you never knew about them until the end of the experience. And so as far as meeting criteria, you may have thought that you were fulfilling the objectives of the course in a certain way, but she wasn't looking at it the same way. In this I think that there was quite a bit of lack of communication.

A lot of times they were pretty subjective too, like saying how well so and so does something, and that's really defeating. I hated evaluations where we were compared with someone else.

I think that if they gave you written copies of the evaluations, you could look at them once in a while. When you are in the interview, your anxiety level is so high you forget what was said. It's so overwhelming; you come away just completely destroyed.

But what really bothered me was at the end of your experience they would tell you how you could have improved. Why couldn't they tell you when you were doing something wrong what you were doing, and also capitalize on your strengths. A lot of times they will just say that you did this,

this, and that, and you think that you did everything wrong. And then if you ask them, they will say what you did right. But a lot of times I think that they capitalize too much on what you do wrong. Or they will tell you at the end, and by that time there is no way for you to do anything about it or help yourself. I think more midterm evaluations would be better.

I was told one time the direct opposite of what I was told before in the first evaluation. This was just last year. How can someone in one area say that you are great in theory, that you can write anything down beautifully, but you can't relate it to the patient or add to the situation. And then, from another person, I was told that I was great in the situation and could function well, but that I was treatment centered and not able to explain why I was doing what I was doing. I couldn't see any way to correlate the two.

I have yet to be told in an evaluation to face a problem and work to improve it. They suggest that through facing a problem you can work on it and become better. But I can never relate it to the nebulous next experience. I find it better to forget that problem and just be myself. I find that I do much better.

Restatement of Main Points

In the category of "Program: Planning, Scheduling, and Evaluation," both the favorable and unfavorable reactions centered on various aspects of student evaluation.

Instruction: Teaching Styles, Methods, and Procedures

Favorable Reactions

Re use of scientific principles:

I've felt more confident when I knew a reason behind why I was performing a technique than if someone just told me to go in and do a procedure.

Nursing care plans took so much time, but to tell you the truth, that's the only way I ever really learned things.

I complained the whole time doing nursing care plans, but I made myself go through the books and write everything down. I feel like I know more because of it.

You see the difference with principles in vacations and semester breaks when you work with aides and other people who don't have the same kind of background. You see the difference in knowing principles.

I don't mind applying scientific principles, but I sure hate having to write them down on paper.

They tried to teach us in our sophomore year that when we graduated we would be able to do a technique if we knew the principle. But there was just no way that we were ready for that in the sophomore year.

We wrote diaries. They were a pain, and yet you really had to do a lot of research to turn out a good diary, or a fair amount of research, which was a good way of learning.

Re independent and individualized study:

I think that in the clinical experience it depends on your own initiative. You can pull out as much of it in that area as you want. If you go and you can apply as many principles as you know, it is kind of an individual thing. It is all a matter of your own initiative. If you want it to, I think that the program does afford the opportunity to apply it.

You were making the decision, and you got out of it whatever you put into it. I think that it is very evident, at least to me, that whatever I did put into it, my preparation for the patient, is what I got out of it.

On the whole I'm really satisfied with what I've learned. I feel that I have learned a lot, but there's a lot that I haven't learned that has to do mostly with my own efforts that I've put into it.

Maybe it's just me--the communication theory. I would tell incoming nursing students to give a lot more, to give into the program, to take more initiative. I think that if you start earlier with that, you will get more out of it.

Independent study is where we learn everything. Independent study is a very difficult thing to do. You need guidelines for this type of studying--you can get bombarded by the subject matter and not be able to pick out the important things.

It's really stimulating to have so much time on your own and be encouraged to do some independent study.

Independent study is a better way of learning. It helps to have some guidelines.

It's up to you, pretty much, in the clinical experiences on what you wanted to get out of it. You could move around in your clinical area. At least, that's the way it's always been with my teachers.

Re the opportunity to evaluate the nursing courses:

We were able to really discuss with her what we felt about what we thought of the course.

I think that was one good thing about our instructors: the time that we did make suggestions, they weighed the pros and cons of what we suggested. And if they felt it was a good suggestion, they would put it in. It's nice to know that you are really listened to, and that there is some give and take. I think that is a point in favor of the student-teacher relationship.

We got to evaluate courses at the end of the year and make suggestions for what might be better for the next class. And we thought this was a good idea.

Our nursing instructors have been fair in allowing us to evaluate the classes at the end of the year and in listening to students' complaints.

It was terrific that instructors have made changes in the senior year as a result of students' evaluations, as in Public Health.

In nursing we've had more of an opportunity to be evaluated and to evaluate the program than in any other department in the University.

A certain degree of evaluation is good, both self-evaluation and the evaluation of your courses.

Re organization of learning experiences from simple to complex:

I feel the nursing program has gone from simple to complex.

A theory lecture with the clinical, like they do in senior med-surg, is good. You have your integrated class, but you also have the theory that relates to the clinical section you're in at the same time.

My learning experiences have gone from simple to complex in the clinical area. In the intensive care unit at St. Mary's, I had more difficult patients that required more complex technical skills than previously at Kaiser.

When you look back, you see how simple were the sophomore nursing care plans. But now in the senior year I still look back on and use my junior ones. I was really learning things in the junior nursing care plans.

Our care plans are simple to complex. They were simple our sophomore year. We could never have written a difficult one. If we copied it out of a book, we wouldn't have understood it. But look how difficult they were for us.

Once you get the concept of simple to complex, it's easier to understand why you need it when teaching patients.

Communication skills are incorporated in all the theory throughout the three years.

The faculty has been pretty good about giving us small tasks in the

beginning so that we can experience success.

The group that has the structured teacher first likes her. Then they move from the structured to the non-structured. She's good if you have her first, but not last!

Re skills labs:

I feel that my class was lacking in skills lab facilities because the nursing building wasn't completed when my class was sophomores, but the present sophomores are getting more skills lab experience.

I learned more in that skills lab in a half hour than nonsensing around on the floor with the kids [patients] scared to death because it's obvious their nurse doesn't know what the heck she's doing.

Re value of team teaching:

Team teaching is a good idea, because the students receive a variety of opinions, views, and lectures.

Team teaching was good. You get many different points of view.

It's kind of nice not to have the same faculty person all the time.

They're all responsible for seeing that the core threads are adhered to. Individuals don't have a specialty that they just talk about. They're all responsible. So the one that knows something about a topic will talk, but if she isn't there, someone else will.

I think there are great advantages to this, because each individual has her own individual experiences, and in team teaching they can bring them in and share them. You don't get just one point of view, generally.

Because everybody is so different, too. You can just draw from everybody's resources. Like ----- [senior instructor] today was able to come in with her ideas of what happened and what she did, and carry that through. Or somebody who is really good in a certain area in med-surg can help the other med-surg teachers with their specialties.

We can thank team teaching for giving us a variety of role models.

Unfavorable Reactions

Re testing methods in the theory courses:

Something that should be improved around here is testing. Like we have two class periods on a subject, and they give you maybe a hundred pages to read in our textbook. And you read it, because it is required reading and you think that it's really going to be included on the test. Then we have maybe one particular class period on cancer, for example, and then

we have one hundred pages to read on cancer. So you think that it is pretty important and you really better study cancer. Then we have about two class periods on environmental control, and there is no required reading, or maybe there is one little article in a nursing journal. And you think, "Well, this must not be too big of a thing." And you get to the test, and the whole thing is on environmental control and no cancer. Then you begin to wonder what you are studying for, and why even study. What we feel is important the instructors don't even bother with.

You wouldn't feel so bad about doing bad on a test if it were a little more fair.

We form an evaluation of what the faculty think is important by the number of class hours they spend teaching it and the number of required readings, and this is not the way they weighted the test.

Set up a ratio. Like this reading is going to take approximately two hours, and then we will spend five hours in class. This is so much of the class time to be covered, and therefore, it should be so much percentage of the test.

I don't remember having any fair tests in the entire three years.

I have had fair tests, in obstetrics and pediatrics. I thought that they were very fair tests. They were hard, but they were fair. If you studied what you were supposed to study, then you did okay.

Re team teaching:

I don't know about team teaching. I'm kind of ambiguous about the whole term itself. Because sometimes I think it's a really good idea, but it really depends an awful lot on the subject matter being presented. Sometimes I think people are kind of pushed off with the topic just because it's their field, and they don't really want to talk about it. I also feel that some people are really good teachers and other people are lousy. I mean they give terrible lectures. And just because they're part of the team, I don't think they should have to give core lectures. They might be really good on the individual basis, but they're really lousy when it comes to talking to eighty kids.

I was thinking about my thing of team teaching as the Peter Principle, especially when it comes to our particular team, our instructors that we have, just because of what you're saying too. People are pushed into the responsibility of lecturing to groups, and they have minimal ability or desire to do that, whereas maybe in other areas they're very good. And I think we just don't utilize people's talents right in teaching.

I'm not exactly sure what this team teaching concept means. I don't know what you mean by it, whether it's like what they're trying to develop now for next year's senior year, getting the whole year interspersed with med-surg and public health where it's kind of together or not delineated like it is for us for nine weeks of each type of thing, or just what's meant.

Well, it depends on the team, doesn't it girls? I liked the team teaching, kind of, sophomore year. But by this year I've gotten so sick and tired of some of the teachers just getting up and spending an hour on something that could have been said in two sentences. It's like they feel like they have to teach.

Do you know what I've noticed that happens? Certain teachers won't go to anybody else's lecture, and this kind of irritates me. For instance, I missed a test, and I was going to make it up or something, and a teacher said something like, "You haven't gone to these classes." And I had gone to these classes, and I knew that she wasn't there. I mean, it just irritates me when teachers will only go when they have to give a lecture. This isn't universal; just a few. But I think that they should all go and hear each other's lectures.

Re independent and individualized study:

I wish there was more time for independent study. I personally get an awful lot of very picky written assignments, especially in this last rotation.

Senior students should take the initiative and have the know-how to be able to go on and carry things off as a group. It was frustrating that the instructor in that psychiatric experience would not let us function independently as a group.

It's like getting to a wall when all of a sudden you reach a rotation at the end of your senior year where the only leader in the group can be the instructor.

We were forever trying to change simple things, like a test, or that we've learned enough about writing a process recording, but we could not do what we wanted to on an individual basis, not even the last week of the semester.

Restatement of Main Points

In the category "Instruction: Teaching Styles, Methods, and Procedures," there were six groupings of favorable reactions:

- 1) methods of teaching emphasizing the use of scientific principles,
- 2) independent and individualized study,
- 3) opportunities to evaluate nursing courses,
- 4) organization of learning experiences from simple to complex,
- 5) skills labs, and
- 6) value of team teaching.

The unfavorable reactions focused on three areas:

- 1) testing methods,
- 2) team teaching, and
- 3) independent and individualized study.

Interpersonal Relations: Faculty-Student
Roles and Relationships

Favorable Reactions

Re preparation and experience of the faculty:

I think the instructors have a great influence on what the students think nursing is, the model that they give students when they're teaching and then when they're working.

Another strength is: I can't think of one member of the faculty in all four years who hasn't been oriented towards the future. They're always studying. They never get any of these antiquated ideas. They're always forward-looking. They really emphasize from the very beginning the importance of keeping ahead in the profession.

Some instructors are good role models, and others let you know how not to be, which is good too.

The faculty members I had contact with were really well qualified and knew what they were doing.

The faculty were really good resource individuals, and in junior year I really had good teachers.

The senior faculty, especially, relate to the students more as equals than on an instructor-student basis, giving the students a little bit more credit for being a little bit more professionally oriented.

I feel it's nice that teachers socialize with their students outside of school work, because you can learn so much from them as people instead of just instructors.

A few teachers were excellent role models, and we learned from their example.

I look on teachers who have cared about us and socialized with us outside school as excellent role models.

We've had enough different types of faculty to sort of pick out our own role model.

It seemed like every year there happened to be one teacher that I really liked as a role model.

Re attitudes of faculty influencing learning:

I was just thinking that the instructor's attitude toward the student was really important. A lot of times on the floor, if they would give the attitude that they expected the student to know everything, your confidence just went down the drain. And then there were others who were very supportive, and they didn't expect you to learn everything in one day. And this made a lot of difference.

I think that what we're all saying is that personalities are really involved in teaching. I can learn better from one person, whereas from another person I can't, regardless of what the curriculum is. For example, we've had med-surg for all three years, yet I've gotten more out of one year than in the other years.

Students feel more professional in junior year because the teachers start to treat them as college level students.

It took me a while to figure out that I should talk to the instructor and not keep her on a pedestal.

A senior instructor made me feel like she trusted me to know something.

Re communication between and among students and faculty:

I think that a lot of emphasis is placed on communication between students, between faculty, between the nurse-patient relationship. And I think that this helps you, too, in developing, rather than just emphasizing a practical need.

We were able to really discuss with her [a teacher] what we felt, and I think that it really helped me.

I think that one thing is that, like the senior team, the junior team . . . Each team needs more communication about what we have learned from year to year. They just assume things that are there, when they really aren't, or else they are "reinforcing" again. But there is a lot more communication needed that way.

I felt that in the teams--sophomore, junior, and senior--the senior team really treated us as people and not kids, as adults and not just people who they were going to stuff information into. I got it from isolated teachers, but not as a team. Our senior team has been very receptive to us, so there is a two-way exchange. I think that this has really helped in our learning.

Re student relationships with other students:

You can even get role models from fellow students.

There are many people in my class I couldn't stand to be like. But you can learn from them.

There are very few girls in our whole class that I wouldn't trust.

I have yet to see cheating on a nursing test. That's really indicative of something.

It's necessary to foster communication among the students, so that the upper level students could tell the lower level students what's important to study. Because sometimes when it comes from an instructor, it's kind of passed over. When it comes from a student who's just recently been through it, it kind of sticks a little better.

Keeping the same clinical group for a whole year builds a lot of trust, confidence, and security among the students.

Being transferred from group to group is good, because it gives us an opportunity to meet new girls.

I liked sophomore year because I had an opportunity to see different girls every week.

Re students' individualism and independency:

In senior year I felt respected as a person for the first time, instead of being intimidated every time I turned around.

In senior year I thought we were treated more as individuals and allowed to use our own decision making.

It's been pointed out to me that we are treated as individuals and kind of left to go at our own speed.

The first two senior instructors I had were very good. They allowed for creativity and doing it on your own.

A lot of the senior instructors show they had confidence in you and they let you go ahead and do things.

Most of the instructors always tried to give you initiative and make you fill your things out on your own and think up new ideas and ways to do things. Unless you were really off base, they supported you.

Unfavorable Reactions

Re group rivalry and competition:

I think that nursing should be on a pass-fail basis. What was said is very true. Like we had a lot of problems with competition, and then that kind of died down. Like the group dynamics that you notice in seminar.

There's a lot going on between individuals that inhibit each other. We just came out of an experience that was a really quiet group because it just never got off the ground. They never moved, and I think that there is a lot within our class.

One thing that I remember: somehow in the sophomore year it was really set up where there was a lot of competition in our group. I don't know what caused it, whether it was the way that we were taught or the things that we had to do.

There was a lot of comparison of students between students, and it was made known to us as a class too. There were the favorite students, etc., and then "too bad you can't be like her" too.

I wonder why. Do you think that it was just our group or that we're naturally competitive? Or was it something with the structure? Remember when someone told us that some of us were going to be dropped from the class because there were too many in our class? Our sophomore year, I remember, was a pitiful year!

Re respect and concern for students as individuals:

In junior year I remember being told, "Accept people for what they are, adjust to them, consider them, respect them." All these kinds of things. Then there'd be a couple of my instructors who were the exact opposite. I was not to be accepted; I was not to be considered.

I think there could be a lot more individualism than is allowed in a lot of situations. I think that in a lot of cases the faculty have been afraid, because of the responsibility they have and because of the hazards and all this or working on the floor.

This year this came out for myself and another student in my group: "Just stop bucking the system, girls. You've got to start bending and going along." It's really hard, because it stifles you.

Re faculty-faculty interactions:

The faculty as a whole should work together more to prepare us for junior year.

The whole nursing school should work together more and coordinate the three years better.

In junior year the faculty had many problems among themselves and half of them didn't get along with each other.

Junior year instructors are intimidating the students because of the problems they have with each other.

Senior instructors don't attend each other's classes, and this indicates a lack of respect for each other.

I think the faculty have a lot of conflicts among themselves, a great deal of conflicts.

The faculty don't even help each other. The three public health teachers don't help each other with particular topics or get together and use each other as resources.

The conflict between the three public health teachers is so fantastic that they just get in each other's way.

It didn't seem to me that there was much unity among the faculty.

There's very little integration even with the public health teachers. They are very separate entities.

The faculty seem to contradict each other.

Re discrepancies in learning objectives of the students and those of the faculty:

One of the negative elements that I can see is that I don't feel that there was enough interpretation of expectations. I found that although they were not stated, the instructor had definite criteria that she wanted met. And I felt that these should have been stipulated at the same time that I had to stipulate my objectives, that it should have been clear that the instructors had certain objectives they wanted met too.

It's frustrating because the faculty have their ideas in their minds of what you should be like or what a nurse from U.S.F. should be like. And you have your idea of what you are, what you're capable of doing, how you react to situations. If the two don't agree, it can be mighty difficult along the way.

With some teachers you get a better experience than with others. Some teachers can draw knowledge from you and can make you want to learn more than others. And I think that it's a big influence on how you perceive the meaning of a lot of the principles and how you can put them to work.

There are a lot of times where a student is scared, scared of the instructor to the extent that you will not say what you would have really liked to have said in order to get more knowledge out of them.

One of the things is that we pick up from the faculty their negative feelings about nutrition, and the way it was presented, and they weren't that enthusiastic about it.

A lot depends on the personality of the instructor and how secure they are in their role. It really affects our work and our relationship with them and how much we are going to learn.

Re open channels of communication between and among instructors and students:

I have felt that I've missed a great deal because I have not had the opportunity to work with more of the students. Once you are assigned to a clinical rotation you work the same clinical rotation for the whole senior year, for the whole junior year. I'd like to have an opportunity to mix with more students and get to know more of the group better plus engage in some intermingling, hopefully, between junior and senior and freshman students.

Like last year when we were trying to set up better communications between the faculty and the students, and the faculty were just not recognizing what the students were saying.

I see more students going to other students for information than to their instructors.

I had an instructor who thought there was something wrong with me. She was sure I had a personal problem, and she kept asking me about it.

Restatement of Main Points

In the category "Interpersonal Relations: Faculty-Student Roles and Relationships," there were five groupings of favorable reactions:

- 1) preparation and professional experience of the faculty,
- 2) attitudes of faculty which influenced the learning process,
- 3) communication between and among students and faculty,
- 4) students' relationships with other students, and
- 5) respect for students' individualism and independence.

Unfavorable reactions also were grouped into five areas:

- 1) rivalry and competition among students,
- 2) respect and concern for students as individuals,
- 3) interaction between and among faculty,
- 4) discrepancies in learning objectives of the students and those of the faculty, and
- 5) communication between and among students and faculty.

A Liberal EducationFavorable Reactions

Re the value of the baccalaureate program in nursing:

Going to a university more opportunities are offered to you in the school, such as working in different activities where you're exposed to different people.

I think the university setting is a good example of strength. When you're in a university, there's so much to be offered, and if you want it, you can get it. It's an interesting setting.

What a B.S. program meant to me is that I came here for a liberal education. I enjoy nursing, but I enjoy other things too. I could have gone to a nursing school if all I wanted was straight nursing. But I came to U.S.F. for a B.S. program. I'm really glad I picked a university nursing program. Kind of like this is my only crack at school. I have to work. I can't afford to go on for years and years. And I wish now that I had had the opportunity to take more in liberal arts.

Four years is a long time. You can do a lot with four years. And I think that we could make better use of our time in the four years to take more liberal arts. Because nursing education isn't just nursing science. In a baccalaureate program one of the ideals is to have a very broad background. I think we don't have that yet, but we've made an important beginning.

I felt like U.S.F.'s a good program. I'm glad I went to a university in spite of all the crabbing I do. I look at other nursing programs, and I think, "Oh, well, I'm a little bit better off than they are."

What I really like about U.S.F. is the fact that they are always changing. I mean look at just in our years, the kids coming behind us, how many changes U.S.F.'s gone through already. That to me shows that you've got a good program, because if you can change it, then at least you know you've got something to work from. If you've got a program that you don't want to change, then to me it's too bad. Because no program's perfect. I think that's really one of the good points about this school. They really try.

I always thought of graduating from a four-year university degree program. Like I want to wear my gown at the pinning ceremony rather than a uniform because I don't identify with just the nurse aspects of my education.

There is nurse training, so to speak, but I have been educated.

That bears on being a professional: it's not only the fact that you graduated with a B.S.; it's also how you put yourself into the nursing profession. You could just go in and act like a two-year nurse and just get stuff done. But it also depends on how you use your liberal education. I don't know what other word to use for professional. How you use yourself

to grow and learn other arts and gain more education.

To me ethics kind of differentiates U.S.F. from training for a job. It's a more . . . I don't want to say well rounded, but it's a more expansive type of situation, where you have ethics involved.

In a way it helps to live on campus too. Like this year I'm off campus, and I really feel detached. You really do. At least on campus you dig. Like in the dorms you come in contact with different majors and different people, and you can work with them on different activities. It's a little bit easier to get around the campus for meetings or whatever. When you're off it, you stay in your apartment or whatever. It's a lot easier. But where you should be is in the mainstream of the university.

Another thing about a university education is the chance to get involved in extracurricular activities, like me, in drama, or you can get involved in music. It takes time, but I found time, and I met my husband, and we got married.

Unfavorable Reactions

Re university requirements, scheduling of classes, and opportunity for electives and extracurricular activities:

As a commuting student it is difficult to participate in extracurricular activities held after school hours.

As a senior I regret not having taken advantage of extracurricular activities.

About the courses: I think that they do limit it an awful lot just to nursing, that our whole main emphasis is nursing--sociology and nursing, psychology and nursing. That even the liberal arts classes that we had were always with nurses. I think it limited us to our involvement with other people, with other students.

Sometimes when I think about it I feel very deprived. I really feel like there's a gap in my education. I guess I really enjoy history and I enjoy English very much. I didn't start out at U.S.F.; I spent my first quarter at Lone Mountain. I was in an honor seminar in history and English, and I really felt like I learned so much. Though it wasn't anything specifically practical, it just helped me enjoy things more. I really feel that because of nursing and because of the way it's structured, we lose out that way.

Your whole life can't just be nursing, and that's what they force it to be here, what with so few electives.

It's such a drag to be in every single class with nurses.

In nursing you feel like you're programmed for the whole three years.

I plan on going on to college after nursing to take electives. That's really true. I have to. I'm not kidding.

They talk about going to a four-year college to get a well-rounded education. And there's no room for electives.

The best thing is to be non-Catholic. You have no theology. If I had it to do over, I'd say that so that I could put those twelve units of theology into electives.

When there is time for extracurricular activities, you still end up with all nursing students because they had the same free time that you did--just like with the electives.

All nurses in the same class really stifled a lot of different experiences that we should have had in a sociology class or anthropology class. We all had the same frame of reference.

When we first came in, they encouraged us not to have any extracurricular activities. You seldom have much time for anything else except studying anyway.

This brings out the problem to me: are we nursing students who happen to be going to U.S.F., or are we U.S.F. students who are in nursing? There is a conflict on the emphasis in our class as a whole, and there is a conflict with it in the faculty--that you're not any different from anybody else. I'm sorry, but we are. You know, they say that we should regard our clinical areas as just being a lab. Well, it's pretty different when your lab is on the other side of the Bay, and you have to wear a uniform, and you are working weird hours, and lots of other things.

Re the freshman year as a period of isolation, deprivation, and alienation:

Freshmen do not have enough contact with the School of Nursing.

Upperclassmen from the School of Nursing should talk with freshmen and possibly invite them to attend seminars.

Freshman nursing students should have some academic contact with nursing, such as a nursing history course, so that they could feel like nursing majors.

The School of Nursing should set up a counseling or information service to inform freshman students what is ahead of them their next three years.

A greater knowledge of their next three years in nursing might motivate freshmen to do well.

Freshman nursing students need to be told how their microbiology and chemistry will fit in with their nursing.

An out-of-town freshman, who is the only student from her high school,

does not feel part of a group socially.

I was so frustrated in freshman year. I couldn't put anything together.

Freshman year was overwhelming.

In the freshman year you keep thinking, "Am I really in nursing?"

What made it hard in freshman year was there was no application. None at all.

Freshman year was a hard year, the first semester anyway. It was loaded with so many sciences. Really tough for a beginning freshman who is just getting used to college.

When you start out in nursing your whole first year classes are mostly sciences, or English, or requirements that you have to take, and you have no exposure at all to nursing. It seems like that if in some way, maybe by just having a couple of discussions, informal discussions with groups of girls who have also chosen nursing, in your freshman year, with instructors at different levels of the nursing program, you could get an idea of what's to be offered to you in the future.

I think I really wish we had more contact with the School of Nursing as freshmen to realize the importance of it.

Restatement of Main Points

In the category "A Liberal Education," there was only one favorable category, the value of a baccalaureate program in nursing, while there were two unfavorable categories:

- 1) lack of any identity with nursing in the freshman year, and
- 2) lack of opportunity to take liberal arts courses and to participate in extracurricular activities once the student entered the professional component of the four-year curriculum.

Observations

The U.S.F. students who were interviewed tended to regard their curricular experiences throughout the program favorably. They spoke warmly for the diversity of their learnings and the way in which everything seemed to

all come together by the end of the senior year. The constant readjustments of the sophomore year caused some anxiety, and they were critical about the duplication of effort with the family learning experiences. These students seemed almost overwhelmed by the degree to which the program had clarified their conception of what nursing was all about. They identified areas of weakness in organization and presentation of theory content and identified some concern for lack of technical skills, but acknowledged that they were well prepared in their foundation for professional practice.

The students were favorable in a general way to the whole notion of evaluation and its role in guiding their progress but tended to be critical of stereotyped evaluations that did not reflect concern for the student as an individual or else were poorly timed. Most comments about lecturing, testing, and continuity of core content were on the negative side. Students seemed to know and agree on who were the better teachers!

Evaluative comments both pro and con appeared about team teaching, skill labs, and other methods of instruction. Depending on the year or the course, things were sometimes good, sometimes bad.

There were many favorable comments about the various levels of interaction between and among students and faculty. The seniors seemed to place as much value on student-student interaction as they did with student-faculty interactions. They noted, however, that team teaching did not particularly bring out the best in faculty and that sometimes faculty needs interfered with the faculty meeting student needs.

If it weren't for the stresses created by the heavy demands of the professional program, most of the students would have thought of their liberal arts education in a very positive light. As it was, they felt deprived for

lack of electives and the opportunity for extracurricular experiences.

CHAPTER 2

INTERVIEWS WITH U.P. STUDENTS

As mentioned in Chapter 1, each of two classes of senior students at U.P. was interviewed (Classes of 1971 and 1972) using the same procedure as for the U.S.F. students. The analysis also is patterned after that used for U.S.F.

Curriculum: Learning Objectives, Opportunities, and Experiences

Favorable Reactions

Re preparation for professional practice and the professional role:

It's really important that you take care of not only the person that's sick or the one that's acutely ill; it's just as important to take care of the other members of the family also.

When I first started freshman year, I thought of a nurse one way only. What I thought was a nurse then would be like an aide now.

When I think of professional, I think of competence, and I think competent in nursing.

In my team leading, even though I didn't know a lot, I felt like I was professional, as far as doing the care that I did or helping the nurses who were under me, this type of thing.

I think I'll be a good nurse. I really feel fairly confident. I don't have a lot of skills, but I don't think that's the end of the world.

I'm finding at this point that I know I can be a good nurse. I never thought that I would ever really say that and believe it, at least not last year.

I think as nurses we'll be good at promoting change.

I think being professional also stems from the way you handle yourself.

What we've learned is that a student from a Bachelor of Science program is a professional nurse, whereas a student from the other two kinds of programs isn't. I don't think that has anything to do with it. I know a lot of two-year nurses that are professional too.

Re the learning objectives and experiences of the senior year:

Senior year was a fantastic and good experience. It was the hardest thing I've ever been through, but really good. I think our experience this last semester helped our confidence a lot.

Senior year was so much more relaxed and free than last year. The pressures were a lot less.

In the senior year what the faculty do is put a trust in us. Eventually you have to trust in yourself. You know your limitations. But you know that you can go in and do what you can do.

It's a good feeling to know that the faculty is there trusting you.

Initiative is one of the results of having a senior semester where they have a basic trust in you as an individual and as a student. Out of that comes a more autonomous, self-initiating, self-directing person.

Re integration of learnings from simple to complex:

Simple-to-complex describes our program. That's where we started.

Some of the things that I think came out of our integration were that they stressed a lot of communication skills in both psychiatric nursing and in the regular hospital and community experiences. It all came out so that it got to be you all the time.

I think the program prepares you to take on the more complex. You're always scared and all. But I think they do give you the basic background for it.

With the integration of our program, we've had psychiatric nursing throughout everything, which is good.

The family thing is another good example of integration.

I think you can integrate the theories and pick up things that you want to carry through that you feel are important.

Re knowledge and foundation of scientific principles:

Scientific principles were drilled into us over and over and over again in our junior year. They have been of great value to us in our senior year.

To explain things to people you have to know principles. I didn't realize

that they had really become so ingrained in me until all of a sudden they just came out. They were just part of me.

I was surprised how much I use scientific principles without even being aware of them. When you have to explain them, you know them. Somewhere you know them.

I think we really learned scientific principles in chemistry class. They gave us a good basis for doing nursing care plans.

Re needs of people from other cultures:

The value of other cultures came out for all of us in public health when we were working with the underprivileged. We found that they have different value systems and different ways of doing things. You have to learn to work within their cultures.

I really think experiencing other cultures is important in learning to relate to people. It's important because you're going to meet them in all aspects of life.

In studying about other cultures, we learned "why" with a multi-problem family. Why are they the way they are? What is their background?

In studying about other cultures, we learned that you couldn't judge somebody else with your values.

We studied other cultures in relationship to nutrition too.

Re gaining confidence through team leading experiences:

You can do team leading; you pick it up. You have background.

In team leading at least I found I was the type of nurse I thought I was going to be since I was yea-high. It's the only time I operated in that type of medical-nurse type situation. I can't say I was particularly happy with it, but it was the only time I operated as I thought I would become a nurse.

I think they try to give you a good concept of team leading here. I know they were stressing that it's not so important that you can pass medications for a hundred patients. It's more like you have to talk to the patient.

You can do team leading; it's surprising what you can do, even though you've never done it before. Team leading is fun.

Re learning experiences related to families:

It was a good experience to work with patients who weren't acutely sick in the hospital, who all the same needed teaching and a little help here and there. It was good preparation for public health.

I liked family experiences because it was a long-term thing. It wasn't like you saw people just in the hospital. You built up a trust relation.

My family experiences were all good, and I hated to terminate. I felt satisfied. I established a rapport with the families, and I was able to identify their problems. Following families was a good experience.

Unfavorable Reactions

Re learning objectives and experiences the first clinical year:¹

I didn't even enjoy junior year at all. I didn't even enjoy nursing until this year.

I almost quit many times during the junior year. I couldn't see the value of it. It just seemed like you were sinking, and there was nothing there to hold you up.

Your whole life in the junior year you never know from one day to the next what you are going to be doing.

Nursing is all you live, breathe, sleep, and drink in the junior year. It was the hardest year for me.

Junior year was worse. Oh God, junior year was awful.

There was a lot of anxiety in junior year, because we had never done anything, really.

There was so much to learn in junior year. It seemed like you had to learn everything all at once.

Junior year was so hard.

I kept hoping some tragic event would happen at home to force me to quit in the junior year. I could use that as an excuse.

Junior year was worse study-wise and grade-wise, but senior year was more trying for me emotionally than it was junior year.

Re the first professional nursing position:

The first job is scary. It's not so much getting the job, because probably as a nurse you can always find a job; there are plenty of jobs to choose from.

Our public health experience was okay, but we didn't do it through an

¹At U.P. the first clinical experiences occurred in the junior year of the program.

agency. And their little theory thing they gave us on agency administration was just fine and dandy, but when we get out, we won't know a darn thing about how an agency really runs.

I hope I have a first job that I like. There are lots of jobs out there, but I don't know how I'll fit into them.

Thinking about the first job is worse than before you go. It's always worse than when you're there and doing it, because your anxiety beforehand tends to be very high.

Re satisfaction with team leading experiences:

I'm not satisfied with the way team leading is done. There's a lot I've learned that I feel I can't use.

Team leading is hard.

I'm sort of scared of team leading. I haven't really tried it yet. I feel I could do it. But I'm a little bit leery of the first couple of weeks of doing it.

Re integration of program from simple to complex:

In the beginning, it's complicated to understand the integrated program.

The idea of integration could have been presented to us better in the junior year. You don't really understand it until the last month of your senior year.

The faculty could explain integration so that the students can understand. All they have to do is present it.

Simple-to-complex doesn't really describe our program. I think it started out pretty complex.

Sometimes you wonder what they're trying to do in integrating our curriculum, because it's all at loose ends. And they keep saying, "At the end you'll see where everything connects." We're still waiting.

All of last semester was supposed to be total integration. You integrate the hospitals with your families with the community. I still don't see how that integrated. I can't think of any job anywhere on God's earth where we're going to do what we did last semester.

Restatement of Main Points

So far as "Curriculum: Learning Objectives, Opportunities, and Experiences" is concerned, the favorable reactions focused on the following

seven areas:

- 1) depth and quality of preparation for professional practice and what constitutes the professional role,
- 2) learning objectives and experiences of the senior year,
- 3) integration of learnings from simple to complex,
- 4) students' general knowledge in and foundation for scientific principles,
- 5) emphasis placed on the needs of peoples of other cultures,
- 6) gaining confidence as professionals through team leading experiences, and
- 7) learning experiences related to families.

Numbers 1 to 6 were the same for the U.S.F. students.

The unfavorable reactions within the category of "Curriculum: Learning Objectives, Opportunities, and Experiences" related to:

- 1) learning objectives and experiences of the first clinical year,
- 2) first professional nursing position,
- 3) satisfaction with team leading experiences, and
- 4) integration of the program from simple to complex.

Numbers 1 and 2 were the same for the U.S.F. students.

Program: Planning, Scheduling, and Evaluation

Favorable Reactions

Re evaluation of students:

It's kind of nice to be involved in your own evaluation. It was a time to gain confidence in selling yourself. I don't know how much the final grade is based on that evaluation.

Re grading and competition:

Competition never really bothered me.

One thing about our evaluations is that they don't compare us one to the next. They grade us for what we're capable of.

I don't think there's very much competition.

The competition is more with yourself, not with each student.

There's no competition. As a matter of fact, I never even thought about it.

Unfavorable Reactions

Re inconsistencies in students' evaluation:

Evaluation would be more effective if they sat down and gave you some negative feedback along with positive feedback and they say you deserve this grade because of this and this. Otherwise, evaluation is a frustrating experience and you see no value in it.

You never realized you're doing anything wrong because nobody ever says, "Why don't you try such and such?" You know you aren't doing that well, but everybody says you're doing great. We need to know what we can improve on too.

If you can get some negative feedback, you at least know the things to change. You have to ask for suggestions for improvement.

In the evaluations session the faculty will pick up on all these really stupid things. Like you saw a patient who was gasping, so you told somebody. The instructor feels that was very good. Well, that's ridiculous.

Evaluation procedure is another way to "b.s." You feed back to the faculty what they want to hear.

You come to evaluation fully prepared with the stuff you know you're supposed to have done and you know they want. Just as long as you can go in there and express yourself adequately, it doesn't matter what you did or didn't do.

We didn't get that much feedback in junior year. We'd get it like twice a year, and that would be the day they told us we made it or we've done a lousy job. We could never get feedback in the hospital when we really needed it.

Re grading and competition:

Junior year was the competition year.

I really felt the competition. I felt that I had to keep pace with everybody else.

I felt competition in the junior year especially, when everything depended on a grade in performance. The competition was really there. At least I felt it.

Re selection of learning experiences:

In junior year I thought the laboratory experiences were pretty good, but looking back on it, I wish they had let us be more independent in our choice.

We didn't have a choice really of what we wanted to do with patients in the junior year. We had the same routine all year. We couldn't follow them home.

We didn't have much freedom to choose our junior learning experiences. It fostered a dependence, sort of like a robot.

Restatement of Main Points

In the category "Program: Planning, Scheduling, and Evaluation," both the favorable and unfavorable reactions centered on various aspects of student evaluation, grading, and competition. The one category in which only unfavorable responses were reported was the selection of learning experiences. The comments related to student evaluation were more negative than positive. With the exception of student evaluation, the categories for the U.P. reactions were unique to the U.P. students.

Instruction: Teaching Styles, Methods, and Procedures

Favorable Reactions

Re use of problem-solving:

Problem-solving, like principles and concepts, is almost ingrained.

Problem-solving was brought more to our level of consciousness. Before, I don't think we were conscious of what we did.

We use problem-solving all the time.

To me the whole emphasis of our program has been upon identifying problems. And I can really do that as far as knowing what to do about it.

Re technical skills:

Technical skills you can always pick up.

With our background in principles, we can do technical skills. I'm scared right now of the first job because of technical skills.

Communication skills was the hardest thing I had to learn. I feel that it's worth it, now that I can do it. It's one of the most competent skills I have.

I see the importance of communication skills more now than when we first started. It really helps to have some basic communication skills down to use with patients.

The first two months of junior year we didn't go to hospitals. We went to agencies, nursing homes, day care centers, and stuff, and just communicated. You'd look so darn phoney, because you'd sit there and think, "What am I supposed to say now?"

At first everybody had the same response. Now that we've had our own experience, everybody's developed individual ways of using communication skills.

The faculty's theory about technical skills was "once is learning and twice is practice." You don't practice; you learn. Which kind of makes sense in a way.

I think that's one of the big problems. I think you need technical skills. You have to learn to do some of these things. But I don't think it would be beneficial for you to spend a month just going around and catheterizing a patient.

Re independent and individualized study:

We've done independent study because we realize that to be autonomous you have to know what you're doing. So you do independent study. It comes with autonomy.

Independent study comes out of something that you're doing that you like to do. When you do something you like, independent study comes naturally.

We could decide which of the two major hospitals we wanted to go to. We could pick other agencies we wanted to go to, the kind of patients we wanted. I liked that. Independence.

I think sometimes if you really plan well, you get the autonomy. If you plan well enough so that you don't get any hassles from the people that you're working with outside the university, then you can pretty much do what you want to do. I haven't had any trouble as far as doing what I wanted to do.

I don't think we could have been independent in the junior year. We have to learn a little bit of everything. I wasn't ready to choose to follow a patient home in the junior year.

Independent follow-up experiences are not the purpose of the laboratory in the junior year. The laboratory experience was to get experience in the hospital and learn how to function. I don't think we could have taken a laboratory experience in the home.

You can't choose when you're a junior. You're dependent. I was so dependent on our teacher. She was like our mother. I think you need to go through this dependency in the clinical laboratory.

We've become more autonomous in our senior experience because we've had to set up our own semester and make our own decisions and do what we wanted to do.

I feel that the autonomy and freedom we were given during the semester have helped me to know where I am as far as nursing is concerned. If I had been structured, I might not have been able to see what I know and what I don't know.

Re organization of learning experiences:

We didn't have just one place to go to for our clinical experiences, but a variety of places, which made it fun. We didn't get too tired of it.

We didn't have too long a time in any clinical area, so we didn't get sick of it.

In the School of Nursing we've had pretty good content. I'm sure there are some areas where I sure wish we had a lot more, but I thought we had a pretty wide background actually.

Another thing they tried to do with laboratory experiences is to provide you with a successful experience so that you have confidence in yourself.

Re skills labs:

Skills labs were good. They could have been better. I wish we had had more.

A lot of the skills labs were good, especially junior year.

The skills lab on tubes and shots was good.

The skills lab where we did to one another what we were supposed to be able to do was good. It really helped to do something to yourself first before you had to do it to someone else. You knew what was going on.

Unfavorable Reactions

Re value of team teaching:

In team teaching you get double messenger, depending on whom you are talking to. There is a lack of communication between team members. Team teaching needs to be a team.

You can't be just individuals who are teaching the same people. You have to work together on the team.

You can't really call the way the faculty teaches team teaching. They each taught their own little section of the material. I wasn't impressed with team teaching.

Re skills labs:

It seems like a lot of our skills labs were busy work. I imagine they were necessary, but it seems like they could have done something different.

I think skills labs are vital, but they weren't handled efficiently.

A lot of the skills labs were sort of conducted haphazardly.

I recommend moving some of the skills labs into junior summer, so you don't sit there and move your thumbs and waste that much money.

Re technical skills:

I think technical skills come only if we go out for them. We don't get them through the school.

The "once is learning and twice is practice" theory makes sense until the first time you have to do it. Then you sit there and think, "Now I know the principles, but how do you get this in?" There's a difference between application and theory.

It seems like the faculty keep saying, "You know the principles, so you can do the technical skills anytime, anywhere, anyway." I don't think that's right at all. You have to know the principle behind it, but you also have to know how to do it.

Watching those training films doesn't help you that much with technical skills.

Reading in a book how to do a technical skill doesn't help that much. You have to do it.

I'll be expected to know how to do technical skills in my first job, and I'll be putting around figuring them out for myself the first couple of months and wondering what other people will be saying and if they'll be

getting impatient about it.

When you first use communication skills, they aren't part of you. They're just something somebody said you're supposed to say. Well, it doesn't work when it isn't from you.

I recommend having more skills type of things. More like taking patient histories and more of that kind of thing.

My experience in technical skills is really low.

Restatement of Main Points

In the category "Instruction: Teaching Styles, Methods, and Procedures," there were five groupings of favorable reactions:

- 1) use of problem-solving,
- 2) technical skills,
- 3) independent and individualized study,
- 4) organization of learning experiences, and
- 5) skills labs.

Numbers 3 and 4 were common to both U.P. and U.S.F. students.

The unfavorable reactions focused on three areas:

- 1) value of team teaching,
- 2) skills labs, and
- 3) technical skills.

Only number 1 was common to both groups.

Interpersonal Relations: Faculty-Student Roles and Relationships

Unfavorable Reactions

Re respect and concern for students as individuals:

Replace faculty with flexible members who are real, accept the student, move with the student, and let them be as a person.

It kills me too how the faculty will always stress, "Be aware of other

people's feelings. It's so important." The way we got treated. I say be aware yourself!

I feel a lot of times that the faculty are trying to produce one thing. When you go in there and talk to them and you're not performing up to par, what everybody should be doing, they really cut you down for it.

My biggest problem with autonomy is I feel that I do okay as far as working with others in the community and stuff. But the faculty tell me that I don't report back to them; I don't come often enough to them for help.

Another double message. The faculty tell us to be independent, but they expect us to report to them frequently. And we get this, "Well, you're too independent and we never know what you're doing."

There's a conflict of independence between faculty, too. Like this year one of the faculty members is more independent, and the other one wants to watch you all the time. It's hard for her to let go.

Re faculty-faculty interactions:

A lot of times the faculty aren't able to work together.

It seems like the faculty are forever telling us that we've got to get out and make a group out of our class, but they themselves don't work together.

You can just see the conflicts between some faculty members. The repressed conflict. You can just cut it, it's so thick.

I think the faculty have a lot of problems of their own, among themselves. And we sort of get the brunt of it a lot.

Re attitudes of faculty influencing learning:

I could see being cut down by the faculty for big things, but it's little things, like semantics. If you don't write it the way they'd write it, then it's no good.

When you have to write objectives for a paper over five times, you just wonder what's important and what the values are. The expectations of our faculty are extremely high.

If you don't meet the high expectations of the faculty, they tear you down for it.

I think the faculty are expecting like master's degree or beyond undergraduate level performance from us when we haven't got the background to give it. And when we don't give it, then we got shot down.

It's really sad. There's so much pressure and tension put on us from the faculty. It's just unbelievable.

Re preparation and experience of the faculty:

While older people have a lot to offer, there should be a more even distribution of old and young in our faculty. There are too many old, fastidious, narrow-minded faculty.

I think some of the faculty were good teachers. Now they are old and haven't moved as people or kept up with the changing concepts of nursing.

I guess we downgrade the faculty because we have a good program. I don't see how they have come up with a good program and yet failed to grow and move with it.

We have some faculty who are really good in their areas, and others have been here quite a while and aren't up-to-date in their areas and stuff.

The rest of the program's fine. We need a new faculty.

Re faculty as role models:

It's hard for the faculty to be role models for us. They want us to move and be flexible, and you don't see the faculty that way.

I didn't feel that I had a role model that I could take anything from. It's important to have a good role model.

There aren't any role models.

You can think of good nurses. Like a good nurse in the hospital or a good nurse in the community. But supposedly we are multi-function and we're supposed to be good in all of these things. So there is no one nurse that encompasses all this as a role model for us.

Some of the faculty I like, some I dislike, and others I think need to re-evaluate how they're teaching.

The junior faculty, for the most part, are back in the Dark Ages with their teaching of nursing. They're outdated role models.

I don't know if it's because of their age, but the faculty are not very flexible, not good role models.

Restatement of Main Points

In the category "Interpersonal Relations: Faculty-Student Roles and Relationships," there were no favorable comments. This is in contrast to U.S.F., where there were five categories of favorable student comments.

Unfavorable reactions fell into five categories:

- 1) respect and concern for students as individuals,
- 2) interaction between and among faculty,
- 3) attitudes of faculty influencing learning,
- 4) preparation and experience of the faculty, and
- 5) faculty as role models.

Numbers 1 and 2 were common to both groups of students.

A Liberal Education

Favorable Reactions

Re strength of the lower division program:

In freshman year you had time to talk to people and listen to what they had to say.

Sophomore year was neat in a way, because it was the first time we had anything medical, like anatomy. It was the first, closest thing to nursing. That's when we really became interested in nursing.

In sophomore year you were getting to know the kids in your nursing classes.

I think we started working together in sophomore year. In organic chemistry, and in microbiology and anatomy.

In freshman year we were more part of the university. Now we're weirdos.

Freshman year was a lot of fun, a lot of parties, and all the anxieties of starting college and being away from home. It was a social period. It was nothing to do with nursing, nothing to do with even studying. Just a good year social-wise.

Re university requirements, scheduling of classes, and opportunity for electives and extracurricular activities:

Senior year we had our two big electives! And you're still going to have them with nurses, because there's no time to fit them in with other students.

What's frustrating is, like you said, you have to even have the class in electives scheduled especially for you. And the only people who are in it are your fellow nursing students.

You get tired of the same people, the same classes, the same teachers, and the same ideas.

If you're not careful, you can become so isolated in nursing. Even on a college campus.

You hate to pin yourself down to formal organizations, because you need to have your time flexible for nursing. It would be difficult to be involved a lot because it pins you down to definite times.

When we did have a chance to take electives, we had to take core, like theology, philosophy. And there isn't time for anything else because they strategically schedule everything throughout the whole day.

I'd like to be able to take a lot more electives. There's a lot more to life than nursing.

There's not enough time in your day for extracurricular activities.

Extracurricular activities are an important thing when you're in nursing because of all the pressure you're under. You have to find your outlets. Particularly when you get in the junior year, you're so saturated. You can't let it run your life.

I think we had two electives all four years.

Re the freshman year as a period of isolation, deprivation, and alienation:

Freshmen need some positive reinforcement. There was nothing more depressing in my freshman year, when I was struggling through chemistry and physics, than to have two seniors tell me to get out of nursing while I could.

It was very difficult to see the relationship between the sciences and nursing.

Freshman year and nursing don't even go together. I mean in my mind they just don't correlate at all.

I recommend pulling nursing back into the sophomore year and maybe the freshman year, getting them into nursing right away.

I found for myself if you just take the time to talk to the underclassmen, it really helps. It helped me when I was an underclassman. It gives a freshman something to grasp on to.

There would be value in the senior students going and explaining integration to the beginning nursing students. We have been there, and could do it.

In freshman year everything was spelled out for you. No independence. You didn't have that much responsibility.

Restatement of Main Points

In the category "A Liberal Education," there was only one favorable category, the strength of the lower division program, while there were two unfavorable categories:

- 1) lack of any identity with nursing in the freshman year, and
- 2) lack of opportunity to take liberal arts courses and participate in extracurricular activities once the student entered the professional component of the four-year curriculum.

These responses were common to both groups of students.

Observations

From the interview data it is obvious that the U.P. students tended to be somewhat negative and critical of their four-year baccalaureate degree experience. They were particularly critical of the faculty, the student evaluation process, their freshman and junior years, skills labs, the acquisition of technical skills, team teaching, and the lack of opportunities to take liberal arts or nursing electives and to participate in extracurricular activities.

The students' positive and supportive reactions were limited to the overall conceptualization of the integrated curriculum and experiences in the senior year, particularly those in the clinical area and those which offered them the challenge to be on their own and to make independent decisions about their learning experiences.

By comparison, while the U.S.F. students tended to be as critical of faculty as were the U.P. students, the U.S.F. group was able to identify many more faculty strengths. The U.S.F. students also placed a high value on student-to-student interactions, an element not mentioned by the U.P. group.

Both U.P. and U.S.F. students were favorably disposed to the quality and quantity of laboratory experiences, particularly in the senior year. Both were equally concerned about the bleakness of the freshman year and the overall lack of opportunities for electives and participation in extracurricular activities.

CHAPTER 3

INTERVIEWS WITH U.S.F. FACULTY

In addition to systematically receiving and recording faculty reactions to the CEP over the five years of the study, as stated in Part I, Chapter 3, the investigators secured additional data on faculty perceptions of the curriculum by group interview. Criteria used in selection of the faculty to be interviewed were:

- 1) they had been at U.S.F. from the time the CEP was initiated;
- 2) there was representation from each level of the curriculum: sophomore, junior, and senior teams;
- 3) there was distribution among the several nursing specialties;
- 4) they were full-time.

From the sophomore team three met the criteria, but one was not selected because her views were known to be very supportive of the integrated curriculum. The two chosen represented the medical/surgical and psychiatric/mental health areas of practice. From the junior team only one qualified, representing medical/surgical nursing. From the senior team there were seven possible choices who met the initial criteria, so an additional one was added: experience with more than one level of the curriculum. Three qualified, one representing medical/surgical, one representing community health, and one representing the psychiatric/mental health area of practice. Of the six selected for interviewing, there were five women and one man; five lay and one religious;

and three from medical/surgical nursing, two from psychiatric/mental health, and one from the community health area of practice. Thus, all areas of nursing practice were included except maternal/child health nursing and pediatrics.

In looking over the final group selected, the investigators were pleased to note that they were not only the faculty who were most familiar with the curriculum throughout its development, but that three of them had taught at more than one level of the curriculum, three had taught in more than one specialty area, and the majority were among the most creative of the total faculty in designing new approaches to student learning in the integrated curriculum.

For the group interview, Q-cards were devised similar to those used with the students (Appendix J), and the interview proceeded in the manner described on page 183. Like the student interviews, the four categories of the CEQ are used in organizing the faculty's selected comments. Again, the number of quotations tends to reflect the depth and breadth with which the faculty explored each topic.

Curriculum: Learning Objectives,
Opportunities, and Experiences

Re the concept of integration:

Total integration cannot occur because there is specialized knowledge in various areas.

I think the integration idea is the most exciting thing that I came across at U.S.F. the whole time I've been here. I still like the idea.

Integration creates a tremendous amount of frustration in terms of setting priorities in the learning experiences. Which one of the ten areas of integration should you deal with! Priorities can change with each lab. How do you decide?

We are integrated in some ways in that many of the concepts in the content can be applied to all three areas.

I think there's integration as far as some of the theory goes, but clinically we have people who are more committed to their specialty than they are to integration, and we get pulled apart just as we're coming together.

Integration implies a generalist's point of view where one person is able to deal all this content into one area. That's very difficult, even with the best intentions.

Talking about medical/surgical nursing and psychiatric, obstetric, and pediatric nursing is fragmented in terms of clinical areas and is not integration.

I don't see why students should have every clinical experience, because those broad objectives we have could be met in any area if we are integrated. It's just that we don't want to ruin our plan of rotation.

Integration is very difficult, extremely difficult, in terms of implementing the curriculum. It has multiple definitions.

In looking at the curriculum, it seems that we have an integrated curriculum, based on concepts and principles. Yet the content identified is actually related to the specialty or clinical areas rather than the concepts.

To me the integrated curriculum idea is exciting. I think it's possible. I think I've seen it happen mostly in theory. But when we start implementing it, we separate it out again. It's because psychiatric people teach the psychiatry and medical/surgical teach the medical/surgical nursing, and it gets separated again.

Re the notion of simple-to-complex:

Within each year you can go from simple to complex with the same concepts, and the concepts can get more complex from year to year. Or the nursing that's required becomes more complex.

I wish we could drop that simple-to-complex idea. Any idea could be made very complex if you're willing to put the energy and effort into it. I find it frustrating to try to explain to students the simple part of an idea and then how the complex part has to be left when they're ready to move.

The role conflict is evident in simple-to-complex. Some students secretly yearn for sicker patients, because they get their own needs met in taking care of them. The students want to feel needed.

Levels of readiness might be a better or more appropriate term than simple-to-complex.

Sometimes the more obvious something is, the more simple it is, so that the acutely ill patient might be easier for the student to take care of

than the well patient.

People define simple-to-complex differently. What is simple to one faculty member might be complex to another. Are things complex because you don't have the background or because it's difficult to comprehend or understand?

I find the simple-to-complex idea very difficult. The more you look at simple, the less simple it becomes. I wish I had a good definition of what simple is.

Re the notion of core content:

We have been feeling guilty too long because we haven't acknowledged that there are two different things we are talking about with core content: theory core and clinical core.

Maybe we are hung up on clinical core because we don't have the cognitive criteria for the theory core. Maybe core is cognitive for the theory end and manipulative for the clinical end.

We need to work on this. We need to find some way of unifying the core content by applying it to the clinical, maybe a unifying conference to bring these things together to help the student relate it. We could use seminars for that.

Perhaps we really have two kinds of content: the core content which can be applied to any area, and then the specific clinical content which can be applied only in specific clinical settings. And both are essential.

We have to be careful that we don't get so caught up in our thing with the laboratory experience that we forget to apply the core concepts to it. So that all the laboratory experiences get related to the common core concepts.

We do have the framework in our curriculum for core content. We may never get to the point where we are going to be wholly integrating things. But we should remember the vehicle that we have: our conceptual framework. It doesn't require a change in the curriculum because we've got it. We just may not be using it. We get distracted with frustrations, and before you know it, we lose sight of the integration of core content to lab experience.

Perhaps clinical content is the application of core content. Yet in the sophomore year, clinical content centers around skills rather than the application of core content.

What is the relationship between clinical content and core content? Is clinical content a frill? I think clinical content is essential too.

There is theoretical content that goes along with the essential clinical content. Maybe there is core theoretical content and core clinical

content?

More than commonalities, core is something very essential or basic, like a center around which everything else is built which every student must have to graduate.

The point in core is to take the content from core and apply it in the clinical setting regardless of where the student is.

We get really concerned that students have some of that which each of us thinks is essential knowledge in a clinical area. We have to deal with the essential content in clinical.

Core content can be described in terms of the commonalities of the theory that pertain to and can be applied in a variety of settings.

Re family-community experiences:

Our students have a much broader variety of community and inpatient and outpatient experiences than any other school of nursing that I know of. The variety of laboratory experiences is just fantastic, much better than most schools of nursing.

There are some tremendous frustrations for people in their labs about why students are not getting enough experience. New faculty members express frustration about the girls never being able to give injections if they don't have people to give injections to. Teams worry about sending students on to the next team unprepared. Our expectations are a little confused. Students are able to function. We can't teach them everything. Why do we have this constant battle between the bedside people and the community people?

Maybe the family-community aspect of the patient is something that really takes a number of years to conceptualize, more than the four years they're here. They're awfully young.

Yet in my experience, a good majority, maybe fifty percent of the seniors, still do not see the hospitalized patient as a member of a family or the community. All they see is the patient lying there with all of his paraphernalia. They don't think about where that patient came from or where he's going. It is amazing that it still has to be pointed out to them in the senior year.

The family-community health thread is difficult for beginning students because they are so programmed to the more traditional concepts of nursing practice. They want to get their needs met, seek out their gratification in doing something for others. They have the urge to do. They continue to see nursing as what you do at the bedside. It takes over a year for them to really get the community end of it. Probably a lot of the problem is that nursing professionals themselves are still conveying the message that nursing is "tubes."

There may be a gap between what they are introduced to between the sophomore year and the senior year. Maybe the family experience in the junior year needs emphasizing.

We have tried to give junior students the advantage of one evening clinical experience each week. They like it. They get to meet the family.

It might be that in the hospital setting they do not actually see the family that much. It's well to realize that people do have families, but you don't see them. It isn't reality. That gets back to the difficulty for them to conceptualize. Look at the hours that our students are on the wards. With the exception of critically ill people, families and relatives just aren't there at that time.

Re professional role and leadership:

I taught seniors last semester for the first time, after having taught sophomores. I was very impressed with their leadership abilities in the hospital setting. Their ability to lead, to manage staff, patients, and physicians was really amazing.

The junior college programs are emphasizing leadership concepts. What is it that should be different with leadership in the baccalaureate program?

I don't see that it's really necessary for every student to do team leading in the hospital. We ought to find some specific leadership opportunities for students in other areas.

There is a difference in the concept about some students who are going to be in leadership positions versus all students must be leaders. I like to think that when a student graduates from U.S.F., she will know how to implement change, but not necessarily that she's going to be a leader. A lot of it depends on the situation that a person finds herself in and what she does with it. Leadership might mean that you're a good follower in terms of implementing the change someone else starts. It is very idealistic to think that every student that leaves here is going to be a leader.

The leadership thread probably presents much difficulty for students. If they have a grasp of leadership, everything else falls into place. With leadership they can problem-solve. They can't be a leader unless they are problem-solving. There are very few people in professional nursing today who effect change. I'd like to think that some of our students are really going to be among those few.

Re problem-solving:

One thing I feel about problem-solving as a thread: the methodology of nursing research should be introduced early in the curriculum rather than primarily at the senior level.

Nursing research is an extension of the problem-solving thread. Sophomore students should be using the Nursing Research magazine in their

bibliography, in their care plans. The practice of nursing at the beginning sophomore level can be based on research findings.

Perhaps problem-solving is a different conceptualization than family-community health or professional role, but at the time we really needed to emphasize it, whether it was process or content, so we left it in there.

There is a debate about whether or not problem-solving is a justifiable thread of the curriculum. There was some talk on the original change of the curriculum as to whether problem-solving was a method or content.

We are emphasizing, pushing, the assessment part of problem-solving more in the sophomore year. Students are getting problem-solving better.

The problem-solving thread has improved. In the sophomore year it has become more clear in the last five years. They are looking more at nursing process now, which is a great improvement over problem-solving.

We have expressed a need to help students with this process a little bit more. I know that the faculty used to do it. I read an article by one of the faculty members before coming here. I know that they used to have this unifying conference to tie the week's theory content to all of the lab experiences that every student had.

Re electives in the curriculum:

The greatest pleasure I have in teaching is teaching a nursing elective during summer session or intersession.¹ Students are highly motivated because they have chosen the course. They want to study and read. They do it willingly and freely.

Do students choose the nursing elective as a supplement or as a way to get something that's not being provided here in the curriculum? Do they see it as remedial?

We need electives in nursing in the junior year and the senior year. Maybe we should have fifty-two required nursing units and eight units of electives, required electives, and have really different kinds of courses to select from. That is essential for any curriculum. They could be either clinical or purely theoretical, if that's what they want.

I'd like to see more time or more freedom in those electives. One of the things our students do not have is the freedom for electives. Not just nursing electives. This makes them a prisoner of the system. I cringe at the philosophy and theology changes. I don't think our students have

¹Nursing electives taught in summer session or intersession are at the experimental stage. To date a maximum of sixteen students have been enrolled in these courses each session. These courses are not a component of the integrated curriculum under study.

that kind of freedom now that they have a total number of credits equal to others. How are they going to take electives if there is no leeway? They'd have to cover the unit requirements, which is so costly.

Program: Planning, Scheduling, and Evaluation

Re freshman year:

Freshman students are the lost group. We've been mistreating them by keeping them isolated.

The basic science courses would mean more to freshmen if they had some very small experience with nursing.

We can't cram anything more into that freshman year. Take a look at their lab schedules. Do you want to put a nursing course in there?

Re sophomore year:

The sophomore year is the most well developed in the curriculum.

Independent study in the sophomore year has attracted motivated students. But it varies from year to year. It's good to have options. Some years they don't want independent study.

Re junior year:

Mental illness needs to be brought into the junior year as part of the total concept of illness. This could be one alternative, if not the solution.

The junior year is where the students really learn the way they become nurses. A lot of maturing occurs. Some things need improving, but it's a good year.

Re senior year:

I see seniors as interested, enthusiastic, and energetic. They are prepared to function as beginning practitioners.

I think there is an inertia in some of the students in the senior year. They don't care. They just want to get it over with. It's a shame if three or four months go like that.

I'd like to see some specialization brought into the senior year: pre-specialization or an area of concentration.

Instruction: Teaching Styles,
Methods, and Procedures

Re team teaching:

I'd like to see more opportunities to do more joint kinds of things in class. We go one at a time because we have gotten the message that one must teach.

I've really learned a lot sitting in on so many other classes. How many other people on campus have a chance to sit in on other classes and learn?

Our test questions are a lot better than anyone else's on campus because they stand the review of the team. I bet our tests are far superior than most tests on this campus. When I hand in a test question and I know that three other people are going to read it and say it is not clear, I really put a lot of effort into making it better.

We really do work together well in team teaching, despite our frustrations with it. Imagine some of the philosophy or science faculty trying to do team teaching. They laugh at all our meetings. You couldn't get ten people in biology or chemistry to agree on what essential content is.

There is great interdependence. We can't just operate in an isolated little world. You can't make a change at your own level. You have to meet some of the sophomore faculty and the senior faculty and the psychiatric faculty and the community people. We are really so very interdependent.

Individual strengths might not be as evident. But team teaching can provide and has provided a healthy competitiveness which makes you want to do the best possible. The first year I was here I wasn't interested as much in teaching students as I was in trying to prove myself to my peers. It made me want to do even better than I could.

It is hard on beginning teachers in team teaching. It takes years before the ideas you introduce are bought.

Team teaching is an experience in which you have to forget yourself. There is a lack of autonomy. You always have to get permission from everybody else in order to move.

You have to have a lot of respect for the other person and his ideas in team teaching.

There is powerlessness as a faculty member in such a large group, particularly with team teaching. You pretty much have to have the whole faculty or the whole team in agreement with you in order to move ahead in the direction that you want to.

You have to forget yourself and your own goals in team teaching and work with someone else. Some people just cannot do it. Maybe they are too

independent. Some people go ahead and put in what they want to in core, even if there is a team decision. Friction comes up. I don't think everybody can hack team teaching.

Those who are very comfortable teaching and do teach well should do the teaching.

Re alternatives to team teaching as it is:

Maybe we should be breaking the class up into smaller groups so that it would help more of us to help each other in the teaching process. So we could teach more.

Having teams subdivided into smaller groups of three may not be always possible. I would feel very inhibited teaching something I couldn't do well.

I'd like to see the teams broken up into three. This would really be team teaching. What we are doing is not team teaching. If it's fostering competitiveness, that's not good for us.

I would like to see some of the energy currently put into team teaching used to reach consensus, and then spend more energy in a different way of teaching. I think team teaching the way we do it (ten to twelve people) cuts down on creativity and individuality. I think of teams of three as less frustrating. Creativity is not rewarded to the extent that conformity is. Team teaching makes us more alike and bends us more to the mediocre level than it does reward superior teaching or allow us to try new things.

It's up to the teams to implement it the way we want to or the way we can. If it would work to have sub-teams with their own section of students for core, it's worth a try.

Interpersonal Relations: Faculty-Student Roles and Relationships

Re faculty as role models:

In some ways I think faculty are professional role models. But I don't think that faculty are professional role models for students for the practice of nursing. The nurses that the students see practicing nursing are the professional role models, not the faculty.

Role as faculty has more to do with commitment. I entered teaching with a lot of personal goals and aims, what I would get out of teaching. Now it is changed. I see part of myself as part of something else.

There are many roles involved in being faculty. I have changed. At first I was more "me." Now I am more "faculty."

Students often see us fall short of being role models in group work or interviewing skills, even though we present the theory. We profess expertise, but then fall short.

There are other ways that we do assume professional role models for students, other activities, like continuing education or community work.

Part of a student's maturing process is to get her ideas of role models in keeping with reality.

I wonder how students see me as a person and then wonder how they see me as a faculty member. Do they separate the person from the role?

We have a responsibility to be better role models for students in group work. We want the students to work in groups, yet this is difficult for us to do. We don't do what we talk about.

If you are in an area in which there are no competent role models and you have to be the role model, that can be hard too.

Sometimes students have too idealistic role concepts for us. We cannot always live up to them, no matter how hard we try.

Observations

Faculty interviews strongly supported student interviews in the need for more electives and more clinical experiences, the importance of considering students' interests, the frustration and alienation of the freshman year, and the notion that somehow "it all came together" in the junior year. Faculty and students appeared equally divided on the place and purpose of independent study in the program, the advantages and disadvantages of team teaching, and faculty as role models.

The faculty expressed general satisfaction with the concept of curriculum integration but were frustrated with its implementation. Obviously it worked better in theory than in practice! In theory courses, integration cut across all disciplines and specialty areas of practice, but in the clinical areas, the restraints imposed by the faculty's specializations and students' rotation schedules seemed to mitigate against integration at the practice end

of the continuum.

Faculty disagreed on the meaning of the simple-to-complex principle. Did it refer to a hierarchy of subject matter content or complexity of the learning situation in which the student was placed? Was it defined by statements of behavioral objectives or by the psychological readiness of the student to learn? The identification and meaning of core content was another source of ambiguity. Was all clinical experience based on one body of transferable core content? Was there common core content in theory applicable to all clinical areas of practice in addition to an essential body of knowledge which was unique to each clinical practice area?

Faculty were agreed on the importance of the community health concept but differed on ways to assist students to incorporate it within their role perception of nursing. Perhaps it was a matter of teaching strategies so far as implementation was concerned.

Faculty firmly supported leadership--the student as change agent--but interpreted it in different ways as a goal for different students. Could learning for leadership be taught in areas other than the hospital? The faculty seemed to agree it could and should be.

The goal of problem-solving was seen as one factor in the broader concept of nursing process rather than as an end in itself. On the other hand, nursing research was seen as a proper extension of the problem-solving process. This notion could be introduced earlier in the students' program.

In terms of recommendations, the faculty seem to agree on the following:

- 1) provide more electives in liberal arts and in the professional curriculum;

- 2) provide for the special needs and problems of freshmen;
- 3) use sub-teams in team teaching;
- 4) strengthen the family experience in the junior year;
- 5) develop an area of concentration in the senior year;
- 6) clarify the concept of faculty as professional role models.

CHAPTER 4

SUMMARY OF THE QUALITATIVE FINDINGS

Student Interviews

Re the Curriculum

Favorable reactions of both U.S.F. and U.P. students in the area of curriculum objectives and experiences focused on these areas: 1) depth and quality of learning experiences as preparation for professional practice, 2) instruction in and use of scientific principles, and 3) emphasis on the health needs of people from a variety of cultural and social class backgrounds. The strengths of the junior and senior years of U.S.F.'s professional nursing curriculum were visualized as the integration and synthesis of learnings, particularly when occurring in the clinical laboratory areas. The U.S.F. students also liked the learning objectives and experiences provided in the senior year, especially the team leading opportunities which gave them confidence for professional practice. Students at U.P. were positive about their learning experiences related to families.

Both U.S.F. and U.P. seniors had negative things to say about their first-year experiences with the professional component of their respective curriculums. The senior students in both programs were up-tight also about their impending positions as new professionals. U.S.F. seniors tended to be critical of their family learning experiences and the gaps perceived in subject matter content, while U.P. seniors were concerned with the sequential

organization of their learning experiences from simple to complex.

In the area of program planning, scheduling, and evaluation, both U.S.F. and U.P. students' reactions focused on the variety of different methods and approaches to evaluation of student achievement and progress. The U.S.F. students were most favorably disposed to the lectures on pathophysiology in the senior year core content, indicating that there should be more stress on pathophysiology throughout the entire program.

Both groups also had negative things to say about student evaluation. With U.S.F. the main complaints were testing procedures in the lecture courses and inconsistencies among faculty when individualizing the evaluation of the students' clinical experience. U.S.F. faculty often countermanded each other and seemed to be giving students mixed signals. With U.P. students inconsistency also was a major issue.

Favorably identified by U.S.F. seniors in the area of teaching styles and methods were: 1) opportunities for independent and individualized study, 2) skill labs, 3) arrangement of learning experiences from simple to complex, 4) situations which pinpointed the appropriate scientific principles, and 5) experiences which capitalized on the strengths of team teaching. The common elements of favorability among both U.S.F. and U.P. students were independent and individualized study, organization of learning experiences, and skill labs. U.P. students also made favorable comments about the use of problem-solving in their learnings and the frequency of opportunities to develop technical skills.

U.S.F. and U.P. seniors both felt negative about the value of team teaching. Students at U.S.F. were critical of limited approaches to independent and individualized study, while those at U.P. criticized some teaching

approaches to technical skills and the inadequate use of skill labs.

The U.S.F. seniors were favorably disposed to the value of a baccalaureate program in nursing both for the opportunity to become liberally educated as well as to be prepared for professional practice. In addition, the U.P. seniors commented particularly on the strength of their lower division program, which for them was entirely concentrated in the liberal arts.

Both groups made derogatory comments about the lack of identity with nursing and the nursing program during the freshman year and with the lack of opportunity to take electives once they began the professional component of the curriculum. Students at both universities were critical of their inability to participate in university-wide extracurricular activities, due to the time-consuming demands of their professional courses.

Re the Students

Student-to-student relationships were described as a very positive feature of the U.S.F. curriculum. U.P. students did not mention this feature as characteristic of their collegiate experience. There was minimal rivalry and competition among U.S.F. students; most did not see rivalry and competition as a particular problem, but it was mentioned by some as a sporadic negative feature. By contrast, among the U.P. students rivalry and competition seemed to be more of an issue. U.S.F. students said over and over again that they recognized the value of and opportunities for learning from each other and for using each other as role models. U.P. students did not describe this relationship.

Re the Faculty

U.S.F. seniors saw in very favorable light the preparation,

qualifications, and experience of their nursing faculty. They were aware that the faculty influenced the learning process and saw this as a positive feature of the program. U.S.F. students spoke favorably of the level and quality of communication between and among students and faculty. Most of their unfavorable comments about the faculty focused on the faculty's own inability to get along with each other and the discrepancy between the learning objectives and goals of students and those of the faculty.

U.P. students had nothing positive to say about their nursing faculty. Their chief areas of concern were interaction between and among faculty; attitudes of faculty which influenced students' learning; preparation, qualifications, and experience of faculty; and faculty as professional role models.

Faculty Interviews

Re the Curriculum

The U.S.F. nursing faculty favored such curricular reforms as: 1) more electives, 2) more clinical experiences, and 3) alleviation of the frustration and alienation of the freshman year. The faculty seemed equally divided on: 1) the merits of independent study, 2) the advantages of team teaching, and 3) the simple-to-complex theme of the curriculum. They generally were satisfied with three key concepts of the program, though frustrated over their implementation. These were: 1) concept of integration, 2) community health as a curriculum thread, and 3) problem-solving as a curriculum thread. Finally, the faculty were concerned greatly about the structure and organization of core content vis a vis theory core versus clinical core.

Re the Students

The U.S.F. nursing faculty were concerned about how they were

perceived by students, i.e., as unique individual "persons" or as stereotyped, somewhat anonymous "teachers." Sometimes the faculty felt that students were too idealistic in their image of the faculty as professional role models, and they were divided on the extent to which each student should (or could be) a leader or a change agent upon completion of the program.

Re the Faculty

The U.S.F. nursing faculty were perplexed about professional role and professional commitment; particularly, were they role models or not? If so, in what ways? They felt they often had to sacrifice their own identities and areas of specialization in team teaching. They were well aware of the importance of the opportunity to learn from each other and the improvement in their teaching as well as their testing and examination procedures which resulted from the necessity to work together. The team organization in the School of Nursing gave a number of the U.S.F. faculty the feeling of being powerless to make curricular-instructional changes.

PART IV

RECOUNT FOR THE FUTURE

CHAPTER 1

SUMMARY OF FINDINGS

Recapitulation of the Quantitative Findings

Re the Students

The graduates of the integrated curriculum at U.S.F. outperformed the graduates of U.P.'s integrated curriculum on State Board Test Pool examinations and National League for Nursing examinations (Part II, Chapter 1, Hypothesis 2), but, in turn, were outperformed by the U.S.F. graduates of the traditional curriculum on both sets of examinations (Part II, Chapter 1, Hypothesis 1).

Beginning students in nursing at U.S.F. (Classes of 1969 and 1970 as freshmen) were similar to beginning students at U.P. (Classes of 1971 and 1972 as freshmen) in demographic background, personality characteristics, personal attitude, and academic prowess (Part II, Chapter 2, Hypothesis 3). They were similarly alike at graduation (Part II, Chapter 2, Hypothesis 4). Likewise, the beginning U.S.F. Class of 1972 was similar to the beginning U.S.F. Class of 1973, and the U.S.F. graduating class of 1972 was like the senior class of 1969 in background, personality, and academic ability (Part II, Chapter 3, Hypothesis 5.1).

The U.S.F. Class of 1972 (the target population) changed significantly in personality and attitude from freshman to senior years, whereas the 1972 graduation class at U.P. did not (Part II, Chapter 3, Hypothesis 5.2).

Re the Curriculum

On the basis of item analysis of the Descriptive and Prescriptive CEQ's, there were significant differences on both Q-sorts in the way U.S.F. sophomores, juniors, and seniors either perceived their actual curriculum or prescribed for the ideal one (Part II, Chapter 5, Hypothesis 6).

On the basis of item analysis, there were significant differences at each level (sophomore, junior, and senior) between U.S.F. students' perceptions and recommendations for the curriculum (Part II, Chapter 6, Hypothesis 7).

On the basis of cluster analysis, U.S.F. seniors' perceptions of the actual curriculum and/or recommendations for the ideal one did not correlate significantly with their personality characteristics, personal preference, or leadership ability.

On the basis of cluster analysis of the curriculum as they experienced it (Part II, Chapter 7), sophomore students at U.S.F. said that the less characteristic features of the first year of the professional component of the program were: a) faculty concern for students as individuals, and b) personalized instruction. The more characteristic features of the actual sophomore curriculum were: a) team teaching, b) laboratory experiences with people from other cultures, and c) the perception of faculty as professional role models.

On the basis of cluster analysis of the ideal sophomore curriculum, students at U.S.F. said that a major recommendation for the ideal first-year professional program was: laboratory experiences should be related to professional understandings and skills.

On the basis of cluster analysis of the curriculum as they experienced it (Part II, Chapter 7), junior students at U.S.F. said that the less

characteristic features of the second year of the professional component of the program were: a) respect for students as individuals, and b) informal student-faculty social relationships. The more characteristic features of the actual junior curriculum were: a) the perception of nursing faculty as professional role models, b) team teaching, and c) group conferences.

On the basis of cluster analysis of the ideal junior curriculum at U.S.F., major recommendations for the ideal second year professional program were: a) time to reinforce learnings, and b) need for faculty to demonstrate more concern for an interest in students as individuals.

On the basis of cluster analysis of the curriculum as they experienced it, seniors at U.S.F. said that the less characteristic features of the third year of the professional component of the program were: a) team teaching, b) student-faculty social relationships, c) faculty concern for evaluating students as individuals, d) group conferences for sharing learnings with peers, e) laboratory experiences as preparation for professional nursing intervention, and f) perception of nursing faculty as professional role models. The more characteristic features of the actual senior curriculum were: a) individualized instruction in planning laboratory experiences, and b) laboratory experiences for the development of professional roles in the community.

On the basis of cluster analysis of the ideal senior curriculum, students at U.S.F. said that major recommendations for the ideal program for the last year were: a) faculty should be more concerned about evaluating students as individuals, and b) laboratory experiences should teach the essentials of planned nursing interventions.

In addition, when comparing class level responses for the Descriptive

CEQ, sophomores and juniors perceived the faculty as role models, whereas the seniors did not. Students at all levels (sophomore, junior, and senior) did not agree that it was particularly characteristic for faculty to treat students as individuals. Juniors and seniors perceived student-faculty social interaction as less characteristic of the actual curriculum. Finally, sophomores did not identify individualized instruction as characteristic of the curriculum at that level, while seniors scored it as highly characteristic of the actual senior curriculum (Part II, Chapter 7).

Furthermore, when comparing responses by class level of the clusters for the Prescriptive CEQ (Part II, Chapter 7), students at all three levels (sophomore, junior, and senior) placed low priority on the importance of student-faculty social interaction anywhere in the curriculum, and juniors and seniors both were concerned for the adequacy of time in the learning process in their respective levels of the curriculum.

Finally, the U.S.F. Class of 1972 demonstrated patterns of consistency as well as uniqueness in their descriptions of and recommendations for the curriculum at all three levels: sophomore, junior, and senior (Part II, Chapter 9).

Recapitulation of the Qualitative Findings: Student Interviews

Re the Curriculum

Favorable reactions of both U.S.F. and U.P. students in the area of curriculum objectives and experiences focused on these areas: 1) depth and quality of learning experiences as preparation for professional practice, 2) instruction in and use of scientific principles, and 3) emphasis on the health needs of people from a variety of cultural and social class backgrounds.

The strengths of the junior and senior years of U.S.F.'s professional nursing curriculum were visualized as the integration and synthesis of learnings, particularly when occurring in the clinical laboratory areas. The U.S.F. students also liked the learning objectives and experiences provided in the senior year, especially the team leading opportunities which gave them more confidence for future professional practice. Students at U.P. were positive about their learning experiences related to families.

Both U.S.F. and U.P. seniors had negative things to say about their first-year experiences with the professional component of their respective curriculums. The senior students in both programs also were up-tight about their impending positions as new professionals. U.S.F. seniors tended to be critical of their family learning experiences and the gaps perceived in subject matter content, while U.P. seniors were concerned with the sequential organization of their learning experiences from simple to complex.

In the area of program planning, scheduling, and evaluation, both U.S.F. and U.P. students' reactions focused on the need for a wide variety of different methods and approaches to evaluation of student achievement and progress. The U.S.F. students were most favorably disposed to the lectures on pathophysiology in the senior year core content, indicating that there should be more stress on pathophysiology throughout the entire program.

Both groups had some negative things to say about student evaluation. With U.S.F. the main complaints were testing procedures in the lecture courses and inconsistencies among faculty when individualizing the evaluation of the students' clinical experience. U.S.F. faculty often countermanded each other and seemed to be giving students mixed signals. With U.P. students inconsistency also was a major issue.

Favorably identified by U.S.F. seniors in the area of teaching styles and methods were: 1) opportunities for independent and individualized study, 2) skill labs, 3) arrangement of learning experiences from simple to complex, 4) situations which pinpointed the appropriate scientific principles, and 5) experiences which capitalized on the strengths of team teaching. The common elements of favorability among both U.S.F. and U.P. students were independent and individualized study, organization of learning experiences, and skill labs. Students at U.P. also made favorable comments about the use of problem-solving in their learnings and the frequency of opportunities to develop technical skills.

U.S.F. and U.P. seniors both felt negative about the value of team teaching. Students at U.S.F. were critical of limited approaches to independent and individualized study, while those at U.P. criticized some teaching approaches to technical skills and the inadequate use of skill labs.

The U.S.F. seniors were favorably disposed to the value of a baccalaureate program in nursing both for the opportunity to become liberally educated as well as to be prepared for professional practice. In addition, the U.P. seniors commented particularly on the strength of their lower division program, which for them was entirely concentrated in the liberal arts.

Both groups made derogatory comments about the lack of identity with nursing and the nursing program during the freshman year and with the lack of opportunity to take electives once they began the professional component of the curriculum. Students at both universities were critical of their inability to participate in university-wide extracurricular activities, due to the time-consuming demands of their professional courses.

Re the Students

Student-to-student relationships were described as a very positive feature of the U.S.F. curriculum. U.P. students did not mention this feature as characteristic of their collegiate experience. There was minimal rivalry and competition among U.S.F. students; most did not see rivalry and competition as a particular problem, but it was mentioned by a few as a sporadic negative feature. Among the U.P. students rivalry and competition seemed to be more of an issue. U.S.F. students said over and over again that they recognized the value of and opportunities for learning from each other and for using each other as role models. U.P. students did not describe this relationship.

Re the Faculty

U.S.F. seniors saw the preparation, qualifications, and experience of their nursing faculty in a very favorable light. They were aware that the faculty influenced the learning process and saw this as a positive feature of the program. U.S.F. students spoke favorably of the level and quality of communication between and among students and faculty. Most of their unfavorable comments about the faculty focused on the faculty's own inability to get along with each other and the discrepancy between the learning objectives and goals of students and those of the faculty.

U.P. students had nothing positive to say about their nursing faculty. Their chief areas of concern were interaction between and among faculty; attitudes of faculty which influenced students' learning; preparation, qualifications, and experience of faculty; and faculty as professional role models.

Recapitulation of the Qualitative Findings:
Faculty Interviews

Re the Curriculum

The U.S.F. nursing faculty favored such curricular reforms as: 1) more electives, 2) more clinical experiences, and 3) alleviation of the frustration and alienation of the freshman year. The faculty seemed equally divided on: 1) the merits of independent study, 2) the advantages of team teaching, and 3) the simple-to-complex theme of the curriculum. They generally were satisfied with three key concepts of the program, though frustrated over their implementation. These were: 1) concept of integration, 2) community health as a curriculum thread, and 3) problem-solving as a curriculum thread. Finally, the faculty were concerned greatly about the structure and organization of core content vis a vis theory core versus clinical core.

Re the Students

The U.S.F. nursing faculty were concerned about how they were perceived by students, i.e., as unique individual "persons" or as stereotyped, somewhat anonymous "teachers." Sometimes the faculty felt that students were too idealistic in their image of the faculty as professional role models, and they were divided on the extent to which each student should (or could be) a leader or a change agent upon completion of the program.

Re the Faculty

The U.S.F. nursing faculty were perplexed about professional role and professional commitment; particularly, were they role models or not? If so, in what ways? They felt they often had to sacrifice their own identity and area of specialization in team teaching. They were well aware of the importance of the opportunity to learn from each other in team teaching and the

improvement in their teaching as well as their testing and examination procedures which resulted from the necessity to work together. The organization in the School of Nursing through team teaching gave a number of the U.S.F. faculty the feeling of being powerless to make curricular-instructional changes.

CHAPTER 2

DISCUSSION OF FINDINGS AND RECOMMENDATIONS

Basic to the theoretical design of the CEP were two ideas: first, the necessity to establish a basis from which to make appropriate generalizations regarding the students themselves, and second, to determine the curriculum perceptions and recommendations which those students might make. Such a point of view inevitably brings forth the issue of the validity of curriculum evaluation based on the perceptions of students. How relevant are students' perceptions of the curriculum to that of the real world? Students have an early and intensive exposure to reality from their very first planned learning experience in the baccalaureate nursing degree program. Their notion of what is relevant changes from year to year, according to the nature of these experiences and their success and satisfactions with them. By the time they are seniors, nursing students are expected to have achieved the prerequisite attitudes and skills for professional practice. This expectation was the basis for a qualified acceptance of their recommendations by the investigators. It is important to take students seriously. This idea is given support by Dressel when he states, ". . . if a new curriculum is introduced with no student involvement and no plan for assessing student reaction and achievement, the failure of the program will be blamed on the students rather than on the curriculum."¹

¹Paul L. Dressell, College and University Curriculum (Berkeley: McCutcheon, 1971), p. 214.

Hypotheses 1 through 5 pertain to the change in and comparison between and among groups of students. The expectation was to make generalizations about their curriculum preferences. The remaining hypotheses, 6 through 8, deal with the perceptions of students--as sophomores, as juniors, and as seniors--for both the actual and the ideal curriculum at each level. Here the investigators were interested in patterns of consistency and shift among values for each level of the curriculum, both real and ideal, for a given class of students (Class of 1972), and for all sophomores, all juniors, and all seniors over a four-year period. The purpose was to gain insight into the sequencing and integration of the learning experiences from simple to complex. Was the arrangement from year to year logical and psychological from the students' viewpoint, and was enough time allowed for learning? While this report does not trace each CEQ item, the data have been presented so that any one of the seventy-two items related to the several aspects of the curriculum could be traced and its position identified on both real and ideal perceptions at sophomore, junior, and senior levels. A second and more sophisticated approach to the verification of shifts and consistencies in students' curricular perceptions was obtained through the cluster analysis.

In this chapter the discussion of findings focuses on the measured change or lack of it in students, followed by an analysis of the strengths and weaknesses of the program in nursing at U.S.F.

Comparisons Between and Among Students

An early attempt in the study was to compare the graduates of the new curriculum with those of the old. The method used was limited to comparing the success of the two groups on scores of National League for Nursing

Achievement and State Board Test Pool examinations (Hypothesis 1; Tables 1, 2, and 3; pages 48, 49, and 50).¹ There were no essential changes in any of these examinations during the data collection period.

Comparison by Examinations

The findings question the usefulness of NLN Achievement examinations as a basis for evaluating innovative curriculums. It is clear that traditional courses are related closely to subject-matter examinations bearing the same title. Essentially people with the same frame of reference designed the old curriculum and the examinations. The newer baccalaureate level NLN examinations were not used during 1965-1969 and, therefore, could not be used in the CEP as a point of comparison. Nor were there similarly unique State Board Test Pool examinations for either baccalaureate graduates or graduates of integrated or other innovative patterns of nursing education. While there is justification for new examination procedures, the need for innovative approaches to certification for professional practice through program approval is greater.²

If traditional achievement examinations are used to evaluate students

¹While it might have been interesting to compare the information on the background of these students, the investigators decided that chi-square comparisons between students entering the U.S.F. nursing program in 1961-1964 and those entering in 1965-1968 would be costly and time consuming, and chose instead to compare two groups of students from the two different universities at the same time on selected variables. Since an overview of the raw data (Appendix M) revealed no startling changes percentage-wise in the demographic characteristics of U.S.F. students completing the program between 1965 and 1972, the generalization was made that there was no difference in the background of students entering either the last four years of the traditional curriculum or the first four years of the integrated curriculum.

²Long used as a basis of certification in teacher education, program approval means all graduates of an accredited program are automatically certified by the state licensing agency for professional practice in the state.

in innovative programs, faculty should consider carefully their limitations, purpose, timing, and the use to be made of the results. How much of the content tested was taught and/or learned? If these same examinations are used for curriculum evaluation, random samplings of students should be tested simultaneously at several points within the curriculum in order to evaluate depth of integration or mastery of content. This might be a more beneficial use of traditional examinations in an innovative program.

When comparing the success of students of the innovative program in nursing at U.S.F. with those in a similar program at U.P., special effort was made to allow for the impact that experimentation, new approaches to teaching, new arrangements of content, and faculty trial and error might have on students' achievement as measured by the National League for Nursing and State Board Test Pool examinations. Without such control, the researchers would not have known if low scores were due to poor teaching, poor learning, or poor planning. While these control efforts may or may not have been crucial, the investigators were convinced that the technique reduced the discrepancies which might have resulted had comparisons been made at a similar point in time. The U.S.F. faculty might have been judged more "expert" with their innovative curriculum since they had a two-year head start on the Portland faculty with their curriculum revision.

Both faculties were concerned because their students' scores on the examinations were not higher than they were. Some of this can be explained by central tendency effects, but the same argument exists: the examinations were subject-matter oriented rather than conceptual. An additional comparison which might have been made would have been to test performance on State Board and/or NLN Achievement examinations with students' curricular evaluations.

From the differences on the NLN and State Board Test Pool examinations between the first two groups of students to complete the innovative programs at U.S.F. and U.P. (Tables 4 and 5, pages 51 and 52), one can speculate on whether differences in quality of student body or quality of instruction (including interaction with faculty and curriculum) contributed to the findings. Differences between students are taken care of in Hypothesis 3. Unexplained are any differences in quality of program, qualifications and experience of faculty, and interaction with faculty. Conclusions drawn from interview findings indicate that U.S.F. faculty were better organized, did better curriculum planning, articulated goals more meaningfully, and conducted a more thorough (if somewhat more painful) evaluation of students and the program than did the Portland faculty. It is difficult to generalize that either institution provided more individualized learning experiences for students than the other. Student-teacher ratios were comparable. Each program had random experiences for individualized learning for some interested students, but not on a large scale for all students.

Other factors which might help to explain the findings would be rate of faculty turnover at U.S.F. and U.P. and the degree of faculty commitment to an integrated curriculum. Student and faculty interviews confirmed the hunch that such commitment is more of an issue than is generally recognized and that team teaching and its resultant demands had an impact that extends to curriculum implementation and student response to the program.

Comparison by Student Characteristics

Some of the most interesting findings related to student characteristics are the significant non-differences between the student populations in each of the two programs (Tables 6, 7, and 8; pages 55, 56, and 57). Certainly

nursing students in this investigation were similar. But one wonders if they also were similar to beginning students in nursing in other geographic locations, to students in traditional nursing programs, to college students in general, and to other professional student groups in particular (medical students, law students, and/or prospective teachers). Is there self-selection among students who choose to enter and complete an innovative program? Research in other professions would indicate that this might be so.¹ A report of a nurse career pattern study provides data on the personal, educational, and family background characteristics of baccalaureate students entering nursing, some of which is corroborated by the findings of this investigation.² Knopf reported that nursing students were women, entered their educational program in the eighteenth or nineteenth year, were Caucasian, and were more likely to be Roman Catholic in faith.

Questions can be raised concerning the findings related to personality, attitude, and leadership ability among U.S.F. and U.P. students (Hypotheses 3 and 4, Tables 9 through 14). The investigators were attempting to establish a framework for generalizability of findings regarding groups of students on the presumption that students entering the two professional programs would be similarly disposed in measurable aspects of personality and leadership and again comparable at the end of their educational experience. Having drawn the conclusion that students at U.S.F. were similar to those at U.P., both before and after the professional component of their educational experiences, the investigators assumed that they had established the basis for comparing the

¹James C. Stone, Breakthrough in Teacher Education (San Francisco: Jossey-Bass, 1968), p. 56.

²Lucille Knopf, From Student to RN (Bethesda, Maryland: U.S. Department of Health, Education, and Welfare, 1972), p. 217.

likelihood and degree of change which might have occurred in either class at either university as a result of their educational experience.

At this point, questions which could have been asked are whether nursing students in the study might have changed more or less in personality, attitudes, and leadership than other college students, other nursing students in general, other nursing students in innovative programs, or other professional student groups. The procedure used, however, limited the generalizeability of the significant non-difference between students at U.S.F. and U.P. either before or after their learning experiences. The reader will recall the Classes of 1971 and 1972 at each university were compared prior to starting nursing, and no differences were found. Then U.S.F. Classes of 1969 and 1970 were compared with U.P. Classes of 1971 and 1972 after completing the nursing program, and no significant differences were found in any of the measured variables. However, when it came to measuring change in the same variables in one class at U.S.F. (Class of 1972) and one class at U.P. (Class of 1972), it was found that the U.S.F. Class of 1972 had changed significantly, whereas the Class of 1972 at Portland had not (Hypothesis 5). In this instance, the investigators might have been better off not to have controlled for the newness of the programs as in Hypothesis 4, and could have used the same population at both schools for the post-curricular comparison between the two groups. If this had been done with the same result, the implication might have been that U.S.F. indeed presented a climate more conducive to change--either in the general university environment, the liberal arts component of the curriculum, or the nursing program itself--than did the University of Portland. Another question is whether students from the urban backgrounds are more disposed to change than those from rural. Furthermore, a cosmopolitan community like San Francisco

may contribute more to personality changes in students than the Portland area. It also is possible that the lack of significant change in the Portland group might have been a function of sample size.

Not controlling for the newness of programs would have provided better support for the fact that the U.S.F. Class of 1972 did change, whereas the Portland class did not. At any rate, a given class of students does possess its own unique characteristics and/or predispositions to change which might contribute to the variance among them. The findings of the CEP stand: beginning students at U.S.F. were similar to beginning students at U.P.; graduating students at U.S.F. were similar to graduating students at U.P.; and a given class of students changed, while one at U.P. did not. Further research might investigate whether similar changes also occur in other classes at U.S.F. and whether there are differences between any two classes at U.S.F. on the basis of change between their pre and post-professional experiences.

At this point in time, the reader will recall that U.S.F. students of the traditional curriculum scored better on subject-matter oriented examinations than U.S.F. students in the integrated curriculum, that students in the U.S.F. integrated curriculum scored better on the same examinations than did those at U.P., and that students at U.S.F. were similar to those at U.P. both before and after exposure to the nursing curriculum in various personality measures. The final step was to determine whether the group that had changed was similar to other classes being admitted to and graduated from the same integrated curriculum. This was established in Hypothesis 5.1 (Tables 15 through 20, pages 57 to 71), thus giving reasonable assurance that the curriculum evaluation findings could be generalized. The one unanswered question is the relationship of the U.S.F. nursing students to those in the university at large. Data bearing on this question were not obtained.

Overview of the Strengths and Weaknesses
of the U.S.F. Program

The conclusion drawn from the sixth hypothesis (Chapter 5, page 88) is that there are indeed uniquenesses and commonalities between and among the sophomore, junior, and senior levels of the curriculum, as perceived by students at each level. This finding was supported by data from the Descriptive and Prescriptive CEQ's (Tables 27 and 28, pages 92 and 97). The same conclusion also was extended to a given class of students (Class of 1972) who expressed some curricular preferences which were common for each of the sophomore, junior, and senior levels, as well as some unique perceptions of and recommendations for learning experiences at each level (Chapter 9, Tables 48 through 50). These findings have implications for curriculum development, implementation, and evaluation. They suggest that (1) if a relationship can be established between curricular preferences and later professional success and (2) if a given class' (or even subgroups' of students within a class) curricular preferences can be ascertained or predicted early in their program, then professional curriculums can be tailor made to the unique needs, preferences, and learning styles of students.

The approach taken to perceive differences in curricular perceptions between levels of the curriculum (Hypothesis 6, Tables 27 and 28) provides faculty the opportunity to judge whether the sequence of content and the integration of concepts is going the way it was planned. Are experiences being introduced, emphasized, and mastered in the manner they were expected to be? The findings related to recommendations for change at each level of the curriculum (Hypothesis 7, Tables 29 through 31) and for each level of the curriculum according to one class (Class of 1972, Tables 48 through 50) provide the information with which the faculty can judge whether students'

recommendations for change are logical and appropriate. Fundamentally, it is the role of the faculty to act on students' recommendations within the scope of the program's overall goals and the specific objectives for each level. The findings show what the students want to see changed. The ultimate decision rests with the curriculum makers.

The students' recommendations for change (Hypothesis 7, Tables 29 through 31) provide a convenient approach to the identification of strengths and weaknesses of the curriculum as a whole as well as for each level of the program. When the differences for each class level are looked at as a whole, a pattern emerges for three of the seventy-two items of the CEQ:

		Descriptive CEQ	Prescriptive CEQ ¹
Sophomores:	Item 53	2.58	3.46
	Item 66	3.64	5.15
	Item 70	4.06	2.63
Juniors:	Item 53	2.59	4.04
	Item 66	3.25	5.01
	Item 70	4.19	2.86
Seniors:	Item 53	2.88	3.85
	Item 66	3.69	5.28
	Item 70	4.41	2.76

At each level there is a significant shift from a lower score on the Descriptive CEQ to a higher score on the Prescriptive CEQ on items #53 and #66. Even allowing for sampling error, there are two issues of broad concern for the curriculum. According to all students, in the real world there is less faculty support for students' decisions regarding problem-solving methods when their decisions are contrary to those faculty might make (#53), and they are not likely to be treated as autonomous, mature, and responsible adults with due respect shown for their individual abilities, interests,

¹Extrapolated from Tables 29, 30, and 31.

and goals (#66). Furthermore, at each level the two items are scored with significantly higher values on the Prescriptive CEQ, suggesting that these items (representing student-faculty interaction more than course issues) are the major weaknesses of the program as a whole. It is interesting to view these two items in relationship to item #70 (pertaining to student-faculty social interaction) on each CEQ for each level. Here the item was scored as more characteristic of the curriculum at each level on the Descriptive CEQ but scored significantly lower on the Prescriptive CEQ. Thus, while students--be they sophomores, juniors, or seniors--may believe that faculty participate in and contribute to the informal social activities initiated by students in the real world, they certainly do not place a high value on such activity in the ideal curriculum. Items #53, #66, and #70 were the only ones which shifted significantly in a similar manner at all three levels. There were no items which were identified as strengths of the actual curriculum that were common to all three levels. However, strengths and weaknesses unique to each level were found.

Sophomore Level

By extrapolating from Table 29 (page 102), the following observations are made regarding the strengths and weaknesses of the sophomore year. Item #13 (relating to laboratory experiences concerning acutely ill and self-care patients) is perceived as a significant strength of the sophomore year (mean = 5.46) which should be maintained in the ideal curriculum (mean = 4.83). Item #27 (related to leadership roles) is perceived as a major weakness (mean = 2.86) which should be improved upon in the ideal world (mean = 4.05). Both of these items are related to Category I of the CEQ: curricular learning experiences and objectives.

Another view of the strengths and weaknesses of the sophomore year may be obtained by turning to cluster analysis (Tables 32 and 35, pages 109 and 120). In their perception of the curriculum as it is, sophomores said that the strengths (mean scores above 50.00) are team teaching, learnings related to other cultures, and the faculty as professional role models. The weaknesses (mean score below 50.00) are regard and concern for the students as individuals and individualized learning experiences.

In the recommendation for the ideal sophomore curriculum, high value is placed on laboratory experiences related to professional understandings and skills, and less value is placed on student-faculty social activities and the importance of lifelong learning.

Junior Level

By extrapolating from Table 30 (page 103), the following observations are made regarding the junior year. The features perceived as strengths are:

Item #2: Laboratory experiences make students aware of the need for continuing self-education in professional nursing practice (5.09 to 4.21).

Item #11: Laboratory experiences help students gain confidence in their ability to function effectively in therapeutic relationships with people of all ages (5.45 to 4.28).

Item #25: Laboratory experiences help students understand the concept of comprehensive and continuous health care for patients and their families (5.31 to 4.61).

These also are seen as features which should be more characteristic of the ideal junior curriculum as well.

Significant weaknesses which could be improved are:

Item #33: Laboratory experiences are planned and scheduled so as to provide sufficient time for students to reinforce their learnings through repetition and practice (2.78 to 3.85).

Item #44: Instructors consider external factors that influence the learning process in evaluating students' achievements and progress (3.05 to 3.85).

Item #72: Differences of opinion and point of view between and among instructors and students are openly and honestly expressed, rationally discussed, and objectively resolved (2.68 to 4.11).

It would appear from the shift in mean scores that the area in need of the greatest improvement is that described by item #72.

The cluster analysis for the junior year confirms that student-faculty interaction through social activities is seen as less important for either the real or ideal curriculum and that concern for students as individuals also is perceived as a weakness. Strengths are found in group conferences, faculty as role models, and team teaching. Recommendations for the junior curriculum appear to center on adequate time for learning and concern of the faculty for students as individuals.

Senior Level

In some ways the strengths and weaknesses of the senior year (Table 31, page 105) follow patterns identical to those for the junior year, particularly in regard to items #2 and #25, which are perceived as strengths to be maintained, and item #72, seen as a weakness to be improved. Items #9 and #39 also are strengths of the senior year which should be maintained.

Item #9: Laboratory experiences help students gain confidence in their ability to make independent judgments about methods of solving nursing problems (4.65 to 5.38).

Item #39: Instructors permit students to exercise some choice in the selection of learning opportunities appropriate to their individual learning needs and objectives (5.22 to 4.46).

The significant shifts between the Descriptive and Prescriptive CEQ's for faculty to withhold guidance in self-directed learning activities (#50) and to initiate social contacts with students (#71) most likely can be interpreted as statements of fact--more or less valued, more or less characteristic--rather than perceived as a strength or weakness.

Cluster analysis tells another story for the senior curriculum. Six of the eight clusters were below the mean score on the Descriptive CEQ, indicating possible weaknesses. Three of these (team teaching, informal student-faculty social activity, and faculty as role models) tended to be scored low on the Prescriptive CEQ as well, suggesting they actually are less valued features. The major weaknesses, then, are regard and concern for students as individuals, and laboratory experiences related to professional expertise and technical skills. Clusters related to professional roles and individualized instruction were seen as strengths in the real world, while those defining professional and technical learnings were recommended as of high value in the ideal world. The comparison between clusters on both CEQ's clearly suggests that senior year faculty emphasize more the individual needs of students especially in regard to developing professional competence.

In terms of the total professional curriculum, the clusters on each CEQ suggest that team teaching is not seen as characteristic or desirable for

the senior year, and that the senior year faculty are not seen as professional role models, nor should they be. However, these two broad generalizations do not apply to sophomores and juniors. This indicates that different approaches should be taken to implement the senior year curriculum; it should be more independent of the rest of the program. The cluster referring to regard and concern for students as individuals is seen as less characteristic of all three levels of the program, and definite recommendations are suggested for its improvement in both the junior and senior years. Perhaps the sophomores were overly concerned about professional skills in their ideal curriculum to worry then about being treated as individuals. For them it was more important to be professional!

While the professional component of the program should be integrated in content and each level closely articulated, it also should be unique at each level. Certainly sophomores, juniors, and seniors are different in maturation, readiness, experience, and role perception. The sophomores are eager to be full professionals; seniors are anxious about it. A major point of contrast in students' perceptions was the breadth aspect of the sophomore year versus the depth aspect of the senior year, thus confirming these principles in organization of undergraduate curriculums. Student interviews confirmed that sophomores reacted with concern to the constant readjustment to new learnings and the variety of different experiences, while in the senior year they were concerned that they were not getting enough depth. As students progressed through the program and got into the cocoon of college life, they took on a group identity. As seniors they were more apt to agree and disagree about the same things than as sophomores, vis a vis the emergence of seven to eight clusters for seniors while only three for sophomores. Still unanswered

are such questions as: is the satisfaction of these students with their professional and baccalaureate program typical of that of other professional students in baccalaureate programs and also that of general undergraduate students?

The findings regarding whether there are homogeneous subgroups of students who would perceive the curriculum in different ways are found in Tables 38 through 47 (Hypothesis 8, pages 137 to 144). The homogeneous subgroups were defined by the several variables on each of the standardized instruments used in the test battery. The investigators' hunch was tested against the curricular preferences and recommendations of the seniors over a four-year period. Essentially the hypothesis failed to be substantiated. Yet the investigators are convinced that there must be another approach to test it, provided a way is found to identify subgroups. The argument is sound, since there are regression effects occurring in the mean score vectors. There must be some way to account for individual differences between and among students and the ways in which they perceive the curriculum. A few correlations emerged from the analysis of Hypothesis 8 to justify further investigation of this notion, even though the overall test of significance failed. For example, students' scores on the cluster defined by learnings related to differing socio-cultural backgrounds correlates with students' OPI scores on Complexity, Religious Orientation, and Impulse Expression. The cluster Regard and Concern for Students as Individuals correlates negatively with Autonomy, Altruism, and Practical Outlook, and the scale Thinking Introversion correlates positively with the cluster Value of Laboratory Experiences for Learning Professional Roles in the Community. Scores on the Practical Outlook scale correlate on the second CEQ with the cluster Time in the Learning

Process. Similar relationships exist with selected variables on the EPPS. Favored hypotheses die hard. This is one in this study which needs further investigation. Positive evidence of sufficient magnitude in this area would contribute significantly to the theory of curriculum evaluation.

Summary of Recommendations

Mentioned throughout this chapter were a number of recommendations for improving the U.S.F. program. Some of the most persuasive are:

- 1) Throughout the program faculty should demonstrate greater recognition and deeper concern for students as individuals, as adults and as potential professionals.
- 2) Efforts should be made to increase the substance of the professional learning experiences, especially for the sophomore year.
- 3) More effort should be exerted to individualize learning experiences, particularly for the junior year.
- 4) Opportunities for more in-depth, realistic professional practice should be planned for the senior year, perhaps leading to pre-specialization.
- 5) Team teaching should be reconsidered, its form readjusted, or other strategies planned for implementation of the curriculum.
- 6) Learning experiences related to family content should be reassessed in terms of sequence and continuity.
- 7) Faculty should reconsider their roles as professional nurse models and as educators and adjust those roles within the demands of program objectives.

CHAPTER 3

IMPLICATIONS

Implications will be presented in terms of nursing education, students in baccalaureate programs of nursing, faculty qualifications, professional preparation, and general education.

Nursing Education

Few questions are raised by the findings regarding the integrated curriculum's philosophy, objectives and purposes, or the planned sequence of courses and experiences. This implies a sound theoretical base for the innovative program at U.S.F. The problem is implemental. It is found in team teaching which was the chief vehicle for implementing the integrated curriculum at U.S.F. The data suggest that many faculty are uncomfortable with team teaching. This dissatisfaction stems from several factors. One is lack of preparation. The introduction of a special program of staff training and development might help. Discovering some new teaching protocols, which might be integrative forces, to replace the team teaching strategy also might help.

Another strategy might be to use a single faculty person to teach the entire theory course to a section of students, much as an English professor teaches one section of English to the same group of students for a semester. Integration of content still could be preplanned, but it would mean that the faculty would need to be specially prepared generalists in order to provide

the integration which the team teaching model was supposed to bring off. Since at present faculty are not prepared as generalists by institutions of higher education, this means faculty re-education.

Faulty implementation also is related to the philosophy of individual faculty members. Some obviously prefer didactic teaching; others, problem-solving. Such a divergence among twelve team members destroys or at least limits the effectiveness of the group approach. On the other hand, a team whose members hold the identical teaching philosophy and use similar teaching styles and methods might be so completely bland as to stifle interest and growth. The proper mix of compatible teaching philosophies and congruent styles of instruction is an ideal to be sought.

The confusion over faculty role contributes to difficulties in implementing a curriculum. The role of nursing faculty is different in the theory setting than in the clinical laboratory. Some faculty are adamant that they are not professional role models for students since they view role model in a more limited perspective comparable to that of the first level of the professional practitioner. In this sense, they may be correct, but, then, how do they view their role? The faculty might use modeling as a teaching strategy.¹ Perhaps a more conscious, deliberate, planned use of self as role model is what is needed at all levels of the curriculum in relation to the stated goals of each level and in accordance with the expressed philosophy of the School of Nursing. Deliberate use of modeling as a teaching strategy in order to be a role model and then just naturally being the model are two ends of a continuum: one ideal, the other realistic. Perhaps faculty are uncomfortable

¹Marlene Kramer, "The Concept of Modeling as a Teaching Strategy," Nursing Forum, XI (1972), 48-70.

knowing that the "natural" role they portray is closer to "reality" and yet is not the reality for which the faculty would like to prepare the student. Hence, they prefer that students see the professional practitioner as the model, thus transferring the onus for professional competence. It is not realistic to expect faculty to be competent at all levels and in all areas of professional practice, but they are competent to make deliberate use of themselves as models in their particular area of special expertise. Deliberate use of modeling strategies also might take away the uncomfortable feeling that students are watching everything faculty do!

Faculty need to decide whether they are, were, could, or should be role models, and how they would like to be perceived by students. One plan might be to place faculty members on a team according to the degree of their commitment to role modeling. Clearly the sophomores demand a highly supportive person who can demonstrate the role of a professional, while the need for such a model in the faculty person dissipates as the student grows in professional maturity through the junior and senior years. The faculty also needs to recognize that the role model perceived by the students must be competent, rewarded, and accepted by other professionals in the particular setting.¹

Another curriculum alternative might be to provide several simultaneous approaches to learning. For example, for each class level there might be three groups of students based on pre-diagnosed learning styles: autotutorial, independent study, or a structured teacher-supervised and teacher-directed approach. The range of reactions of students and faculty indicates the existence of a

¹A. Bandura, "Influence of Models' Reinforcement Contingencies on the Acquisition of Imitative Responses," Journal of Personality and Social Psychology, I (1965), 589-595; M.E. Rosenbaum and J.F. Tucker, "The Competence of the Model and the Learning of Imitation and Non-Imitation," Journal of Experimental Psychology, LXIII (1962), 183-190.

variety of learning styles and the desirability of matching student learning modes with teaching protocols. The CEQ might be used as one tool to provide the diagnosis of students' learning styles. The faculty, then, could be assigned to teach on the basis of their ability to promote a particular learning style.

The students call for a greater differentiation of experience at each class level, more so than the present program offers. Sophomores demand more depth in professional understandings and technical skills; juniors, more time for and greater individualization of instruction and experiences; seniors, greater depth and differentiation of learning experiences for professional practice.

While the faculty is considering the various alternatives discussed above, it needs to keep in mind that the students studied were highly goal oriented, a condition not necessarily common among university students at large. Moreover, they had opted to be in an environment for three years which fostered and sustained the achievement of these goals. This was a plus for the curriculum and doubtless a factor promoting the changes among the U.S.F. students which seemed to occur as a direct or indirect result of the impact of the professional component of the baccalaureate experience.

Students in Baccalaureate Nursing Programs

In the CEP it has been established that the nursing program at U.S.F. does effect change in students and that, in all likelihood, there is not too much difference in the kinds of students being admitted in the seventies than were admitted in the sixties. These observations raise some questions which could be generalized to nursing education at large. Is the faculty content with this status quo approach to meeting the health needs of society? Is

the program functioning to its potential? Could the supply of nurse manpower be increased to meet the expanding variety of health needs by admitting different types of students? Since the U.S.F. program has demonstrated its ability to influence change, certainly the faculty might be capable of effecting change in other kinds of students as well. In particular it would seem that if faculty follow through on the development of diverse approaches to implementing the professional program, it could do as much or more for a diverse student population. Perhaps faculty are content to admit students in their own image and likeness and concentrate their efforts towards change by accentuating, as Feldman and Newcomb¹ indicate, the interests, talents, and potentials with which the students are admitted and which they already possess. Perhaps it is more prudent for U.S.F. to continue to do well that which it knows it can do well, especially in these days when surplus funds are not available for experimentation and particularly when students cannot afford to fail.

Who Teaches the Faculty?

The complaints of college students about the caliber and quality of teaching are legion. In general, faculty in professional schools are somewhat complacent, believing that their goal oriented students, placed in a variety of short-term work-study situations, learn what they need to know. Yet, in the CEP the message was loud and clear. Students at U.S.F. and U.P. want their faculty to be teachers. In the student interviews, seniors complained that their peers were their role models, because the faculty were not "there." Where were the faculty and what were they doing? Is not college teaching,

¹Kenneth A. Feldman and Theodore M. Newcomb, The Impact of College on Students, Vol. I (San Francisco: Jossey-Bass, 1969), pp. 55, 333-336.

whether in professional schools or in liberal arts colleges, more than arranging the class schedule, planning the lecture or laboratory experience, or evaluating the student's achievement? What goes on in the interaction between student and teacher? What is it that the teacher does that helps the student learn? How available is he/she to counsel, supervise, and instruct individually? What is it that a faculty member should have learned about himself before beginning to teach? Do graduate programs preparing college teachers really prepare them to teach? Or has an assumption been made that because the college teacher knows more about his given area of subject matter and has demonstrated some research interest in it, he or she is able ipso facto to teach? How many young, inexperienced faculty members leave a graduate program, take a teaching position in an undergraduate institution, and immediately begin (and expect) to regurgitate the same content they learned in graduate school? The findings of the CEP support the contention that more needs to be done to better prepare nurse faculty to teach. Nurse faculty need to be subject matter/clinical specialists and also better trained educators. Perhaps universities preparing nurse educators need to try a new training program modeled after the MAT degree for elementary teachers, a degree which uniquely might combine "nursology" with pedagogy.

Professional Education

In discussing possible directions for reform or innovation in professional school curriculums, Schein recommended that the program be more flexible and provide electives and different patterns of pacing and sequencing. He supported the notion of complete integration of the behavioral and social sciences into the professional school curriculum at three levels of use. These

¹Edgar H. Schein, Professional Education: Some New Directions (New York: McGraw Hill, 1972), pp. 60-62, 67-69.

two directions are supported by the findings of the CEP relative to students' perceptions of their liberal education and its place in the professional nursing curriculum. Students are pleading for a closer tie between foundation courses and nursing courses. They cry out for electives in the liberal arts and in the professional program. Their insistent demands for individualization suggest pacing and alternative approaches to planning and scheduling learning experiences. In the midst of such hue and cry, faculty continue to be concerned about organizing the vastly increasing body of knowledge in order to decide what should be taught and in carrying on research projects of their own choosing.

Were the U.S.F. faculty to follow through on recommendations in this report for alternative approaches to implementing the nursing curriculum and to admit a diverse student population, it would follow that concomitant changes also would need to be planned for the professional and/or supporting courses and the liberal arts components of the baccalaureate program. The "learning how to learn" notion emerged from both quantitative and qualitative data in the investigation. This concept is inherent in the more recent demands of nursing for continuing education and is one with which faculty must deal more directly and more persuasively.

A major implication from the findings of this and the Schein study is to integrate psychosocial supporting courses and develop interdisciplinary behavioral science courses which are taken as core by students enrolled in professional programs. The call for interdisciplinary approaches has been heard before. Alternative approaches to integration of the sciences and the social sciences would be productive and of great service to students other than those in nursing. Workshop and seminar approaches to discussing major

issues have been found successful in stimulating students to do the kind of thinking and problem-solving essential to today's professional. These thought processes particularly are crucial in learning how to avoid professional obsolescence. Integration of interdisciplinary courses in professional education through workshops and seminars also provides another kind of "laboratory" in which students can test their skills and theories of leadership.

General Education

The findings of the CEP suggest that it would be wise for those responsible for general education programs to be aware of and plan in terms of the vocational goals of students. Such students generally are highly motivated and yearn for a close tie-in between liberal education and their vocational goals. Effective ties can be made through liaisons with and lower division courses provided by professional schools and departments. The desirability of interdisciplinary courses between the behavioral and social sciences is called for by the students in this investigation. Again faculty who care, are available, can teach, and will treat students as individuals is called for. The contribution of extracurricular activities to the liberal education of undergraduates is singled out by the CEP findings. The cry is for more opportunity to participate in a variety of these kinds of activities and more opportunities for students to plan their own education.

Both in terms of general and professional education, the merit of curriculum evaluation has been demonstrated by the CEP. For a curriculum to remain viable, flexible, changing, and relevant, continuous evaluation is necessary. Often the U.S.F. faculty asked, "How are we going to keep ourselves and our curriculum up-to-date once the CEP is concluded?" How, but by evaluation! The final chapter suggests some models.

CHAPTER 4

MODELS FOR CURRICULUM EVALUATION

The use of continuous curriculum evaluation as a means of improving, individualizing, and updating educational programs has been recommended. Suggestions on how this might be accomplished are offered in this chapter.

Model A: The Programmatic Model

Based on certain modifications, additions, and deletions of procedures used in the CEP, a model for ongoing evaluation of any given course, program of studies, or curriculum plan is described. The evaluator can use the programmatic model to assess learning objectives and experiences, methods of instruction, or other categories of essential variables. The evaluation can be as broad or narrow as purpose dictates. Clarification of goals is important, since the nature of data collected and reported will depend on the use to be made of the findings. The proposed model is characterized by continuous feedback of information so that the curriculum maker can tap into an area of the program at any time for an assessment of its strengths and weaknesses. This method of formative evaluation provides the opportunity for faculty to improve the program as it goes along. There needs to be a close relationship between evaluation and the theoretical or conceptual framework underlying the curriculum. The philosophy, program goals, and specific objectives should be reflected in the design and instrumentation. In total program evaluation, the scope of variables assessed may reflect student-faculty interaction, teaching

methods or styles, program scheduling, and curriculum objectives (as in the CEP), or may focus on any one of these in a single-purpose evaluation.

The main features of Model A are a double Q-sort and a structured group interview of a randomly selected number of students each year they are in the program. The first Q-sort is directed at obtaining the student's reaction to the program as he experienced it. The same items are sorted a second time to obtain his recommendations for the program as he would like it to be. The items in the Q-sort parallel those used in structuring the interview, though they may be presented in a different form. The categories of items and their depth or specificity hinge upon the goals of the evaluation. Since Model A is proposed as the perceptions of a total group to a given program, no purpose is served by collecting massive amounts of data pertaining to background, personality, and characteristics of students, unless the evaluator is not knowledgeable about the kind of students in the program. Because of regression effects, individual differences become lost in this model.

The strengths of the model are seen in the administration of a Q-sort for the perceptions and recommendations of a given group of students, which then are confirmed by the findings of an interview of the same students, selected by random procedures. The Q-sorts and interviews can be carried out for each level of the program at the end of each semester or year, thus providing continuity of findings and feedback from year to year for a given group of students proceeding through the program, plus cumulative data related to each level.

Q-methodology has merit for curriculum evaluation. The universality of the approach in this model lies in the technique of the double Q-sort, not in the generalizeability of the items used in the CEP. While Likert scales

and rating procedures also may be used to score the items, in the Q-sort the student is forced to discriminate on a more personal basis between his perceptions on the first sorting and his priorities concerning the same items on the second sorting. With careful writing and appropriate internal validation procedures, the number of items in the Q-sort can be kept within 40 to 60, thus minimizing costs without sacrificing statistical stability and reliability. The model lends itself to sorting procedures other than those used in the CEP. For example, when working with a normal distribution of items, instructions to the sorter can be directed so that time and effort spent in discrimination are focused on the items to be placed at the extremes rather than in the middle. Another example might be to sort in a rectangular distribution, with an equal number of items in each of four or six positions, entirely eliminating the favored "neutral ground."

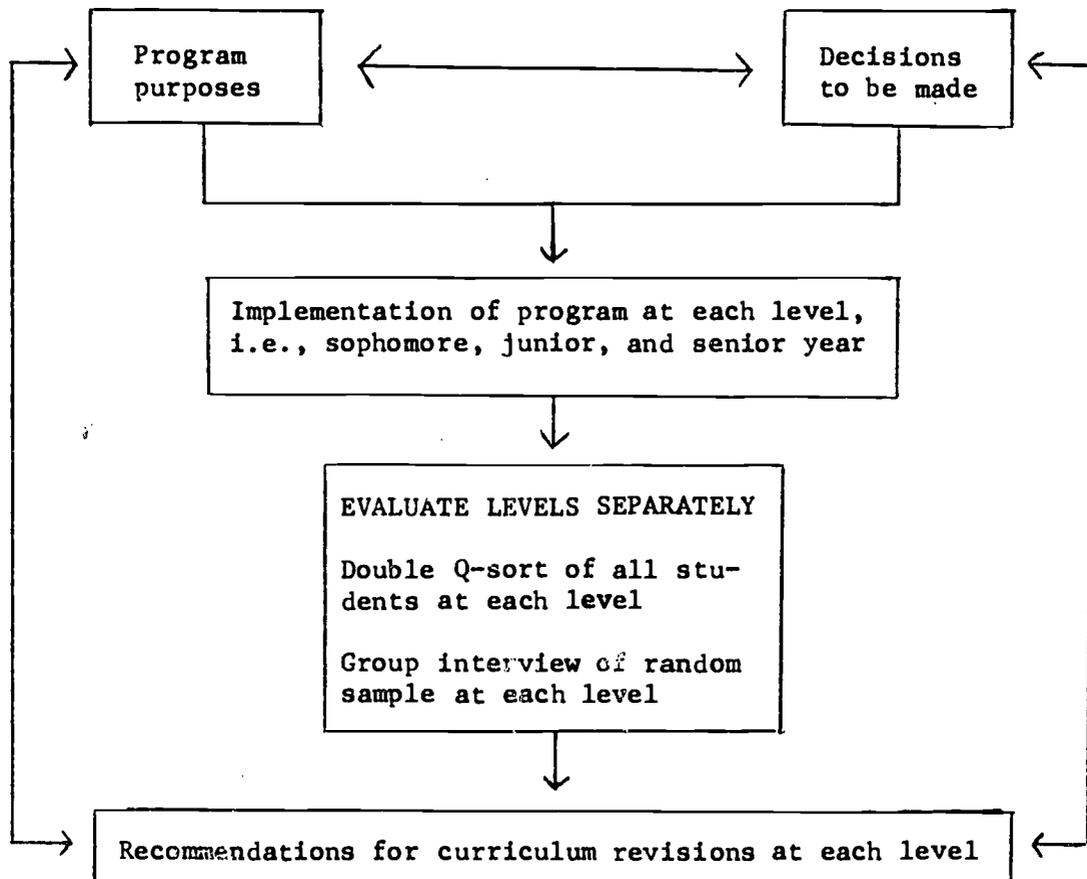
Depending on purpose, the evaluator may choose to do either item analysis, cluster (factor) analysis, or both. The decision will be influenced by the degree of specificity or generality of the items and the purpose of the evaluation. If the Q-sort is structured by internal categories, then possibly the evaluator will be interested in the cross-relationship between items of categories as well as position and shift of items between Q-sorts. This interest will be of more concern if the evaluator is doing a broad program evaluation, since factoring provides a depth analysis of relationships among variables. In a single-purpose evaluation, all items may reflect only one category; hence, relative position of items may be the major concern.

Group interviews should be done each year with each level of students rather than just at the end of the senior year as was done in the CEP. This will provide on-the-spot substantiation for that group's Q-sort findings that

year. No purpose is served by multiple group interviews if the group is a random sample and if the interview is focused and structured so as to cover all bases. For example, in the CEP little additional new information was elicited by multiple group interviews, even though a large sample was obtained by so doing, and it was more costly than was necessary.

The main features of the programmatic model are shown in Figure 1.

Figure 1. Programmatic Model for Curriculum Evaluation
(Model A)



Model B: The Typology Model

Since curriculum development is based upon needs assessment, and those of students are among the first which should be considered, it follows that evaluation should reflect the perceptions of students enrolled in a given program. Throughout the CEP the investigators were aware that individual differences among students were being lost in favor of group sentiment. While there is great merit in the perceptions of groups for total program evaluation, it is more difficult to make meaningful curricular decisions which will benefit the individual. Recommendations unique to smaller groups of similar students have more specific implications for curriculum revision and particularly for implementation. Unless the results of evaluation contribute to implementation, the evaluation has missed its mark. This approach has even greater virtue in terms of the demands of today's students for more relevant, meaningful, and individualized instruction. This approach serves the purpose of planning the individual needs of students while determining the overall strengths and weaknesses of a given program. In this context, the researchers propose the Typology Model, which is based on the differences among students regarding their curricular preferences. In this model the result of the evaluation enables the faculty to adjust curricular experiences, teaching styles, and the nature of student-faculty relationships according to the perceived needs of groups of students whose likes and dislikes are comparable. Such an arrangement also may lead to matching groups of students with similarly inclined faculty. The model makes no attempt to explain why the students are similar, only that they perceive the curriculum in a like manner and prefer comparable kinds of learning experiences.

The Typology Model extends the procedures of the Programmatic Model.

Model B assumes that the procedures of Model A have been carried out, at least to the extent of the preferential Q-sort. The source of data is in the curricular prescriptions of students in the second Q-sort. The Q-sort should be done early in the program; for example, at the end of either the first or second year. It is assumed, on the basis of the CEP, that by the end of this foundation period the student's curricular preferences (i.e., needs regarding kinds of experiences, teaching-learning styles, and student-faculty interactions) have been shaped and crystalized.

Once these preferences have been ascertained, the students and faculty can cooperate in planning a program based on the student's expressed needs. Appropriate groupings of similar students can be arranged so as to make the best use of faculty and resources. If students are grouped according to their expressed needs related to learning experiences, teaching styles, and degree and kind of supervision needed or required, the likelihood of planning for individualized learning increases. Such planning presumes that the preferential teaching methods of faculty also can be identified. Faculty might do a Q-sort in order to determine these preferences, thus providing the opportunity to experiment with mixing and matching student-faculty groups.

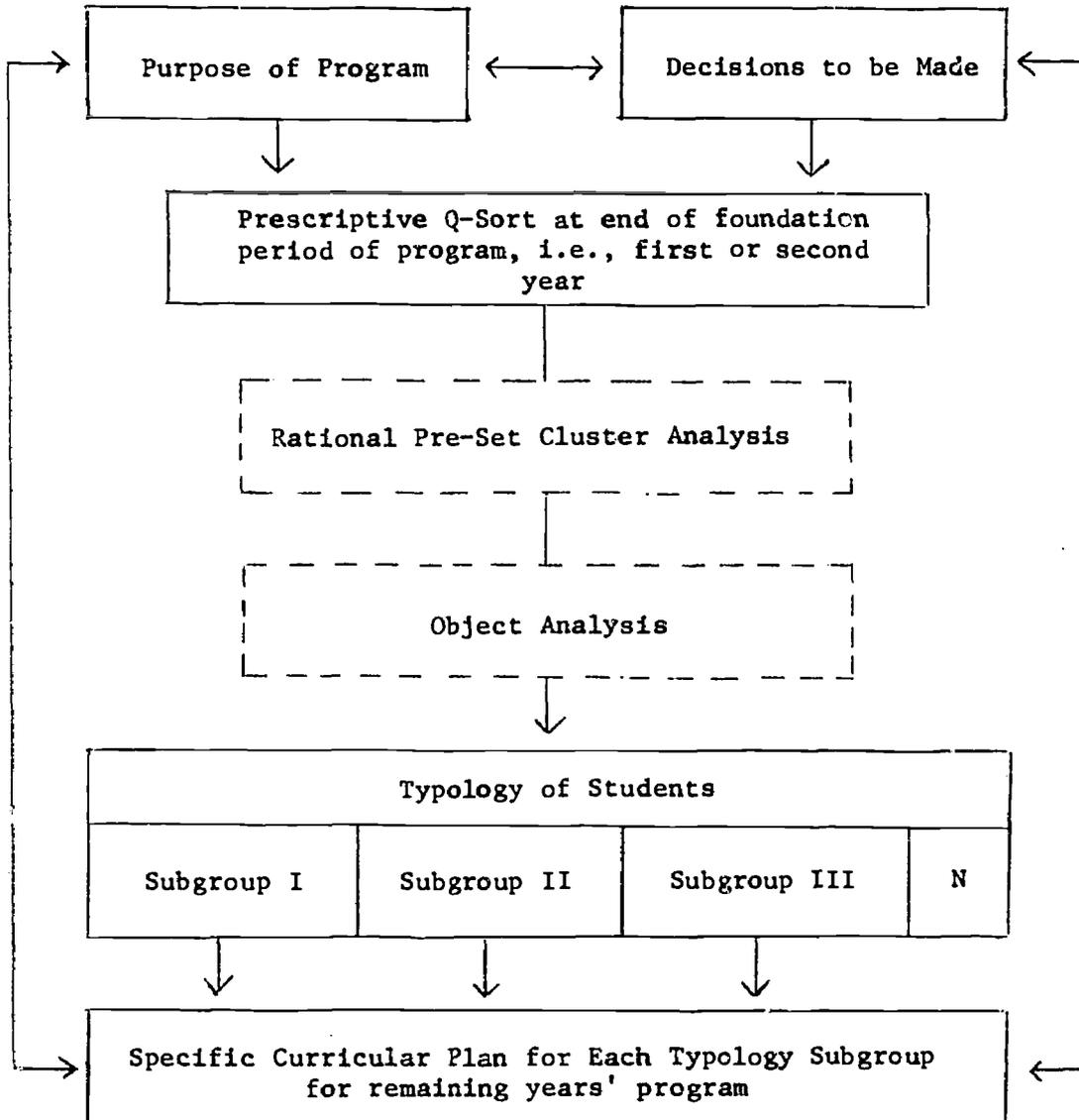
In all likelihood the evaluator will need to reconceptualize the theory underlying the structure of his Q-sort in order to do the analysis which will result in a typology. What is suggested is a rational rather than empirical approach to cluster development. This will result in a sufficient number of clusters that includes all items of the Q-sort. The clusters will be arranged and labeled so as to depict all aspects of the curriculum over which the faculty has control and which they can arrange according

to the needs of the students.¹ By submitting students' scoring of the Q-sort to a predetermined cluster analysis, scores on each rational cluster can be determined for each student. These cluster scores then should be subjected to object analysis, thus grouping students according to the similarities in the patterning of their scores on the various pre-set clusters. It is theorized that the end result will be a typology of similarly inclined students, each subgroup tending to perceive the curriculum in comparable ways and recommending similar improvements. Since each core type subgroup is different from the other in one or more areas of curriculum preference, faculty are able to plan accordingly in their efforts to individualize instruction.

This approach is a positive use of the end result of curriculum evaluation. Though not suggested in the diagram of the Typology Model (Figure 2), there is no reason why analysis of variance procedures could not be undertaken to compare such dependent variables as achievement on examinations, course grades, or other similar measures with a student's membership in a particular core type subgroup. These procedures are appropriate depending on the evaluator's purpose in the use of the model. The Typology Model supports the notion that evaluation is not complete until its findings have been incorporated into decision making. It provides a way in which the results of evaluation are incorporated into meaningful curriculum revision. Finally, the model suggests a way that curriculums can be kept flexible and in tune with the changing needs of a particular and specific group of students.

¹In Model A, cluster analysis will result in an output of empirical clusters, including only a portion of the Q-sort items. In Model B, the rational clusters assume a pre-set approach involving all items of the Q-sort.

Figure 2. Typology Model for Curriculum Implementation
(Model B)



Model C: The Outcome Model

"The test of the pudding is in the tasting" is an old saw, but a test that seldom is made of graduates. Too few colleges and universities systematically evaluate the impact of their curriculum in terms of the satisfactions and dissatisfactions of their graduates and their levels of professional or vocational competence. What are the results of the students' four-years' immersion in a liberal arts curriculum?¹ How successful and how competent are the graduates of the universities' vocational or professional curriculums? The answers to such questions provide an additional basis for continuous curriculum assessment and revision. The impact of such an evaluation will be enhanced if, prior to its launching, the faculty has engaged in a systematic study of its ongoing program, such as occurred in the CEP or as suggested by Models A and B. With such data, an outcome study like the one proposed is a "natural." It draws on the best of what has been learned about curriculum theory, tools like the prescriptive and descriptive Q-sorts, structured group interviews, and typologies of students. The value of the follow-up approach is inherent in the CEP as a means of assessing the impact of an ongoing undergraduate professional preparation curriculum. But the question remains, even with the CEP, "So what?" Effective assessment is incomplete unless the program is evaluated by those in the real world following graduation. Preparing successful, satisfied, and competent graduates is what it's all about.

The Outcome Model typifies formative and summative evaluation, depending on the purposes for which it is used and the decisions made as a result of its findings. The model represents formative evaluation to the extent that

¹James C. Stone and Anita J. Schader, "Student Designed Liberal Arts Education: An Analysis," Journal of Higher Education, XLIV (November, 1972), 601-609.

information elicited from a program's graduates continually is generated into the system for ongoing program improvement, and summative to the degree that a total assessment of an overall program is conducted and decisions made accordingly. On the other hand, an overall assessment could be made and conclusions drawn which in no way affect decisions, since the program is evolving continually anyway to reflect the different needs of students as they are determined through the use of such approaches as Models A or B. This should not be confused with the notion of goal-free evaluation, but simply implies that evaluations are often conducted with no direct ties to decision making.¹

The major advantage of total program assessment, incorporating the perceptions, satisfactions, and competence of graduates, lies in a periodic overview of what is happening as a result of a given program. Such an assessment may be undertaken every four or five years, or even yearly, to establish, confirm, or negate the necessity for major program overhauling. Such an assessment assumes the necessity for reviewing the relationship of the goals of the program with the needs of the society its graduates are being prepared to serve.

A first characteristic of Model C is its longitudinal aspect regarding student inputs to the program, changes effected as a result of program experiences, and degree of accentuation, diminution, or maintenance of that change after completion of the program. When planning an evaluation of outcomes, the evaluator needs to consider a design in which data are collected on students before, during, and immediately after the preparing program, as well as after

¹Michael Scriven, "Prose and Cons about Goal Free Evaluation," Evaluation Comment, the Journal of Educational Evaluation, III (December, 1972).

the student has graduated. The data collected should represent measurable characteristics of students, their expectations and satisfactions with their college experiences, the nature and extent of their interaction with the college setting, and a measure of their academic and professional gains during and after the college experience.

A second characteristic of the Outcome Model is the determination of the relationship of the graduates' self-estimate of professional competence with a similar measure from his professional peers and/or superiors. The more concrete the measurement of competency, the more useful the data will be.

A final characteristic of the Outcome Model is the provision for assessment of graduates according to their individual differences in either curricular preferences, levels of academic or professional achievement, and/or personality types. Dressel notes that even a structured curriculum required of all students does not provide the same experiences for all, because differences in background and personality result in different interpretations of the same experiences.¹

Model C suggests that graduates be typed on the basis of their senior or last year curriculum preferences, using the techniques proposed in Model B. A number of dependent variables can be tested against each of the several curriculum-preference types, including personality, opinion, and attitude variables; scholastic achievement; and levels of personal and professional competence and/or satisfaction with professional attainments since graduation. An alternative approach might be to determine the relationships between various subgroups of personality and curricular preference types with success and satisfaction in the real world following graduation. Either method will

¹Dressel, College and University Curriculum, p. 220.

provide the evaluator with a comprehensive view of what has happened to the students who chose to enter and complete a given program and of the impact of that program on the individual as a student and as a graduate. As in the Programmatic and Typology Models, the degree to which the Outcome Model can be extended is limited only by the evaluator's purpose and budget.

The purposes of the Outcome Model are to assess the residual impact of the program's curriculum and instruction upon its graduates and to determine whether and how well the program's goals are being achieved. These two purposes may be achieved by finding answers to such questions as:

What do the students do after graduation from the program? Continued education? Professional practice? Vocational employment? Temporary retirement?

What changes in the personality characteristics, opinions and attitudes, and leadership styles of graduates take place in the early years of their post-graduate lives? What are the dimensions, directions, and magnitudes of these changes? In what roles and activities do graduates manifest their present personality characteristics, opinions and attitudes, and leadership styles?

What do graduates report as their principal satisfactions and dissatisfactions with the institution's program? How are their principal satisfactions and dissatisfactions with the preparatory program influenced by and related to such variables as personality characteristics, opinions and attitudes, leadership styles, rank in class, area of academic specialization, length of time in vocational or professional practice or continued education, geographical location of employment, etc.?

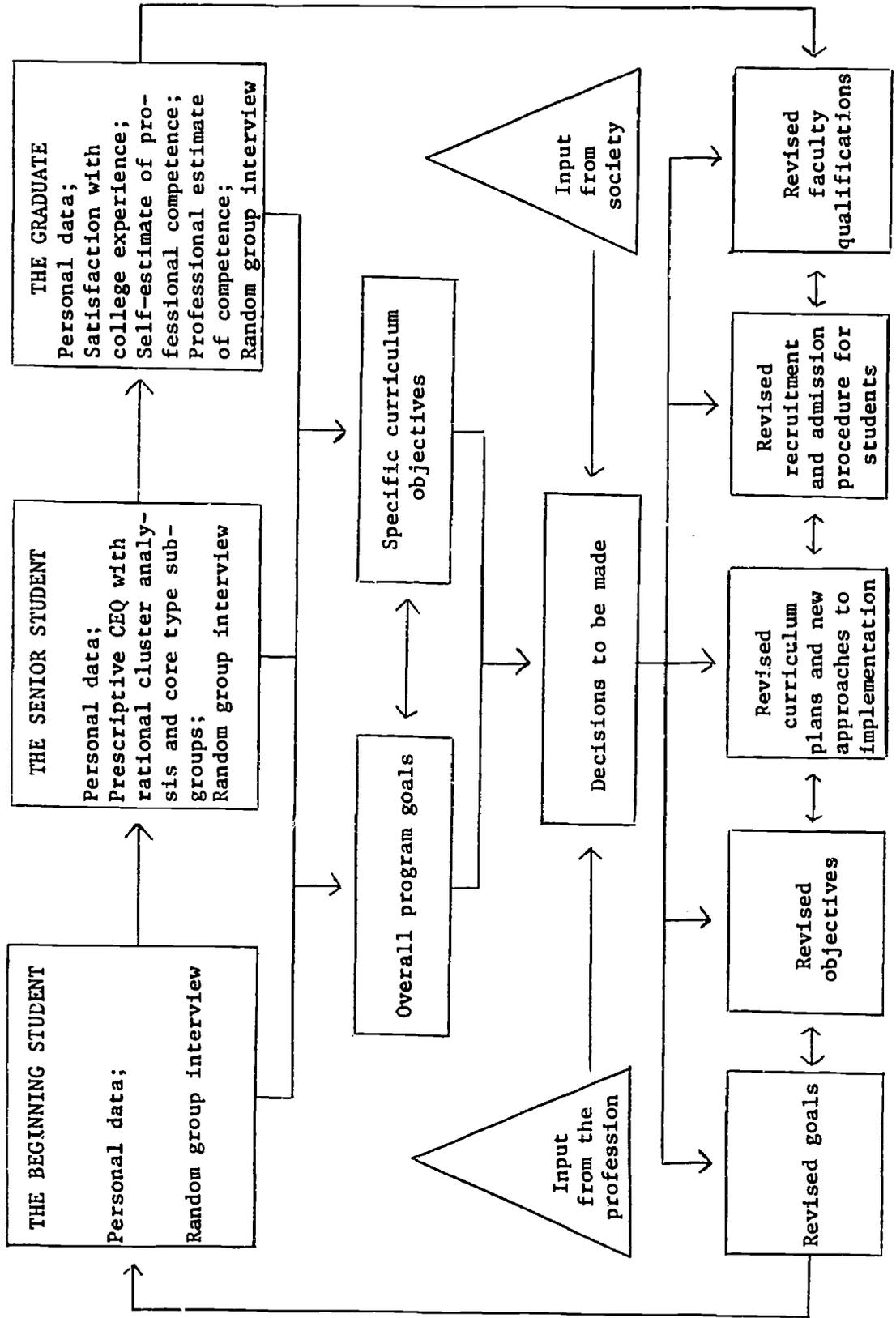
How well did the institution's program (of liberal education and/or vocational-professional education) prepare students for life, for jobs, for citizenship, for self-development? Are graduates able to demonstrate initially adequate vocational or professional competence in applying the theoretical knowledge and understandings, attitudes, and skills that they attained in the program?

What evaluative procedures, criteria, and standards are judged both by the graduates themselves and by their employers to be appropriate for assessing initial employment competence? How do these evaluative procedures, criteria, and standards compare with those used by the program's faculty to assess achievement of the program's educational goals and instructional objectives?

What, then, are the strengths and weaknesses of the program? What are the principal contributions and benefits of the preparatory program to the individual graduates, to the vocation or profession, and to the community at large?

Information collected about students and graduates should be analyzed in terms of existing program goals and objectives, the needs of society, and emerging professional trends prior to decision-making about the curriculum. The methodology for implementing Model C might be facilitated by using such tools as alumni and employer questionnaires, observation and rating schedules, and group interviews. Statistical procedures will involve using the items on these instruments as dependent variables to be related to the core type subgroups elicited by object analysis of the final year's preferential Q-sort. The Outcome Model is shown in Figure 3.

Figure 3. The Outcome Model for Curriculum Evaluation
(Model C)



Model D: The Continuous Model

In the euphoria of an ideal world, Models A, B, and C are separate strata of a total approach to evaluation. The Programmatic Model provides faculty with an ongoing view of the perceptions and recommendations of a given segment of a program according to the views of students who experienced it. The Typology Model uses some of the same data collected for the Programmatic Model, submits it to further analysis, and defines individualized approaches to curriculum implementation. Finally, the data bank on the same students is expanded so that in the Outcome Model the various levels of satisfaction, success, and competence (after graduation as well as immediately upon graduation) can be cross-checked against their curricular preferences as seniors. The curriculum maker could combine Models A, B, and C into one, all inclusive, comprehensive design for continuous, ongoing evaluation. An example of such a model, incorporating the major features of the Programmatic, Typology, and Outcome Models, is presented in Figure 4. It suggests how the U.S.F. School of Nursing might use the features of Models A, B, and C in a combined plan.

Figure 4. Suggested Model for Continuous Curriculum Evaluation at U.S.F. School of Nursing

<u>Year</u>	<u>Quantitative</u>	<u>Qualitative</u>	<u>Comment</u>
Freshman Year	Standardized testing of personality, attitudes, and opinions of all members in class. Determination of role expectations of professional nursing.	Structured group interview of random sample of class re role concepts in nursing and curricular expectations.	Establishes a baseline for Model C.
Sophomore Year	Double CEQ for perceptions of and recommendations for the curriculum (40-60 items) followed by empirical cluster analysis. Re-analysis of CEQ II for determination of typology core type subgroups.	Structured group interview of random sample of class re CEQ items.	Related to Model A.
Junior Year	Double CEQ submitted to routine empirical cluster analysis by core type subgroups in class typology.	Structured group interview of stratified random sample of class members (to represent each subgroup in the typology).	Related to Model B for individualizing instruction in upper division. Continuation of Model A and Model B.

Figure 4 continued

<u>Year</u>	<u>Quantitative</u>	<u>Qualitative</u>	<u>Comment</u>
Senior Year	Repeat testing of freshman year. Double CEQ submitted to routine empirical cluster analysis for each subgroup in the typology.	Structured group interview of stratified random sample of class members (to represent each subgroup in the original typology).	Continuation of Model C.
One year after graduation	Re-analysis of CEQ II for pre-set rational cluster analysis. Self and professional estimates of professional competence, success, and satisfaction; selected observation schedules, ratings, and rankings.	Structured random group interviews according to typology subgroups (from rational cluster analysis as seniors).	Continuation of Model C. Completion and recycling of Model C.

Impact of Curriculum Evaluation

What is the meaning and value of the four curriculum evaluation models which have been proposed? They imply that a faculty can adjust programs and implemental strategies to match different types of students, assuring more predictable levels of competence, success in the vocation or profession, and satisfaction with the collegiate experience, since that experience would have been flexible, adaptable, and responsive to a changing society and to a diverse student population.

The value to higher education, in view of limited resources and rising costs, is that faculty could choose to admit only those types of students demonstrated to be those most likely to prefer and succeed in existing programs and, hence, most likely to be satisfied, successful, and competent as graduates.

Thus, through curriculum evaluation, faculty have the option to:

1) maintain existing programs, selecting only the most appropriate students for them,

OR

2) create multiple, tailor-made, individualized programs which match the needs of a more diversified student population.

Whichever option is chosen, the message is clear: the curriculum maker can't stop when he has matched the right program with the right students. He also must examine results; otherwise, he never will know if it all came off as planned.

EPILOGUE

TEACH ME AND I WILL BE SILENT

Throughout these pages, the authors have expressed a faith in students and in the veracity of their responses as a basis for curriculum development and evaluation. Time after time in this report, such phrases have been used as:

"the students are saying"
"the students are asking for"
"the students seem to be demanding"
"the students cry out for"
"the students are calling for"

To what extent will the calls be considered, reckoned with, judged, implemented? In a very real way, don't they form a FACTUAL basis for the curriculum maker? Will the calls be heeded, or will they be thrown aside as those of students before them, like Cassandra calling in the wilderness? Now hear youth, these pages trumpet. Listen curriculum makers, program assessors, college teachers. Students want you to ponder what they say, temper it, and then act on it. In a word, now hear youth saying, "If we are taught well, our complaints will go away; we will stop grumbling over what has been taught and how it was taught."

We, the authors of this report, sense that each student is saying, "Teach me, and I will be silent." Paraphrasing and drawing on the findings of this investigation, their incessant message is: "Do a decent job of

instructing us in those things we ought to know, and we will be satisfied,"
as students, as graduates, as professionals.

APPENDICES

APPENDIX A
STATEMENT OF PHILOSOPHY

The faculty of the School of Nursing accepts the Credo and the educational aims of the University of San Francisco as contained in the general catalogue. These beliefs are reinforced and channeled professionally by the nurse faculty members of the School of Nursing. We see the liberalizing influence of the humanities as a distinctive feature of the baccalaureate program in nursing both in its effect, enabling the man or woman student to fulfill a personal destiny, and as an enrichment factor in the professional preparation of the nurse.

The faculty believes that the natural rights of man coming from God are exemplified in the curriculum by respect for the student as a person of individual dignity and worth and as a learner with capacity for self-direction and an evolving, lifetime potential for professional excellence. We believe that learning takes place along a continuum through an orderly progression from simple to complex. This progression can be implemented effectively by prepared faculty whose members are competent practitioners of nursing serving as models able to command a variety of skills and methods in furthering the learning process within the student.

We believe that the graduate of the baccalaureate program in nursing should be prepared to function in a beginning position in nursing independently as a professional person as well as interrelatedly with other members of the health services.

To this end, the curriculum of the School of Nursing:

- 1) implements the concept of the sanctity of the home through a program in nursing unified by a family-centered approach,
- 2) stresses respect for the natural rights of man by an individual approach to the health needs of the patient and his family,
- 3) acknowledges man's responsibility for his own actions by involving the patient and his family in the plan of care,
- 4) inculcates awareness of social pressures and evolving trends in health and illness,
- 5) initiates the use of analytical thinking and sound judgment in planning and implementing nursing care for individuals and/or groups of patients,
- 6) designs experiences to develop professional responsibility in beginning leadership roles, and
- 7) fosters an awareness of the nurse as an agent for constructive change.

APPENDIX B

UNIVERSITY OF SAN FRANCISCO SCHOOL OF NURSING
TYPICAL CURRICULUM IN NURSING, 1968-69Freshman Year

<u>Courses</u>	<u>Units</u>
English 1a, 1b, 1c, or 1e (Comp. and Lit.)	3-3
Chemistry 30a-30b (Intro. Gen. Chem.)	3-3
Biology 3 (Elem. Micro.)	4-
Biology 5 (Anat. & Physio.)	-5
Philosophy or Theology	3-3
Anthro. 2 (Cultural Anthro.)	3-
Psych. 2 (General Psych.)	-3
	<u>16-17</u>

Sophomore Year

<u>Courses</u>	<u>Units</u>
Psychology 113a-113b (Develop. Psych.)	3-3
Speech 2 (Prin. Oral Exp.)	2-
Sociology 158 (Soc. & Family)	-3
Philosophy or Theology	3-3
Nursing 60a-60b (Nursing Science I)	3-3
Nursing 61a-61b (Family- Community Health I)	6-6
	<u>17-18</u>
*Nursing 62a-62b (Family- Community Health) (For registered nurses only)	9-9

Junior Year

<u>Courses</u>	<u>Units</u>
AH & I	3-
Philosophy or Theology	3-3
Political Science 140 (World Com.)	-2
Sociology (Elective)	3-3
Nursing 110a-110b (Nursing Science II)	3-3
Nursing 111a-111b (Family- Community Health II)	5-5
	<u>17-16</u>

*Nursing 112a-112b (Family-
Community Health II)
(For registered nurses only)

Senior Year

<u>Courses</u>	<u>Units</u>
Nursing 160a-160b (Nursing Science III)	3-3
Nursing 161a-161b (Family- Community Health III)	8-8
Nursing 163a-163b (Nursing Seminar)	2-2
Philosophy or Theology	3-3
	<u>16-16</u>

APPENDIX C

UNIVERSITY OF PORTLAND SCHOOL OF NURSING
TYPICAL CURRICULUM IN NURSING, 1968-69

<u>Freshman Year</u>		<u>Junior Year</u>	
<u>Courses</u>	<u>Units</u>	<u>Courses</u>	<u>Units</u>
English 105-106 (Communication Skills)	3-3	Nursing 301 (Nursing II, includes clinical prac.)	9-
Math 213-214 (Fund. Idea Math)	3-3	Nursing 302 (Nursing III, includes clinical prac.)	-10
Physics 231 (Physics & Chem.)	3-	Nursing 310 (Public Health Science)	3-
Chemistry 232 (Physics & Chem.)	-3	Nursing 311 (Science in Nsg.)	3-
Psychology 200 (Gen. Psych.)	3-	Psychology 463 (Human Development)	-3
Sociology 200 (Gen. Soc.)	-3	Philosophy 317 (Medical Ethics)	-3
Theology 100 (or Elective)	3-		
Philosophy 150 (Phil. of Man)	-3		
	<u>15-15</u>		<u>15-16</u>
 <u>Sophomore Year</u>		 <u>Summer Session</u>	
<u>Courses</u>	<u>Units</u>	<u>Courses</u>	<u>Units</u>
Biology 113-114 (Anatomy & Physiology)	4-4	Nursing 400 (Nursing IV, includes clinical prac.)	9
Chemistry 223 (Intro. to Organic & Biochem.)	3-		
Zoology 352 (Bacteriology)	-4		
Fine Arts 207	3-		
English (Lit. Course)	-3		
Sociology 401 (Soc. of Family)	3-		
Psychology 461 (Human Development)	-3		
Theology 201 (or Elective)	3-		
Elective (Psych. or Soc.)	-3		
	<u>16-17</u>		<u>9</u>
 <u>Summer Session</u>		 <u>Senior Year</u>	
<u>Courses</u>	<u>Units</u>	<u>Courses</u>	<u>Units</u>
Nursing 300 (Nursing I, includes clinical prac.)	6	Nursing 410 (Nursing V, includes clinical prac.)	12-
Philosophy 200 (Metaphysics)	3	Nursing 402 (Nursing VI, includes clinical prac.)	-12
	<u>9</u>	Elective	3-3
			<u>15-15</u>

APPENDIX D

UNIVERSITY OF SAN FRANCISCO
NURSING CURRICULUM EVALUATION PROJECT

BIODATA QUESTIONNAIRE

1. Name: _____ 2. Class: _____
3. College address: _____
4. Home address: _____
5. Age: ____ 6. Date of birth: _____ 7. Place of birth: _____
8. Citizenship: ____ USA ____ Other (Specify) _____
9. Ethnic background: ____ Caucasian ____ Mexican-American ____ Negro
____ Oriental ____ Other _____
10. Religious affiliation: ____ Roman Catholic ____ Protestant ____ Jewish
____ Other _____
11. Are you a member of a religious order? ____ Yes ____ No If yes, specify
the name of the order: _____
12. Marital status: ____ Single ____ Married ____ Separated ____ Divorced
____ Widowed
13. Number of children: _____ Specify their ages: _____
14. General health: ____ Excellent ____ Good ____ Fair ____ Poor
15. Do you have any chronic illness, physical disability, or handicap?
____ Yes ____ No If yes, specify: _____
16. What foreign languages do you speak fluently? ____ None ____ Chinese
____ Greek ____ Japanese ____ Spanish ____ French ____ Hebrew
____ Portuguese ____ Yiddish ____ German ____ Italian ____ Russian
____ Other _____
17. In what areas of the world have you traveled outside the USA? ____ None
____ Europe ____ Latin America ____ Near East ____ Canada ____ Russia
____ South Pacific ____ Far East ____ Mexico ____ Africa ____ Australia
____ Other _____
18. Is your father living? ____ Yes ____ No If no, indicate your age at the
time of his death: _____

APPENDIX D continued

19. Is your mother living? Yes No If no, indicate your age at the time of her death: _____
20. Parents' marital status: Married Separated Divorced
21. Number of brothers: _____ Specify their ages: _____
22. Number of sisters: _____ Specify their ages: _____
23. What is your position in the chronological order of your siblings? (Indicate by number; e.g., 1st, 2nd, etc.): _____
24. Father's citizenship: USA Other _____
25. Mother's citizenship: USA Other _____
26. Father's religious affiliation: Roman Catholic Protestant
 Jewish Other _____ None
27. Mother's religious affiliation: Roman Catholic Protestant
 Jewish Other _____ None
28. Father's education (Indicate highest level completed): Elementary
 Junior high Senior high Junior college College (Bachelor's degree) Graduate (Master's degree) Graduate (Doctor's degree) Post-graduate diploma (Specify) _____
29. Mother's education (Indicate highest level completed): Elementary
 Junior high Senior high Junior college College (Bachelor's degree) Graduate (Master's degree) Graduate (Doctor's degree) Post-graduate diploma (Specify) _____
30. Father's occupation (Specify; e.g., lawyer, accountant, merchant, carpenter, etc.): _____
31. Mother's occupation (Specify; e.g., housewife, teacher, secretary, social worker, etc.): _____
32. Is your father presently employed in his occupation? Yes No
If no, specify the occupation in which he is employed, if at all: _____
33. Is your mother presently employed in her occupation? Yes No
If no, specify the occupation in which she is employed, if at all: _____
34. Has your father ever been a member of a medical profession, or employed in a health occupation? Yes No If yes, specify (e.g., physician, psychiatrist, dentist, pharmacist, public health inspector, etc.): _____

APPENDIX D continued

35. Has your mother ever been a member of a medical profession, or employed in a health occupation? Yes No If yes, specify (e.g., physician, psychiatrist, nurse, dental technician, medical laboratory technician, etc.): _____
36. Does your immediate family support your decision to attend this University? Yes No If no, briefly explain their reservation or objection: _____
37. Does your immediate family support your decision to study nursing? Yes No If no, briefly explain their reservation or objection: _____
38. From what type of a secondary school did you graduate? Public high school Private, non-denominational high school Private, denominational high school (Roman Catholic) Private, denominational high school (Other; specify the religious denomination): _____
 Other _____
39. Was your high school co-educational? Yes No
40. How many students were enrolled in your high school? (Estimate in round numbers): _____
41. In what type of community was your high school located? Metropolitan (over 500,000 population) Suburban Large urban (over 100,000 population) Small urban (under 100,000 population) Rural
42. In what types of extracurricular activities did you participate while a student in high school? None
 Special interest clubs (science, literature, photography, etc.)
 Cheerleaders, songleaders, etc.
 School service clubs (guides, recreation planning, health, etc.)
 Musical organizations (band, orchestra, chorus, glee club, etc.)
 School publications (newspaper, yearbook, etc.)
 Dramatic productions (plays, readings, recitals, etc.)
 Athletic competitions (team or individual sports, etc.)
 Other (specify): _____
43. To what positions of leadership were you elected or appointed while a student in high school? None Class representative Class officer Student government officer School service club officer Special interest club (or other organized activity) officer Editor of a school publication Captain of an athletic team Other (specify): _____

APPENDIX D continued

44. What academic or citizenship honors and awards did you receive while a student in high school? None Academic honor list Scholarship prize Citizenship prize Scholastic honor society Other school or class honor societies (music, dramatic, etc.) Other honors or awards (specify): _____
45. In what special instructional programs did you participate while a student in high school? None Advanced placement courses Advanced summer school courses Independent study projects Field work-study projects Special training courses (taken as electives; e.g., first aid, hygiene, consumer economics, homemaking, clothing, etc.) Others (specify): _____
46. In what types of voluntary community service activities did you participate while a student in high school? None Candystriper Tutoring Recreation supervisor Child care aide Counseling Playground attendant Charity worker (soliciting funds, clothing, paper, or other donations, or selling at rummage sales, bazaars, etc.) Others (specify): _____
47. What positions of leadership did you hold in community service organizations while a student in high school? None Scout leader Officer of a civic organization CYA or YWCA officer Officer of a religious or fraternal organization Charity officer Others (specify): _____
48. In general, what were your reasons for choosing this University?
 Reputation of the University
 Location of the University
 Reputation of the nursing program
 Parents' preference
 Availability of financial aid (University scholarships, loans)
 Tuition benefits from parents' faculty status
 Relatives in the religious order which governs it
 Friends or acquaintances among the student body and/or faculty
 Others (specify): _____
49. Have you completed a diploma program in nursing (RN) or a degree program in a junior college (AA) prior to entering the nursing program at this University? Yes No If yes, specify which program and the date you completed it: _____
50. Have you practiced nursing prior to entering the nursing program at this University? Yes No If yes, specify area of nursing practice, type of institutional setting, and number of years of experience: _____

APPENDIX D continued

51. Have you held a position in an occupation or vocation other than nursing prior to entering the nursing program in this University? Yes No
If yes, specify occupation(s) and number of years' experience: _____

52. Did you transfer to this University from another college or university? Yes No
If yes, specify the name of the institution: _____

53. Did you transfer into the nursing program from another major field or degree program? Yes No
If yes, specify the major field or degree program and the number of years you completed in it: _____

54. In what year did you enroll at this University? _____
55. In what year do you expect to (or did you) complete the nursing program and graduate from this University? _____
56. What forms of financial aid have you received while a student at this University? None Nursing Student Loan Program Army-Navy Nurse Corps Program College Work-Study Program University Scholarship State Scholarship Personal Scholarship National Merit Scholarship Educational Opportunity Grant Other (specify): _____

57. For how many semesters have you received financial aid while a student at this University? (Specify a number): _____
58. For how many semesters have you been employed in a part-time job while attending this University? (Specify a number): _____
59. What is the average number of hours per week you have worked at a part-time job while attending this University? _____
60. What is the average number of units of course work per semester you have carried while attending this University? _____
61. In what type(s) of accommodations have you lived while attending this University? University dormitory At home with parents Cooperative house At the home of relatives or friends Rented or leased apartment Other (specify): _____

62. Have any of your roommates been students in the nursing program while attending this University? Yes No

APPENDIX D continued

63. In what types of extracurricular activities have you participated while a student at this University? None
 Community involvement organizations or programs
 University service organizations or clubs
 Special interest clubs (science, nursing, health, etc.)
 Musical organizations (band, orchestra, chorus, glee club, etc.)
 College publications (newspaper, yearbook, magazine, etc.)
 Dramatic productions (plays, dance recitals, etc.)
 Forensic productions (debates, forms, panels, etc.)
 Athletic competitions (individual or team sports, etc.)
 Others (specify): _____
64. To what positions of leadership have you been elected or appointed while a student at this University? None Class representative Student government officer Class officer University service club officer Community involvement organization officer Special interest club (or other organized activity) officer Editor of a college publication Captain of an athletic team Other (specify): _____
65. What academic or citizenship honors and awards have you received while a student at this University? None Academic honor list
 Scholarship prize Citizenship prize Scholastic honor society University or class honor societies (other than scholastic)
 Others (specify): _____
66. In what types of voluntary community service activities have you participated while a student at this University? None Candystriper
 Tutoring Recreation supervisor Child care aide
 Counseling Playground attendant Charity worker (soliciting funds, clothing, paper, or other donations, or selling at rummage sales, bazaars, etc.) Others (specify): _____
67. Do you now plan to enter nursing practice immediately upon completing this program? Yes No If no, briefly explain why not: _____

68. If your present plan is to practice or teach nursing, specify the area of nursing in which you plan to work: Medical-surgical Psychiatric-mental health Geriatrics Maternal and child health Community health Other (specify): _____
69. If your present plan is to practice nursing, specify the type of institutional setting in which you plan to work: Public health agency
 Convalescent or nursing home Hospital Military service
 Industrial-occupational World health service (Red Cross, AID, etc.) Physician's office Rehabilitation center Other (specify): _____

APPENDIX D continued

70. If your present plan is to teach or supervise nursing, specify the type of position you plan to seek: Instructor in a school of nursing
 Inservice education director Nursing education administrator
 Nursing service administrator or supervisor Other (specify): _____

71. If your present plan is to pursue further education or training, specify the area, field, or program you plan to enter:
 Post-graduate course, not leading to a degree (specify area): _____

 Advanced degree program in nursing (specify area): _____

 Advanced degree program in another field (not nursing) (specify area): _____

 Other (specify): _____
72. Have any special events or circumstances influenced your studies in the nursing program while a student at this University? Yes No
 If yes, explain briefly in the space below.

APPENDIX E

UNIVERSITY OF SAN FRANCISCO
SCHOOL OF NURSING CURRICULUM EVALUATION PROJECTQ-SORT ITEMS
(According to Categories)I. Curriculum: Learning Objectives, Opportunities, and Experiences

1. Laboratory experiences prepare students for professional nursing practice in the future, as well as immediately upon completion of the nursing program.
2. Laboratory experiences make students aware of the need for continuing self-education in professional nursing practice.
3. Laboratory experiences make students aware of the nurse's role as a change agent in the community as well as in professional practice.
4. Laboratory experiences enable students to appreciate the value of sequential learning which is planned to progress from simple to complex kinds of nursing interventions.
5. Section and seminar meetings help students see the relationship between theoretical concepts and their applications to actual nursing problems.
6. Skill labs at the beginning of laboratory experiences prepare students to achieve their learning objectives for those experiences.
7. Group conferences before and after each laboratory experience provide opportunities for students to communicate their learning needs and objectives to their instructors.
8. Group work and conferences enable students to share learning opportunities and thus to benefit from the laboratory experiences of their peers.
9. Laboratory experiences help students gain confidence in their ability to make independent judgments about methods of solving nursing problems.
10. Laboratory experiences help students gain confidence in their ability to recognize how people cope with crises and to function effectively in stressful situations.
11. Laboratory experiences help students gain confidence in their ability to function effectively in therapeutic relationships with people of all ages.
12. Laboratory experiences help students gain confidence in their ability to relate professionally to physicians and paramedical personnel.

APPENDIX E continued

13. Laboratory experiences help students identify the components of effective communication and interaction in their relationships with people.
14. Laboratory experiences help students function effectively with patients who are acutely ill, as well as with those who are on self-care.
15. Laboratory experiences provide opportunities for students not only to observe but also to initiate definitive nursing action in caring for people's health needs.
16. Laboratory experiences help students gain confidence in their ability to initiate change in the plan for a patient's nursing care.
17. Laboratory experiences make students aware of the difference between intuitive functioning and rationally planned nursing intervention in problem situations.
18. Laboratory experiences help students gain confidence in their ability to plan nursing interventions in accordance with scientific principles.
19. Laboratory experiences help students appreciate the importance of establishing priorities in planning nursing care.
20. Laboratory experiences help students plan nursing interventions that are based on consideration of the inviolable rights of the individual and the family.
21. Laboratory experiences help students develop skill in assisting patients to move from a dependent to an independent role in their recuperation from illness.
22. Laboratory experiences provide opportunities for students to work with persons from a variety of social class and cultural backgrounds.
23. Laboratory experiences help students understand the financial and health problems of lower-income families.
24. Laboratory experiences help students appreciate the importance of published research in the improvement of professional nursing care.
25. Laboratory experiences help students understand the concept of comprehensive and continuous health care for patients and their families.
26. Laboratory experiences provide opportunities for students to plan and make nursing interventions for the purpose of preventing health problems or complications.
27. Laboratory experiences provide opportunities for students to assume leadership roles in directing the nursing care of groups of patients.

APPENDIX E continued

28. Laboratory experiences help students gain confidence in their ability to call on resource persons for help in solving nursing problems.
29. Laboratory experiences help students gain confidence in their ability to refer patients and their families to appropriate community family service agencies.
30. Laboratory experiences help students gain confidence in their ability to make realistic plans for assisting families to achieve and maintain a high level of health.
31. Laboratory experiences help students gain confidence in their ability to teach the essentials of health care to patients and their families.
32. Laboratory experiences provide opportunities for students to perform a variety of technical procedures employed in professional nursing care.

II. Program: Planning, Scheduling, and Evaluation

33. Laboratory experiences are planned and scheduled so as to provide sufficient time for students to reinforce their learnings through repetition and practice.
34. Laboratory experiences are planned and scheduled so as to permit students to move on to new learning opportunities once they have achieved current learning objectives.
35. Instructors help students formulate their own learning objectives in the light of the stated educational objectives of the nursing program's curriculum.
36. Instructors individualize students' learnings by helping them choose learning objectives and plan learning experiences appropriate to their individual needs and goals.
37. Instructors help students plan initial learning experiences that are reasonably certain to result in successful achievement of their learning objectives.
38. Instructors require students to exercise initiative and take responsibility for planning and communicating their learning needs and objectives for each laboratory experience.
39. Instructors permit students to exercise some choice in the selection of learning opportunities appropriate to their individual learning needs and objectives.
40. Instructors recognize and respond to students' needs for positive feedback

APPENDIX E continued

of their achievements to encourage them to make further progress.

41. Instructors encourage students to make appointments for individual conferences whenever they feel a need for additional assistance or further support and encouragement.
42. Instructors evaluate each student's progress individually judging it in relation to her abilities, interests, prior learnings, and previous learning experiences.
43. Instructors consider students' own self-appraisals in evaluating their learnings, progress, and position on the learning continuum.
44. Instructors consider external factors that influence the learning process in evaluating students' achievements and progress.
45. Instructors use evaluation conferences to point out to students the areas in which they can and should improve their understandings and skills.
46. Constant evaluation of students' progress in the nursing program helps them to diagnose their own learning needs and set their own learning objectives.

III. Instruction: Teaching Styles, Methods, Procedures

47. Instructors attempt to find out what students already know and can do before undertaking to teach them new understandings and skills.
48. Instructors provide specifically detailed directions to guide students in carrying out their assignments in laboratory experiences.
49. Instructors are readily available to assist students when they need help in new and complex learning situations.
50. Instructors withhold guidance in self-directed learning activities unless and until students request it.
51. Instructors intervene and assist students in solving nursing problems when students are unable to handle them.
52. Instructors encourage students to try alternative methods of solving nursing problems and to evaluate the results of their decisions.
53. Instructors support students' decisions regarding problem-solving methods even when those decisions are contrary to ones they themselves might make in similar situations.
54. Instructors are sensitive to students' needs for repetition and/or

APPENDIX E continued

reinforcement of their learnings to insure adequate comprehension and skill.

55. Instructors help students to integrate their knowledge of general principles of nursing science by interrelating their learnings from various areas of nursing practice.
56. Instructors listen to and consider students' evaluative comments about the nursing program in general and individual laboratory experiences in particular.
57. Instructors solicit, accept, and adopt students' suggestions for pertinent and relevant topics to be discussed in seminars and section meetings.
58. Team teaching provides opportunities for instructors to use each other as resources in implementing the educational objectives of the nursing program.
59. Team teaching provides opportunities for students to learn and benefit from the special interests and capabilities of a variety of instructors.

IV. Interpersonal Relations: Teacher-Student Roles and Relationships

60. Members of the nursing faculty are the professional role models for students in the nursing program.
61. Members of the nursing faculty are not only educators but also competent professional nursing practitioners.
62. Instructors give evidence of keeping up with recent developments and improvements in the professional practice of nursing.
63. Instructors evince enthusiasm for students' learning goals and generate excitement in students' expectations for new and more challenging learning opportunities.
64. Instructors communicate empathy for students' learning problems based on recollection of their own experience as learners in the process of becoming professional nurses.
65. Instructors reasonably expect no more of students than they would of themselves in comparable nursing problem situations.
66. Instructors treat students like autonomous, mature, and responsible adults and respect their individual abilities, interests, and goals.
67. Instructors show discreet interest, genuine concern, and sympathetic consideration for the personal conflicts and learning difficulties of students.

APPENDIX E continued

68. Instructors discuss matters that are pertinent to individual students at the appropriate time and in the appropriate place.
69. Instructors make tactful and helpful referrals to appropriate resource persons and agencies for students who need help with their personal problems.
70. Instructors participate in and contribute to the informal social activities initiated by students when they are invited and whenever it is possible for them to do so.
71. Instructors initiate informal social contacts with students to provide opportunities for timely and fruitful exchange of ideas about matters of mutual interest.
72. Differences of opinion and point of view between and among instructors and students are openly and honestly expressed, rationally discussed, and objectively resolved.

APPENDIX F

 UNIVERSITY OF SAN FRANCISCO
 SCHOOL OF NURSING CURRICULUM EVALUATION PROJECT

 Q-CARD ITEMS FOR SENIOR GROUP INTERVIEWS
 (In the Order Presented to Students)

My first job	Skill labs
Communication skills	Scientific principles
Freshman year	Junior year
Team teaching	Initiative
Electives	Other cultures
Laboratory experiences	Recommendations
Leadership	Role models
Sophomore year	Successes
Professional	Technical skills
Trust	Integration
Problem-solving	Competition
Extracurricular activities	Independent study
Simple to complex	Evaluation
Disappointments	Senior year
Team leading	Me as a nurse
Core content	Changes
Family experiences	Priorities
Faculty	Q-Sort
Autonomy of students	

APPENDIX G

DESCRIPTION OF LEADERSHIP ABILITY EVALUATION DECISION PATTERNS*

1. Laissez Faire: Individual and independent group member centered decision pattern. The leader exercises a minimum influence on the others but always is available to group members in the role of an advisor.
2. Democratic-Cooperative: Parliamentary procedure centered decision pattern. The chief concept of the leader is to emphasize the will of the group or the individual involved; the leader retains the dual role of leader and group member.
3. Autocratic-Submissive: Resource person, expert, or committee centered decision pattern. The leader emphasizes the use of advisors and resource persons.
4. Autocratic-Aggressive: Ego-centered leader decision pattern. The leader alone makes action decisions. Group objectives and action plans are released bits at a time to the individual members for their parts in the action, as required.

*Russell N. Cassel and Edward J. Stancik, The Leadership Ability Evaluation (Beverly Hills: Western Psychological Services, 1961), pp. 5-6.

APPENDIX H

DESCRIPTION OF THE MANIFEST NEEDS ASSOCIATED WITH
THE EDWARDS PERSONAL PREFERENCE SCHEDULE VARIABLES*

1. Achievement: To do one's best, to be successful, to accomplish tasks requiring skill and effort, to be a recognized authority, to accomplish something of great significance, to do a difficult job well, to solve difficult problems and puzzles, to be able to do things better than others, to write a great novel or play.
2. Deference: To get suggestions from others, to find out what others think, to follow instructions and do what is expected, to praise others, to tell others that they have done a good job, to accept the leadership of others, to read about great men, to conform to custom and avoid the unconventional, to let others make decisions.
3. Order: To have written work neat and organized, to make plans before starting on a difficult task, to have things organized, to keep things neat and orderly, to make advance plans when taking a trip, to organize details of work, to keep letters and files according to some system, to have meals organized and a definite time for eating, to have things arranged so that they run smoothly without change.
4. Exhibition: To say witty and clever things, to tell amusing jokes and stories, to talk about personal adventures and experiences, to have others notice and comment upon one's appearance, to say things just to see what effect it will have on others, to talk about personal achievements, to be the center of attention, to use words that others do not know the meaning of, to ask questions others cannot answer.
5. Autonomy: To be able to come and go as desired, to say what one thinks about things, to be independent of others in making decisions, to feel free to do what one wants, to do things that are unconventional, to avoid situations where one is expected to conform, to do things without regard to what others may think, to criticize those in positions of authority, to avoid responsibilities and obligations.
6. Affiliation: To be loyal to friends, to participate in friendly groups, to do things for friends, to form new friendships, to make as many friends as possible, to share things with friends, to do things with friends rather than alone, to form strong attachments, to write letters to friends.
7. Intracception: To analyze one's motives and feelings, to observe others, to understand how others feel about problems, to put one's self in another's place, to judge people by why they do things rather than by what they do, to analyze the behavior of others, to analyze the motives

*Allen L. Edwards, Edwards Personal Preference Schedule (New York: The Psychological Corporation, 1954), p. 11.

APPENDIX H continued

of others, to predict how others will act.

8. Succorance: To have others provide help when in trouble, to seek encouragement from others, to have others be kindly, to have others be sympathetic and understanding about personal problems, to receive a great deal of affection from others, to have others do favors cheerfully, to be helped by others when depressed, to have others feel sorry when one is sick, to have a fuss made over one when hurt.
9. Dominance: To argue for one's point of view, to be a leader in groups to which one belongs, to be regarded by others as a leader, to be elected or appointed chairman of committees, to make group decisions, to settle arguments and disputes between others, to persuade and influence others to do what one wants, to supervise and direct the actions of others, to tell others how to do their jobs.
10. Abasement: To feel guilty when one does something wrong, to accept blame when things do not go right, to feel that personal pain and misery suffered does more good than harm, to feel the need for punishment for wrong doing, to feel better when giving in and avoiding a fight than when having one's own way, to feel the need for confession of errors, to feel depressed by inability to handle situations, to feel timid in the presence of superiors, to feel inferior to others in most respects.
11. Nurturance: To help friends when they are in trouble, to assist others less fortunate, to treat others with kindness and sympathy, to forgive others, to do small favors for others, to be generous with others, to sympathize with others who are hurt or sick, to show a great deal of affection towards others, to have others confide in one about personal problems.
12. Change: To do new and different things, to travel, to meet new people, to experience novelty and change in daily routine, to experiment and try new things, to eat in new and different places, to try new and different jobs, to move about the country and live in different places, to participate in new fads and fashions.
13. Endurance: To keep at a job until it is finished, to complete any job undertaken, to work hard at a task, to keep at a puzzle or problem until it is solved, to work at a single job before taking on others, to stay up late working in order to get a job done, to put in long hours of work without distraction, to stick at a problem even though it may seem as if no progress is being made, to avoid being interrupted while at work.
14. Heterosexuality: To go out with members of the opposite sex, to engage in social activities with the opposite sex, to be in love with someone of the opposite sex, to kiss those of the opposite sex, to be regarded as physically attractive by those of the opposite sex, to participate in discussions about sex, to read books and plays involving sex, to listen

APPENDIX H continued

to or to tell jokes involving sex, to become sexually excited.

15. Aggression: To attack contrary points of view, to tell others what one thinks about them, to criticize others publicly, to make fun of others, to tell others off when disagreeing with them, to get revenge for insults, to become angry, to blame others when things go wrong, to read newspaper accounts of violence.

APPENDIX I

DEFINITIONS OF THE OMNIBUS PERSONALITY INVENTORY SCALES*

1. Thinking Introversion: Persons scoring high on this measure are characterized by a liking for reflective thought and academic activities. They express interests in a broad range of ideas found in a variety of areas, such as literature, art, and philosophy. Their thinking is less dominated by immediate conditions and situations, or by commonly accepted ideas, than that of thinking extroverts (low scorers). Most extroverts show a preference for overt action and tend to evaluate ideas on the basis of their practical, immediate application, or to entirely reject or avoid dealing with ideas and abstractions.
2. Theoretical Orientation: This scale measures an interest in, or orientation to, a more restricted range of ideas than is true of thinking introversion. High scorers indicate a preference for dealing with theoretical concerns and problems and for using the scientific method in thinking; many are also exhibiting an interest in science and in scientific activities. High scorers are generally logical, analytical, and critical in their approach to problems and situations.
3. Estheticism: High scorers endorse statements indicating diverse interests in artistic matters and activities and a high level of sensitivity and response to esthetic stimulation. The content of the statements in this scale extends beyond painting, sculpture, and music, and includes interests in literature and dramatics.
4. Complexity: This measure reflects an experimental and flexible orientation rather than a fixed way of viewing and organizing phenomena. High scorers are tolerant of ambiguities and uncertainties; they are fond of novel situations and ideas. Most persons high on this dimension prefer to deal with complexity, as opposed to simplicity, and very high scorers are disposed to seek out and to enjoy diversity and ambiguity.
5. Autonomy: The characteristic measured by this scale is composed of liberal, non-authoritarian thinking and a need for independence. High scorers show a tendency to be independent of authority as traditionally imposed through social institutions. They oppose infringements on the rights of individuals and are tolerant of viewpoints other than their own; they tend to be realistic, intellectually and politically liberal, and much less judgmental than low scorers.
6. Religious Orientation: High scorers are skeptical of conventional religious beliefs and practices and tend to reject most of them, especially those that are orthodox or fundamentalistic in nature. Persons scoring around the mean are manifesting a moderate view of religious beliefs and

*Paul Heist and George Yonge, Omnibus Personality Inventory, Form F (New York: The Psychological Corporation, 1968), pp. 4-5.

APPENDIX I continued

practices; low scorers are manifesting a strong commitment to Judaic-Christian beliefs and tend to be conservative in general and frequently rejecting of other viewpoints.

7. Social Extroversion: This measure reflects a preferred style of relating to people in a social context. High scorers display a strong interest in being with people, and they seek social activities and gain satisfaction from them. The social introvert (low scorer) tends to withdraw from social contacts and responsibilities.
8. Impulse Expression: This scale assesses a general readiness to express impulses and to seek gratification either in conscious thought or in overt action. High scorers have an active imagination, value sensual reactions and feelings; very high scorers have frequent feelings of rebellion and aggression.
9. Personal Integration: The high scorer admits to few attitudes and behaviors that characterize socially alienated or emotionally disturbed persons. Low scorers often intentionally avoid others and experience feelings of hostility and aggression along with feelings of isolation, loneliness, and rejection.
10. Anxiety Level: High scorers deny that they have feelings or symptoms of anxiety, and do not admit to being nervous or worried. Low scorers describe themselves as tense and high-strung. They may experience some difficulty in adjusting to their social environment, and they tend to have a poor opinion of themselves.
11. Altruism: The high scorer is an affiliative person and trusting and ethical in his relations with others. He has a strong concern for the feelings and welfare of people he meets. Low scorers tend not to consider the feelings and welfare of others and often view people from an impersonal, distant perspective.
12. Practical Outlook: The high scorer on this measure is interested in practical, applied activities and tends to value material possessions and concrete accomplishments. The criterion most often used to evaluate ideas and things is one of immediate utility. Authoritarianism, conservatism, and non-intellectual interests are very frequent personality components of persons scoring above the average.
13. Masculinity-Femininity: This scale assesses some of the differences in attitudes and interests between college men and women. High scorers (masculine) deny interests in esthetic matters, and they admit to few adjustment problems, feelings of anxiety, or personal inadequacies. They also tend to be somewhat less socially inclined than low scorers and more interested in scientific matters. Low scorers (feminine), besides having stronger esthetic and social inclinations, also admit to greater sensitivity and emotionality.

APPENDIX I continued

14. Response Bias: This measure, composed chiefly of items seemingly unrelated to the concept, represents an approach to assessing the student's test-taking attitude. High scorers are responding in a manner similar to a group of students who were explicitly asked to make a good impression by their responses to these items. Low scorers, on the contrary, may be trying to make a bad impression or are indicating a low state of well-being or feelings of depression.

APPENDIX J

UNIVERSITY OF SAN FRANCISCO
SCHOOL OF NURSING CURRICULUM EVALUATION PROJECTQ-CARD ITEMS FOR FACULTY GROUP INTERVIEW
(In the Order Presented to Faculty)

Me as faculty

Me as professional role model

The simple-to-complex idea

The integration idea

The problem-solving thread

The leadership thread

The individual family/community health thread

Core content

Laboratory experiences

Electives

Team teaching

Independent study

Freshman year

Sophomore year

Junior year

Senior year

The Curriculum Evaluation Project

Faculty involvement in the Curriculum Evaluation Project

Feedback from the Curriculum Evaluation Project

Disappointment with the Curriculum Evaluation Project

Success of the Curriculum Evaluation Project

Change due to the Curriculum Evaluation Project

APPENDIX K

Mean Scores and Standard Deviations by ItemsDescriptive and Prescriptive CEQ'sAll Sophomores (1971-1974), All Juniors (1970-1973), All Seniors (1969-1972)

Descriptive CEQ

Prescriptive CEQ

Item No.	Sophomores N = 330		Juniors N = 319		Seniors N = 296		Sophomores N = 327		Juniors N = 320		Seniors N = 283	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
1	4.21	1.49	3.97	1.63	3.79	1.66	4.72	1.73	4.86	1.77	4.66	1.71
2	4.78	1.62	5.22	1.54	5.25	1.52	3.98	1.58	4.21	1.70	4.24	1.67
3	3.95	1.58	4.17	1.57	4.64	1.63	3.70	1.64	3.98	1.71	4.06	1.74
4	4.01	1.36	3.83	1.42	3.97	1.35	3.47	1.50	3.48	1.54	3.34	1.51
5	3.40	1.61	3.23	1.49	2.97	1.42	3.74	1.59	3.28	1.64	3.31	1.53
6	3.62	1.65	2.92	1.39	2.75	1.33	3.86	1.64	3.31	1.51	3.20	1.61
7	4.50	1.54	3.59	1.45	3.76	1.41	3.87	1.56	3.47	1.47	3.28	1.36
8	4.88	1.63	4.33	1.56	4.10	1.53	3.87	1.63	3.64	1.49	3.39	1.48
9	4.39	1.45	4.51	1.48	4.78	1.43	4.86	1.46	5.05	1.46	5.37	1.35
10	4.57	1.47	4.64	1.44	4.51	1.51	4.45	1.55	4.43	1.51	4.67	1.53
11	3.53	1.70	5.17	1.47	4.59	1.55	4.08	1.63	4.07	1.68	3.78	1.54
12	3.47	1.54	3.89	1.56	3.96	1.57	3.92	1.55	3.73	1.62	4.10	1.58
13	5.43	1.50	4.81	1.54	5.05	1.59	4.52	1.75	4.23	1.73	4.55	1.60
14	4.66	1.60	4.91	1.58	5.01	1.48	4.47	1.52	4.72	1.69	4.83	1.56
15	5.21	1.38	5.14	1.51	5.18	1.38	5.04	1.39	5.02	1.42	5.13	1.30
16	3.87	1.44	4.32	1.43	4.55	1.47	4.27	1.47	4.47	1.57	4.72	1.48
17	4.37	1.59	4.55	1.51	4.35	1.54	3.99	1.62	4.13	1.62	4.18	1.63
18	4.92	1.45	5.15	1.53	4.80	1.53	4.78	1.60	5.21	1.51	5.05	1.63
19	4.94	1.59	5.63	1.52	5.87	1.35	4.63	1.60	5.33	1.59	5.52	1.50
20	4.29	1.44	4.54	1.37	4.57	1.43	4.17	1.51	4.25	1.55	4.29	1.66
21	4.43	1.53	4.85	1.41	4.90	1.43	4.43	1.62	4.22	1.53	4.17	1.48
22	4.22	1.69	4.71	1.56	4.71	1.46	4.23	1.57	3.98	1.65	3.80	1.58
23	3.83	1.52	3.64	1.40	4.24	1.42	3.27	1.38	3.43	1.45	3.32	1.46
24	3.45	1.42	4.01	1.50	3.67	1.41	3.15	1.38	3.50	1.39	3.29	1.42
25	4.86	1.56	5.14	1.43	5.45	1.40	4.13	1.57	4.25	1.61	4.65	1.55
26	4.78	1.58	4.61	1.53	4.88	1.43	4.34	1.49	4.38	1.62	4.53	1.58
27	2.86	1.46	3.10	1.61	5.03	1.63	3.86	1.61	4.18	1.54	5.40	1.51
28	3.71	1.31	3.92	1.38	4.35	1.34	3.50	1.33	3.56	1.42	3.68	1.38
29	3.39	1.42	3.60	1.37	4.45	1.46	3.40	1.34	3.72	1.38	3.74	1.37
30	3.83	1.53	4.24	1.41	4.57	1.45	4.34	1.52	4.26	1.53	4.72	1.38
31	4.31	1.63	4.84	1.60	4.94	1.58	4.40	1.55	4.63	1.64	4.83	1.44
32	4.54	1.74	4.29	1.84	3.42	1.84	5.02	1.56	4.88	1.74	4.63	1.86
33	2.01	1.43	2.96	1.33	2.71	1.33	4.16	1.62	3.93	1.59	3.81	1.61
34	3.51	1.53	3.64	1.34	3.43	1.33	4.20	1.49	3.92	1.49	4.04	1.34
35	3.44	1.54	3.40	1.42	3.54	1.29	3.67	1.63	3.65	1.44	3.64	1.43
36	3.59	1.57	3.68	1.54	3.70	1.37	4.30	1.55	4.29	1.46	4.19	1.41

APPENDIX K continued

Descriptive CEQ

Prescriptive CEQ

Item No.	Sophomores N = 330		Juniors N = 319		Seniors N = 296		Sophomores N = 327		Juniors N = 320		Seniors N = 283	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
37	3.58	1.25	3.52	1.23	3.48	1.21	3.39	1.42	3.35	1.38	3.38	1.37
38	4.94	1.55	4.98	1.41	5.07	1.38	4.37	1.53	4.19	1.55	4.39	1.50
39	4.19	1.57	4.71	1.43	5.14	1.41	4.30	1.48	4.37	1.35	4.53	1.33
40	3.62	1.53	3.13	1.47	3.22	1.51	4.82	1.46	4.88	1.44	4.79	1.47
41	4.96	1.52	4.57	1.50	4.18	1.51	3.88	1.42	3.71	1.41	3.48	1.34
42	3.55	1.62	3.43	1.56	3.29	1.49	4.77	1.54	4.65	1.55	4.57	1.61
43	3.88	1.49	3.49	1.40	3.93	1.45	4.05	1.57	3.83	1.36	3.96	1.38
44	3.00	1.39	2.81	1.38	2.97	1.42	3.91	1.75	3.88	1.64	3.78	1.48
45	4.73	1.53	4.59	1.45	3.91	1.54	4.44	1.43	4.10	1.46	3.97	1.46
46	3.77	1.67	3.60	1.53	3.45	1.59	4.06	1.75	3.87	1.56	3.56	1.65
47	3.49	1.47	3.49	1.59	3.29	1.34	4.13	1.51	4.10	1.50	4.14	1.41
48	2.86	1.45	2.75	1.31	2.60	1.35	2.91	1.62	2.73	1.61	2.41	1.44
49	4.73	1.56	4.49	1.48	4.16	1.40	4.78	1.38	4.76	1.30	4.22	1.38
50	3.40	1.33	3.55	1.28	3.70	1.43	2.76	1.38	3.07	1.37	2.88	1.39
51	4.57	1.41	4.36	1.28	3.85	1.21	3.85	1.45	3.90	1.38	3.53	1.32
52	3.70	1.37	3.96	1.41	4.06	1.43	3.89	1.38	3.92	1.44	4.24	1.35
53	2.69	1.33	2.71	1.30	2.80	1.37	3.47	1.52	3.72	1.51	3.67	1.48
54	3.50	1.44	3.07	1.27	4.55	1.47	4.31	1.51	4.09	1.55	3.71	1.43
55	4.31	1.44	4.37	1.47	3.99	1.44	4.15	1.56	3.89	1.53	3.89	1.50
56	3.89	1.48	3.75	1.40	3.55	1.50	4.06	1.51	3.89	1.35	3.98	1.40
57	4.12	1.47	4.51	1.52	3.86	1.60	3.70	1.41	3.46	1.34	3.87	1.34
58	4.06	1.37	4.21	1.32	3.65	1.31	3.24	1.34	3.18	1.36	3.36	1.36
59	4.94	1.55	4.65	1.55	3.99	1.47	3.48	1.52	3.49	1.49	3.27	1.44
60	3.82	1.54	3.79	1.37	3.44	1.34	3.50	1.54	3.73	1.49	3.61	1.50
61	4.87	1.30	4.71	1.30	4.19	1.28	4.20	1.51	4.46	1.52	4.41	1.45
62	4.60	1.34	4.88	1.31	4.73	1.19	4.03	1.43	4.13	1.43	4.25	1.26
63	3.54	1.44	3.35	1.45	3.54	1.56	3.73	1.60	3.76	1.60	3.77	1.53
64	3.42	1.45	2.94	1.28	3.10	1.33	3.37	1.59	3.26	1.49	3.11	1.40
65	3.62	1.41	3.40	1.35	3.58	1.31	3.61	1.56	3.74	1.44	3.59	1.44
66	3.87	1.60	3.40	1.52	3.76	1.62	5.22	1.63	5.09	1.55	5.34	1.53
67	3.91	1.62	3.19	1.55	3.38	1.43	4.32	1.48	4.17	1.50	3.99	1.43
68	3.64	1.36	3.45	1.30	3.52	1.28	3.62	1.44	3.84	1.44	3.61	1.36
69	3.08	1.28	3.00	1.23	3.06	1.23	3.00	1.39	2.95	1.34	3.03	1.32
70	3.98	1.25	4.10	1.44	4.20	1.40	2.76	1.48	2.88	1.48	2.78	1.43
71	3.28	1.46	3.25	1.54	3.24	1.53	2.83	1.48	2.93	1.53	2.64	1.42
72	2.78	1.30	2.68	1.34	2.57	1.31	4.32	1.52	4.24	1.58	4.25	1.54

APPENDIX L

Mean Scores and Standard Deviations by Items
Descriptive and Prescriptive CEQ's
Class of 1972 as Sophomores, Juniors, Seniors

Descriptive CEQ

Prescriptive CEQ

Item No.	Sophomores N = 82		Juniors N = 82		Seniors N = 80		Sophomores N = 82		Juniors N = 82		Seniors N = 80	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
1	4.15	1.61	4.20	1.58	3.86	1.62	5.05	1.62	4.70	1.69	4.73	1.72
2	5.16	1.49	5.01	1.64	5.15	1.42	4.02	1.64	4.23	1.67	4.11	1.71
3	4.06	1.59	4.26	1.68	4.60	1.66	3.54	1.56	3.75	1.63	3.94	1.67
4	3.73	1.20	3.84	1.48	3.66	1.40	3.21	1.30	3.37	1.63	3.24	1.57
5	3.39	1.58	3.06	1.47	2.86	1.45	3.98	1.79	3.43	1.66	3.01	1.51
6	3.68	1.49	3.00	1.43	2.55	1.34	3.16	1.54	3.16	1.43	3.20	1.62
7	4.48	1.62	3.43	1.49	3.74	1.46	4.07	1.45	3.68	1.46	3.36	1.43
8	5.05	1.51	4.05	1.52	3.95	1.47	3.90	1.50	3.65	1.51	3.43	1.54
9	4.15	1.49	4.64	1.39	4.51	1.52	4.84	1.54	4.80	1.50	5.19	1.44
10	4.74	1.36	4.46	1.36	4.40	1.48	4.14	1.65	4.19	1.52	4.79	1.35
11	3.54	1.73	4.94	1.53	4.29	1.64	3.95	1.51	4.33	1.61	3.84	1.55
12	3.76	1.63	3.83	1.51	3.91	1.51	4.10	1.57	3.70	1.52	4.03	1.53
13	5.44	1.41	4.59	1.54	4.81	1.76	4.56	1.76	4.04	1.68	4.45	1.53
14	4.65	1.68	5.10	1.65	5.01	1.50	4.59	1.47	5.04	1.74	5.08	1.50
15	4.88	1.32	5.15	1.53	5.18	1.43	4.72	1.52	4.98	1.47	4.98	1.34
16	3.62	1.54	4.70	1.37	4.49	1.52	3.99	1.43	4.25	1.59	4.53	1.41
17	4.43	1.66	4.33	1.49	4.14	1.65	3.84	1.69	3.99	1.61	4.46	1.65
18	5.12	1.35	5.17	1.43	4.91	1.48	4.67	1.63	5.15	1.58	4.88	1.71
19	5.18	1.46	5.57	1.56	5.84	1.46	4.69	1.63	5.11	1.57	5.56	1.52
20	4.11	1.50	4.46	1.30	4.49	1.34	4.09	1.55	4.38	1.40	4.33	1.48
21	4.51	1.34	4.93	1.27	5.10	1.31	4.26	1.67	3.98	1.50	4.21	1.46
22	4.16	1.75	4.69	1.60	4.73	1.73	3.98	1.46	4.11	1.61	3.63	1.58
23	3.70	1.64	3.74	1.47	3.85	1.39	2.99	1.33	3.63	1.44	3.31	1.39
24	3.23	1.43	3.79	1.50	3.60	1.37	3.15	1.46	3.53	1.32	3.36	1.43
25	5.01	1.42	5.03	1.45	5.34	1.40	4.09	1.48	4.05	1.39	4.60	1.53
26	4.72	1.56	4.57	1.53	4.86	1.46	4.26	1.50	4.68	1.57	4.41	1.62
27	2.91	1.39	3.19	1.58	5.01	1.67	3.70	1.38	4.12	1.65	5.30	1.58
28	3.57	1.27	4.02	1.30	3.96	1.36	3.62	1.38	3.43	1.39	3.70	1.28
29	3.60	1.50	3.44	1.40	4.28	1.56	3.25	1.36	3.38	1.25	3.68	1.36
30	3.90	1.57	4.33	1.50	4.34	1.47	4.14	1.48	4.41	1.75	4.81	1.30
31	4.61	1.63	4.69	1.61	4.70	1.56	4.28	1.54	4.77	1.58	4.70	1.43
32	4.43	1.81	4.67	1.78	3.39	1.72	5.07	1.68	4.99	1.59	5.05	1.59
33	2.84	1.32	2.96	1.26	2.46	1.25	4.11	1.60	3.84	1.70	4.56	1.63
34	3.35	1.45	3.51	1.21	3.23	1.41	3.95	1.29	3.69	1.50	3.81	1.16
35	3.39	1.41	3.21	1.28	3.36	1.40	3.68	1.65	3.84	1.37	3.51	1.42
36	3.60	1.60	3.52	1.64	3.84	1.40	4.40	1.51	4.01	1.41	4.04	1.40

APPENDIX L continued

Descriptive CEQ

Prescriptive CEQ

Item No.	Sophomores N = 82		Juniors N = 82		Seniors N = 80		Sophomores N = 82		Juniors N = 82		Seniors N = 80	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
37	3.61	1.34	3.32	1.24	3.28	1.19	3.42	1.35	3.46	1.50	3.76	1.46
38	4.99	1.42	4.89	1.41	4.91	1.24	4.54	1.52	4.36	1.60	4.38	1.35
39	4.59	1.51	4.62	1.38	4.76	1.35	4.54	1.40	4.25	1.32	4.30	1.37
40	3.60	1.37	3.00	1.56	3.13	1.50	4.94	1.28	5.02	1.48	5.06	1.33
41	5.24	1.38	4.84	1.41	4.51	1.42	3.74	1.34	3.48	1.57	3.60	1.50
42	3.76	1.75	3.32	1.25	3.29	1.51	5.06	1.44	4.48	1.40	4.46	1.66
43	3.66	1.48	3.46	1.42	4.18	1.39	4.07	1.57	3.99	1.42	4.14	1.43
44	3.00	1.28	2.74	1.54	3.18	1.51	4.19	1.81	4.25	1.58	3.99	1.46
45	4.78	1.52	4.53	1.52	4.13	1.49	4.26	1.47	4.22	1.59	3.99	1.36
46	3.67	1.53	3.36	1.61	3.28	1.52	3.83	1.65	3.98	1.48	3.79	1.72
47	3.66	1.62	3.33	1.59	3.10	1.37	4.28	1.38	4.07	1.55	4.08	1.45
48	2.99	1.37	2.75	1.37	2.68	1.33	3.28	1.60	2.77	1.65	2.59	1.47
49	4.70	1.61	4.51	1.60	4.03	1.47	5.00	1.33	5.07	1.13	4.33	1.38
50	3.52	1.27	3.73	1.15	3.44	1.46	2.65	1.35	3.05	1.39	2.71	1.31
51	4.52	1.53	4.33	1.34	3.95	1.24	3.80	1.34	3.69	1.37	3.43	1.25
52	3.65	1.45	3.99	1.61	4.16	1.31	3.94	1.46	3.75	1.33	4.23	1.25
53	2.71	1.31	2.79	1.32	2.75	1.33	3.59	1.60	3.59	1.33	3.55	1.49
54	3.23	1.26	2.86	1.26	3.06	1.35	4.23	1.64	4.11	1.54	3.86	1.54
55	4.40	1.42	4.20	1.44	4.03	1.38	4.21	1.50	3.75	1.58	3.86	1.55
56	3.60	1.44	3.75	1.44	3.91	1.54	4.31	1.49	3.98	1.40	4.05	1.41
57	4.12	1.55	4.53	1.56	4.15	1.75	3.74	1.39	3.40	1.43	3.89	1.30
58	3.89	1.35	4.31	1.39	3.86	1.46	3.41	1.42	3.51	1.42	3.20	1.43
59	4.79	1.50	4.80	1.48	4.19	1.67	3.47	1.50	3.68	1.68	3.21	1.51
60	3.89	1.51	4.02	1.41	3.66	1.28	3.75	1.58	3.99	1.54	3.75	1.54
61	4.68	1.36	4.56	1.38	4.56	1.34	4.54	1.34	4.70	1.49	4.46	1.50
62	4.55	1.35	4.80	1.35	4.78	1.16	4.05	1.29	4.26	1.31	4.20	1.32
63	3.48	1.48	3.47	1.53	3.56	1.43	3.63	1.61	3.69	1.47	3.84	1.45
64	3.54	1.58	3.21	1.25	3.35	1.39	3.23	1.48	3.16	1.54	3.15	1.33
65	3.67	1.42	3.36	1.23	3.56	1.24	3.73	1.57	3.72	1.44	3.46	1.64
66	4.11	1.51	3.53	1.61	4.21	1.59	5.75	1.31	5.15	1.58	5.33	1.45
67	3.62	1.74	3.47	1.56	3.60	1.40	4.46	1.45	4.06	1.45	3.89	1.46
68	3.91	1.26	3.57	1.32	3.94	1.23	3.60	1.55	4.04	1.50	3.63	1.33
69	2.90	1.35	3.05	1.21	3.15	1.32	3.19	1.29	2.86	1.31	2.95	1.36
70	4.23	1.19	4.59	1.36	4.36	1.46	2.38	1.51	3.05	1.54	2.58	1.50
71	3.27	1.42	3.63	1.57	3.44	1.67	2.81	1.59	2.90	1.65	2.44	1.41
72	2.68	1.18	2.59	1.17	2.99	1.27	4.40	1.40	4.46	1.46	4.16	1.50

APPENDIX M

Comparative Overview of Demographic Characteristics:
U.S.F. Seniors, Classes of 1965-1972, and
U.P. Seniors, Classes of 1971 and 1972
 (reported in percentages)

Item 5:¹ Age at graduation

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72 ²
20	--	2.8	--	--	1.7	2.9	--	--	--	--
21	45.9	55.6	45.0	44.4	58.3	47.8	50.5	45.0	46.2	47.1
22	40.5	22.2	25.0	37.8	31.7	33.3	26.3	32.5	30.8	41.2
23	2.7	5.6	12.5	4.4	3.3	--	4.2	5.0	15.4	11.8
24	2.7	2.8	2.5	2.2	--	--	2.1	1.3	--	--
25-30	5.5	8.3	10.0	2.2	5.0	10.1	9.5	13.8	--	--
Over 30	2.7	2.8	5.0	8.8	--	5.8	7.4	2.5	7.7	--

Item 8: Citizenship

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
USA	100.0	100.0	100.0	100.0	98.3	98.6	94.7	100.0	100.0	94.1
Other	--	--	--	--	1.7	1.4	5.3	--	--	5.9

Item 9: Ethnic background

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Caucasian	100.0	97.2	95.0	100.0	95.0	91.3	92.6	95.0	84.6	88.2
Mexican-Amer	--	2.8	--	--	1.7	2.9	2.1	1.3	--	5.9
Negro	--	--	--	--	--	--	1.1	1.3	7.7	--
Oriental	--	--	2.5	--	1.7	2.9	3.2	1.3	--	5.9
Other	--	--	2.5	--	1.7	2.9	1.1	1.3	7.7	--

¹Refer to Appendix D for specific item and various categories of responses.

²Maximum N for each senior class:

SF65 = 37 SF67 = 40 SF69 = 60 SF71 = 95 UP71 = 13
 SF66 = 36 SF68 = 45 SF70 = 69 SF72 = 80 UP72 = 17

Percentages not totalling 100 represent non-responses to the item.

APPENDIX H continued

Item 10: Religious affiliation

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Roman Catholic	94.5	85.7	85.0	89.0	91.7	89.9	87.4	90.0	92.3	76.5
Protestant	5.5	14.3	7.5	8.8	8.3	4.3	7.4	6.3	7.7	11.8
Jewish	--	--	--	2.2	--	1.5	--	--	--	--
Other	--	--	7.5	--	--	4.3	5.3	3.8	--	11.8

Item 11: Membership in religious order

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Yes	2.7	2.8	2.5	8.8	3.3	7.4	11.6	7.5	--	--
No	97.3	97.2	97.5	91.2	96.7	92.6	88.4	92.5	100.0	100.0

Item 12: Marital status

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Single	78.4	77.8	82.5	93.3	81.7	74.4	85.2	82.5	92.3	64.7
Married	10.8	19.4	15.0	6.7	18.3	25.6	13.7	17.5	--	35.3
Separated	8.1	2.8	--	--	--	--	--	--	--	--
Divorced	--	--	2.5	--	--	--	1.1	--	7.7	--
Widowed	2.7	--	--	--	--	--	--	--	--	--

Item 13: Number of dependents

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
None	94.6	100.0	95.0	95.5	100.0	94.2	93.7	96.2	92.3	94.1
1	2.7	--	5.0	2.3	--	5.1	4.2	2.5	7.7	5.9
2	2.7	--	--	2.3	--	--	--	--	--	--
3 or More	--	--	--	--	--	1.7	2.1	1.3	--	--

APPENDIX M continued

Item 14: General health

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Excellent	89.2	87.8	85.0	87.8	80.0	79.7	80.0	71.2	53.8	70.6
Good	10.8	22.2	15.0	22.2	18.3	20.3	20.0	28.8	38.5	29.4
Fair	--	--	--	--	1.7	--	--	--	7.7	--

Item 15: Chronic physical condition/disability

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Yes	8.3	2.9	2.5	4.5	8.3	7.4	11.6	6.3	23.1	5.9
No	91.7	97.1	97.5	95.5	91.7	92.6	88.4	93.7	76.9	94.1

Item 16: Fluency in foreign languages

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
None	94.6	86.1	90.0	95.5	94.8	86.6	95.8	81.3	76.9	82.4
Spanish	2.7	11.1	5.0	4.4	3.4	6.0	--	10.0	--	5.9
French	--	--	--	--	--	1.5	--	3.8	15.4	--
German	--	--	2.5	--	--	1.5	2.1	1.3	7.7	5.9
Italian	--	2.8	2.5	--	--	1.5	2.1	2.5	--	--
Chinese	--	--	--	--	--	1.5	--	--	--	--
Portuguese	--	--	--	--	--	--	--	1.3	--	5.9
Other	2.7	--	--	--	1.7	1.5	--	--	--	--

Item 17: Areas of foreign travel

	SF65	SF66	SF68	SF68	SF69	SF70	SF71	SF72	UP71	UP72
None	56.8	44.4	55.0	44.4	36.7	33.8	38.9	42.5	46.2	23.5
Europe	--	5.6	5.0	8.9	5.0	13.2	7.4	8.8	--	--
Latin America	--	--	--	4.4	--	--	1.1	--	--	--
Canada	8.1	11.1	10.0	13.3	20.0	17.6	12.6	11.3	46.2	23.5
Mexico	16.2	22.2	10.0	11.1	13.3	7.4	16.8	16.3	7.7	11.8
Far East	--	--	2.5	--	--	2.9	1.1	--	--	--
Other	18.9	16.7	17.5	17.8	25.0	25.0	22.1	21.3	--	41.1

APPENDIX M continued

Item 18: Father is living

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Yes	81.1	86.1	87.5	93.3	91.7	82.6	89.5	87.5	92.3	94.1
No	18.9	13.9	12.5	6.7	8.3	17.4	10.5	12.5	7.7	5.9

Item 19: Mother is living

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Yes	89.2	100.0	95.0	97.8	95.0	97.1	94.7	97.5	100.0	100.0
No	10.8	--	5.0	2.2	5.0	2.9	5.3	2.5	--	--

Item 20: Parents' marital status

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Married	90.9	96.9	92.5	100.0	94.5	90.5	87.7	89.9	100.0	100.0
Separated	3.0	3.0	7.5	--	--	1.6	4.9	--	--	--
Divorced	6.1	--	--	--	5.5	7.9	7.4	10.1	--	--

Item 21: Number of brothers

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
None	10.8	27.8	37.5	31.1	28.3	30.4	27.4	31.3	38.5	23.5
1	40.5	47.2	42.5	31.1	35.0	33.3	27.4	28.7	23.1	17.7
2	18.9	11.1	7.5	22.2	26.7	20.3	17.9	21.3	7.7	35.3
3	5.4	11.1	2.5	11.1	6.7	10.1	14.7	8.7	7.7	17.7
4	18.9	--	2.5	2.2	3.3	--	7.4	6.3	15.4	5.9
5	5.4	2.8	5.0	2.2	--	5.8	4.2	2.5	--	--
6 or More	--	--	2.5	--	--	--	1.1	1.3	7.7	--

APPENDIX M continued

Item 22: Number of sisters

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
None	51.4	27.8	27.5	26.7	31.7	24.6	20.0	36.3	15.4	11.8
1	21.6	33.3	45.0	35.6	21.7	39.1	35.8	32.5	30.8	41.2
2	13.5	27.8	17.5	31.1	28.3	18.8	23.2	15.0	23.1	29.4
3	10.8	5.6	5.0	--	10.0	11.6	10.5	10.0	30.8	11.8
4	2.7	2.8	2.5	4.4	8.3	4.3	6.3	2.5	--	--
5	--	--	2.5	2.2	--	1.4	1.1	3.8	--	--
6 or More	--	2.8	--	--	--	--	3.2	--	--	5.9

Item 23: Ranking position in age among siblings

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
1st	51.4	50.0	55.0	48.9	43.3	42.0	46.3	45.0	38.5	52.9
2nd	35.1	27.8	32.5	33.3	38.3	29.0	28.4	37.5	30.8	41.2
3rd	8.1	16.7	5.0	4.4	10.0	15.9	15.8	12.5	15.4	--
4th	5.4	5.6	2.5	6.7	6.7	8.7	5.3	5.0	7.7	5.9
5th	--	--	2.5	4.4	1.7	1.4	1.1	--	7.7	--
6th or More	--	--	2.5	2.2	--	2.9	3.2	--	--	--

Item 24: Father's citizenship

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
USA	100.0	100.0	100.0	100.0	96.3	97.1	93.7	98.7	100.0	94.1
Other	--	--	--	--	3.7	2.9	6.3	1.3	--	5.9

Item 25: Mother's citizenship

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
USA	97.3	97.2	100.0	100.0	98.3	97.1	93.7	100.0	100.0	94.1
Other	2.7	2.8	--	--	1.7	2.9	6.3	--	--	5.9

APPENDIX M continued

Item 26: Father's religious affiliation

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Roman Catholic	76.7	66.7	77.5	77.8	66.7	76.8	76.8	82.5	69.2	64.7
Protestant	13.5	19.4	12.5	17.8	21.7	13.0	10.5	13.8	15.4	23.5
Jewish	--	--	--	--	1.7	2.9	--	--	--	--
Other	5.4	2.8	2.5	--	1.7	--	1.1	--	--	--
None	5.4	11.1	7.5	4.4	8.3	7.3	11.6	3.8	15.4	11.8

Item 27: Mother's religious affiliation

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Roman Catholic	89.2	86.1	75.0	88.9	80.0	87.0	88.4	88.8	92.3	76.5
Protestant	10.8	13.9	--	8.9	15.0	8.7	10.5	7.5	7.7	17.6
Jewish	--	--	15.0	--	--	2.9	--	--	--	--
Other	--	--	2.5	2.2	1.7	--	1.1	2.5	--	--
None	--	--	7.5	--	3.4	1.5	--	1.3	--	5.9

Item 28: Highest level of education completed by father

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Elementary	10.8	8.3	10.0	11.1	5.0	11.6	11.6	5.0	7.7	17.6
Junior High	2.7	11.1	5.0	8.9	3.3	8.7	12.6	5.0	7.7	--
Senior High	5.4	36.1	47.5	33.3	38.3	34.8	38.9	35.0	46.2	41.2
Junior College	16.2	11.1	22.5	13.4	8.3	15.9	12.6	15.0	23.1	23.5
College	24.3	25.0	15.0	17.8	31.7	14.5	14.7	22.5	15.4	--
Grad (Masters)	5.4	2.8	--	6.7	5.0	4.3	3.2	7.5	--	5.9
Grad (Doctors)	8.1	2.8	--	4.4	5.0	2.9	4.2	10.0	--	11.8
Post-Graduate	--	2.8	--	4.4	3.3	7.3	2.1	--	--	--

APPENDIX M continued

Item 28a: Educational level of father according to Hollingshead Index¹

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
1	8.6	8.8	--	17.8	15.0	13.2	9.5	16.3	--	17.6
2	25.7	26.5	12.8	17.8	28.3	14.5	13.7	22.5	15.4	--
3	14.3	11.8	20.5	13.4	8.3	18.8	13.7	15.0	23.1	23.5
4	37.1	35.3	51.3	33.3	38.3	33.3	38.9	35.0	46.2	41.2
5	--	--	--	--	1.7	--	--	--	--	--
6	2.9	11.8	5.1	6.7	3.3	8.7	11.6	6.3	7.7	--
7	11.4	5.9	10.3	11.1	5.0	11.6	12.6	5.0	7.7	17.6

Item 29: Highest level of education completed by mother

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Elementary	8.1	--	5.0	2.2	--	4.3	8.4	5.0	--	11.8
Junior High	2.7	--	--	4.4	1.7	5.8	10.5	5.0	15.4	--
Senior High	45.9	72.2	62.5	55.6	43.3	46.4	47.4	35.0	30.8	41.2
Junior College	18.9	11.1	30.0	11.1	28.3	24.7	23.2	33.8	38.5	35.3
College	18.9	8.3	2.5	22.2	26.7	8.7	8.4	17.5	7.7	11.8
Grad (Masters)	2.7	8.3	--	2.2	--	1.5	--	2.5	7.7	--
Grad (Doctors)	--	--	--	--	--	--	2.1	1.3	--	--
Post-Graduate	2.7	--	--	2.2	--	8.7	--	--	--	--

¹The numbers refer to the following educational levels:

1. graduate professional training
2. standard college or university
3. partial college
4. high school
5. partial high school
6. junior high school
7. less than seven years of school

APPENDIX M continued

Item 30: Occupational level of father according to Hollingshead Index¹

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
1	42.9	23.5	20.5	33.3	41.7	20.3	22.1	15.0	15.4	17.6
2	25.7	17.7	18.0	11.1	16.7	34.8	27.4	30.0	7.7	11.8
3	8.6	17.7	12.8	17.8	13.3	24.6	22.1	20.0	30.8	35.3
4	20.0	29.4	30.8	20.0	18.3	5.8	13.7	12.5	15.4	29.4
5	--	5.9	15.4	15.6	5.0	10.1	5.3	12.5	23.1	5.9
6	2.9	5.9	2.6	2.2	1.7	2.9	6.3	7.5	--	--
7	--	--	--	--	3.3	1.5	3.2	2.5	7.7	--

Item 30a: Social position score according to Hollingshead Index²

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
I	22.9	17.7	7.7	26.7	31.7	17.4	10.5	15.0	15.4	17.6
II	31.4	14.7	18.0	17.8	21.7	17.4	14.7	21.3	7.7	5.9
III	22.9	38.2	25.6	17.8	25.0	33.3	33.7	32.5	38.5	47.1
IV	20.0	23.5	48.7	31.1	16.7	23.2	31.6	26.3	23.1	29.4
V	2.9	5.9	--	6.7	5.0	8.7	9.5	5.0	15.4	--

Item 32: Father presently employed in stated occupation

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Yes	82.9	83.3	89.2	88.1	89.2	80.3	77.9	78.7	76.9	88.2
No	17.1	16.7	10.8	11.9	10.8	19.7	22.1	21.3	23.1	11.8

¹The numbers refer to the following occupational levels:

1. higher executives, major professionals
2. business managers, lesser professionals
3. administrators, independent businesses
4. clerical, small business, technicians
5. skilled manual
6. machine operators, semi-skilled
7. unskilled

²Social index is a composite of two factors, occupation and education, and is determined by using the formula and scale values developed by A.B. Hollingshead (Yale University, 1957). Class I includes persons who had lengthy educational preparation and are in occupations assumed to be most complex. Class V includes those who had minimal education and hold least complex jobs.

APPENDIX M continued

Item 33: Mother presently employed in stated occupation

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Yes	88.6	91.4	86.5	78.6	57.6	85.3	87.2	91.2	92.3	88.2
No	11.4	8.6	13.5	21.4	42.4	14.7	12.8	8.8	7.7	11.8

Item 34: Father employed in health-related occupation

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Yes	10.8	8.3	--	13.4	8.3	7.3	6.3	8.8	--	17.6
No	89.2	91.7	100.0	86.6	91.7	92.7	93.7	91.2	100.0	82.4

Item 35: Mother employed in health-related occupation

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Yes	27.0	16.7	30.0	22.2	33.3	30.4	18.9	28.8	38.5	29.4
No	73.0	83.3	70.0	77.8	66.7	69.6	81.1	71.2	61.5	70.6

Item 36: Decision to attend college supported by parents

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Yes	97.3	100.0	100.0	100.0	100.0	97.1	97.9	98.7	100.0	100.0
No	2.7	--	--	--	--	2.9	2.1	1.3	--	--

Item 37: Decision to study nursing supported by parents

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Yes	97.3	100.0	100.0	95.5	98.3	95.7	95.7	98.7	100.0	100.0
No	2.7	--	--	4.5	1.7	4.3	4.3	1.3	--	--

APPENDIX M continued

Item 38: Type of high school from which graduated

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Public	37.8	41.7	40.0	33.3	35.0	29.0	30.5	21.3	61.5	47.1
Private (ND)	2.7	--	--	--	--	--	1.1	2.5	--	5.9
Private (RC)	59.5	58.3	60.0	66.7	65.0	71.0	68.4	76.3	38.5	47.1

Item 39: Graduate of a co-educational high school

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Yes	64.9	55.6	65.0	51.1	53.3	56.5	46.3	37.5	69.2	88.2
No	35.1	44.4	35.0	48.9	46.7	43.5	53.7	62.5	30.8	11.8

Item 40: Number of students in high school

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Less than 500	33.3	37.1	37.5	26.7	30.0	26.1	36.8	43.8	30.8	35.3
500-1000	33.3	31.4	27.5	44.4	26.7	43.5	35.8	33.8	38.5	11.8
1000-2000	13.9	14.3	12.5	20.0	20.0	15.9	13.7	10.0	15.4	29.4
2000-3000	16.7	17.1	17.5	8.9	18.3	7.3	8.4	2.5	15.4	11.8
Over 3000	2.8	--	5.0	--	5.0	7.3	5.3	10.0	--	11.8

Item 41: Location of high school

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Metropolitan	37.8	27.8	30.0	28.9	21.7	21.7	35.8	33.7	15.4	11.8
Suburban	27.0	22.2	12.5	15.6	35.0	26.1	15.8	21.3	7.7	11.8
Large Urban	10.8	13.9	20.0	20.0	15.0	20.3	9.5	16.3	15.4	5.9
Small Urban	10.8	25.0	22.5	26.7	26.7	26.1	29.5	22.5	23.1	41.2
Rural	13.5	11.1	15.0	8.9	1.7	5.8	9.5	6.3	38.5	29.4

APPENDIX M continued

Item 42: Number of extracurricular activities during high school

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
None	2.7	--	5.0	--	1.7	2.9	3.2	--	--	--
1	2.7	5.6	7.5	20.0	8.3	5.8	11.6	8.8	--	23.5
2	21.6	16.7	20.0	15.6	25.0	17.4	20.0	25.0	23.1	11.8
3	18.9	25.0	22.5	33.3	25.0	29.0	18.9	26.3	15.4	29.4
4	37.8	30.6	15.0	20.0	20.0	27.5	25.3	17.5	30.8	11.8
5	10.8	13.9	20.0	6.7	13.3	13.0	15.8	15.0	30.8	17.6
More than 5	5.4	8.3	10.0	4.4	6.7	4.3	5.3	7.5	--	5.9

Item 43: Number of leadership positions held during high school

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
None	16.2	25.0	20.0	15.6	25.0	14.5	13.7	28.8	7.7	29.4
1	18.9	13.9	27.5	35.6	23.3	27.5	28.4	23.8	30.8	17.6
2	21.6	27.8	22.5	26.7	21.7	33.3	28.4	22.5	23.1	29.4
3	27.0	22.2	12.5	8.9	18.3	14.5	15.8	12.5	23.1	23.5
4	10.8	8.3	5.0	13.3	6.7	5.8	7.4	8.7	7.7	--
5	2.7	2.8	10.0	--	1.7	4.3	4.2	3.8	7.7	--
More than 5	2.7	--	2.5	--	3.4	--	2.1	--	--	--

Item 44: Number of academic/citizenship honors received in high school

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
None	16.2	11.1	7.5	6.7	5.0	4.3	15.8	17.5	30.8	23.5
1	27.0	25.0	25.0	20.0	30.0	29.0	24.2	21.3	7.7	23.5
2	21.6	25.0	35.0	35.6	31.7	26.1	36.8	30.0	30.8	29.4
3	13.5	19.4	15.0	26.7	23.3	30.4	10.5	11.3	15.4	5.9
4	10.8	16.7	15.0	2.2	6.7	5.8	10.5	17.5	7.7	17.6
5	10.8	2.8	2.5	6.7	3.3	2.9	1.1	2.5	7.7	--
More than 5	--	--	--	2.2	--	1.4	1.1	--	--	--

APPENDIX M continued

Item 45: Number of special instructional programs participated in during high school

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
None	45.9	30.6	40.0	40.0	41.7	36.2	29.5	45.0	69.3	35.2
1	40.5	38.9	35.0	35.6	35.0	44.9	49.5	36.3	23.1	47.0
2	10.8	27.8	25.0	22.2	18.3	18.8	16.8	12.5	7.7	11.8
3	--	--	--	2.2	3.3	--	3.2	6.3	--	5.9
4	2.7	2.8	--	--	1.7	--	1.1	--	--	--

Item 46: Number of voluntary community activities participated in during high school

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
None	13.5	25.0	25.0	26.7	11.7	14.5	16.8	11.3	30.8	41.2
1	48.6	58.3	37.5	46.7	51.7	42.0	51.6	37.5	53.8	41.2
2	21.6	8.3	30.0	13.3	28.3	26.1	17.8	37.5	7.7	--
3	13.5	8.3	7.5	11.1	6.7	14.5	10.5	10.0	7.7	11.8
4 or more	2.7	--	--	2.2	1.7	2.9	3.2	3.8	--	5.9

Item 47: Number of leadership positions in community activities while in high school

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
None	54.0	55.6	52.5	57.8	60.0	58.0	63.1	62.5	77.0	70.6
1	32.4	36.1	45.0	42.2	35.0	39.1	30.6	37.5	15.4	29.4
2	13.5	8.3	2.5	--	3.4	1.4	5.3	--	7.7	--
3	--	--	--	--	1.7	1.4	1.1	--	--	--

Item 48: Number of various reasons contributing to decision to attend this university

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
1	18.9	22.2	12.5	11.1	30.0	26.1	28.4	36.3	23.1	29.4
2	37.8	33.3	35.0	35.6	41.7	30.4	32.6	27.5	23.1	41.2
3	24.3	30.6	40.0	33.3	23.3	36.2	23.1	27.5	38.5	17.6
4	10.8	13.9	12.5	20.0	3.4	7.3	11.6	7.5	15.4	5.9
5 or more	8.1	--	--	--	1.7	--	4.2	1.3	--	5.9

APPENDIX M continued

Item 49: Possess registration as professional nurse prior to enrolling in this university

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Yes	10.8	8.3	17.5	11.1	1.7	10.1	12.6	7.5	--	--
No	89.2	91.7	82.5	88.9	98.3	89.9	87.4	92.5	100.0	100.0

Item 50: Registered nurses who practiced professional nursing before entering this university

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Yes	13.5	11.1	20.0	13.3	8.3	14.5	17.8	11.3	15.4	5.9
No	86.5	88.9	80.0	86.7	91.7	85.5	82.2	88.7	84.6	94.1

Item 51: Non-nursing work experience before entering this university

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Yes	8.1	11.1	10.0	--	6.7	11.6	16.8	11.3	7.7	11.8
No	91.9	88.9	90.0	100.0	93.3	88.4	83.2	88.7	92.3	88.2

Item 52: Transferred to this university from another institution

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Yes	10.8	5.6	10.0	11.1	8.3	13.0	18.9	22.5	7.7	5.9
No	89.2	94.4	90.0	88.9	91.7	87.0	81.1	77.5	92.3	94.1

Item 53: Transferred to nursing major from another discipline

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Yes	--	5.6	5.0	4.4	8.3	10.1	8.4	16.3	15.4	5.9
No	100.0	94.4	95.0	95.6	91.7	89.9	91.6	83.7	84.6	94.1

APPENDIX M continued

Item 54: Number of years between initial enrollment at university and year of graduation

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
2	8.1	2.8	12.5	8.9	--	--	2.1	2.5	--	--
3	13.5	11.1	5.0	8.9	5.0	15.9	20.0	16.3	7.7	--
4	75.7	80.6	70.0	75.6	90.0	75.4	68.4	70.0	69.2	76.5
5	2.7	5.6	12.5	4.4	3.4	8.7	7.4	10.0	23.1	23.5
6 or more	--	--	--	2.2	1.7	--	2.1	1.3	--	--

Item 55: omitted

Item 56: Number of various forms of financial aid received while in university

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
None	29.7	44.4	27.5	35.6	45.0	37.7	29.5	28.8	15.4	35.2
1	29.7	27.8	40.0	28.9	33.3	27.5	42.1	32.5	30.8	5.9
2	32.4	16.7	20.0	20.0	15.0	24.6	9.5	25.0	--	11.8
3	8.1	11.1	5.0	13.3	3.3	7.3	12.6	11.3	7.7	23.5
4	--	--	5.0	2.2	3.3	1.4	3.2	2.5	38.5	11.8
5 or more	--	--	2.5	--	--	1.4	3.2	--	7.7	11.8

Item 57: Number of semesters received financial aid

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
None	32.4	44.4	30.0	35.6	45.0	39.1	28.4	30.0	53.8	70.6
1	2.7	2.8	2.5	4.4	6.7	1.4	8.4	3.7	--	--
2	16.2	8.3	17.5	8.9	1.7	1.4	12.6	7.5	7.7	5.9
3	2.7	2.8	7.5	6.7	1.7	10.1	5.3	1.3	--	--
4	2.7	11.1	15.0	6.7	8.3	8.7	0.4	5.0	15.4	--
5	5.4	--	--	2.2	--	2.9	1.1	--	--	--
6	13.5	8.3	--	4.4	8.3	11.6	7.4	13.8	23.1	5.9
7	2.7	2.8	5.0	4.4	3.3	1.4	3.2	--	--	11.8
8	21.6	19.4	22.5	26.7	25.0	23.3	25.3	38.8	--	5.9

APPENDIX M continued

Item 58: Number of semesters employed part-time

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
None	48.6	61.1	57.5	57.8	46.7	20.3	21.1	40.0	23.1	29.4
1	13.5	11.1	7.5	11.1	8.3	10.1	7.4	6.3	7.7	17.6
2	2.7	8.3	15.0	2.2	15.0	18.8	13.7	12.5	23.1	5.9
3	13.5	5.6	2.5	6.7	5.0	8.7	7.4	8.7	7.7	5.9
4	10.8	2.8	7.5	4.4	10.0	13.0	16.8	10.0	7.7	17.6
5	2.7	2.8	--	4.4	3.3	2.9	5.3	7.5	7.7	5.9
6	2.7	--	2.5	6.7	6.7	17.4	14.7	10.0	7.7	11.8
7	--	5.6	--	--	1.7	2.9	2.1	--	--	--
8	5.4	2.8	7.5	6.7	3.3	5.8	11.6	5.0	15.4	5.9

Item 59: Number of hours worked per week while in university

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
None	59.5	63.8	60.0	57.8	50.0	23.3	21.1	26.3	15.4	29.4
1- 4	8.1	--	2.5	2.2	5.0	5.8	2.1	3.7	7.7	--
5- 6	--	2.8	--	6.7	--	4.3	1.1	--	--	--
7- 8	5.4	11.1	15.0	13.3	8.3	26.1	15.8	10.0	15.4	--
9-10	2.7	2.8	5.0	6.7	1.7	8.7	7.4	7.5	7.7	29.4
11-12	2.7	5.6	5.0	2.2	6.7	4.3	3.2	16.3	--	--
13-16	13.5	2.8	2.5	8.9	20.0	14.5	25.2	20.0	23.1	23.5
17-20	2.7	5.6	2.5	2.2	6.7	10.1	12.6	12.5	23.1	17.6
21-24	5.4	2.8	2.5	--	--	1.4	2.1	3.7	7.7	--
25-30	--	--	2.5	--	1.7	1.4	4.2	--	--	--
31-32	--	2.8	2.5	--	--	--	--	--	--	--
33-36	--	--	--	--	--	--	1.1	--	--	--
37-40	--	--	--	--	--	--	4.2	--	--	--

APPENDIX M continued

Item 60: Number of unit credit hours averaged per semester

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
8-10	2.7	--	--	--	--	--	2.1	--	--	--
11	--	--	--	--	--	--	--	1.3	--	--
12	--	2.8	--	--	--	5.8	4.2	5.0	--	--
13	--	--	--	2.2	--	5.8	3.2	8.7	--	--
14	--	--	2.5	6.7	6.7	1.4	5.3	2.5	--	--
15	13.5	11.1	17.5	4.4	10.0	4.3	21.1	20.0	23.1	41.2
16	24.3	25.0	25.0	40.0	60.0	47.9	46.3	26.3	7.7	11.8
17	18.9	25.0	30.0	22.2	13.3	33.3	9.5	26.3	38.5	11.8
18	37.8	36.1	22.5	24.5	10.0	1.4	8.4	10.0	30.8	29.4
19	--	--	2.5	--	--	--	--	--	--	5.9
20	2.7	--	--	--	--	--	--	--	--	--

Item 61: omitted

Item 62: Roomed with other nursing students while in university

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Yes	88.2	79.4	76.9	74.4	74.1	67.7	63.4	71.3	69.2	82.4
No	11.8	20.6	23.1	25.6	25.9	32.3	36.6	28.7	30.8	17.6

Item 63: Number of types of extracurricular activities participated in while at university

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
None	16.2	19.4	22.5	20.0	25.0	26.1	34.7	22.5	23.1	47.0
1	13.5	13.9	22.5	33.3	25.0	30.4	32.6	37.5	23.1	17.6
2	13.5	30.6	32.5	28.9	30.0	30.4	21.1	27.5	38.5	23.5
3	37.8	25.0	17.5	15.6	16.7	8.7	6.4	10.0	--	5.9
4	13.5	11.1	5.0	2.2	1.7	4.3	4.2	1.3	7.7	5.9
5 or more	5.4	--	--	--	1.7	--	1.1	1.3	7.7	--

APPENDIX M continued

Item 64: Number of university leadership positions held while enrolled in college

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
None	48.6	63.9	67.5	73.3	63.3	56.5	71.6	63.8	46.2	52.9
1	32.4	22.2	22.5	22.2	26.7	31.9	21.1	28.7	30.8	23.5
2	16.2	11.1	7.5	4.4	1.7	10.1	4.2	6.3	23.1	11.8
3	2.7	2.8	--	--	1.7	1.4	2.1	1.3	--	11.8
4	--	--	2.5	--	1.7	--	1.1	--	--	--

Item 65: Number of academic/citizenship awards received while enrolled in this university

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
None	37.8	38.9	37.5	15.6	36.7	37.7	49.5	63.8	53.8	23.5
1	35.1	47.2	47.5	66.7	31.7	39.1	37.9	22.5	30.8	41.2
2	18.9	11.1	10.0	8.9	30.0	17.4	6.3	5.0	15.4	35.2
3	8.1	2.8	5.0	8.9	1.7	4.3	3.2	5.0	--	--
4	--	--	--	--	--	1.4	3.2	3.8	--	--

Item 66: Number of types of voluntary community service activities participated in while in this university

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
None	56.8	66.7	52.5	66.7	65.0	47.8	60.0	50.0	38.5	52.9
1	32.4	27.8	32.5	22.2	21.7	40.6	31.6	36.3	46.2	17.7
2	10.8	5.6	10.0	8.9	8.3	8.7	6.3	11.3	15.4	17.7
3	--	--	2.5	2.2	1.7	2.9	2.1	2.5	--	5.8
4	--	--	2.5	--	3.4	--	--	--	--	5.8

Item 67: Plan to practice nursing immediately after graduation

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Yes	94.6	86.1	95.0	86.7	90.0	72.5	86.3	92.5	76.9	94.1
No	5.4	13.9	5.0	13.3	10.0	27.5	13.7	7.5	23.1	5.9

APPENDIX M continued

Item 68: General area of practice intended for first professional position

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Medical-Surgical	69.7	52.9	50.0	55.0	54.5	28.6	51.1	52.6	38.5	37.5
Psych/Mental Hlth	--	14.7	13.2	7.5	5.5	23.8	9.8	1.3	15.4	6.2
Geriatrics	--	--	--	2.5	--	--	1.1	1.3	--	--
Maternal/Child	18.2	11.8	23.7	20.0	21.8	20.6	17.4	20.5	15.4	18.8
Community Hlth	6.1	11.8	7.9	15.0	10.9	15.9	12.0	2.6	7.7	12.5
Other	3.0	8.8	5.3	--	7.3	9.5	6.5	5.1	23.1	6.2
Undecided	3.0	--	--	--	--	1.6	2.1	16.7	--	18.8

Item 69: Type of setting intended for first professional position

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Public Hlth	8.6	11.4	7.9	10.0	11.5	21.0	14.1	6.4	7.7	18.8
Nursing Home	--	2.9	5.3	--	--	--	--	--	--	--
Hospital	71.4	68.6	71.1	62.5	80.8	53.2	71.7	80.8	69.2	62.5
Military	17.1	17.1	10.5	17.5	7.7	14.5	8.7	7.7	23.1	18.8
Industrial	2.9	--	2.6	--	--	1.6	--	1.3	--	--
World Hlth	--	--	--	2.5	--	1.6	--	1.3	--	--
M.D.'s Office	--	--	--	--	--	1.6	--	--	--	--
Rehabilitation	--	--	--	2.5	--	3.2	--	--	--	--
Other	--	--	2.6	5.0	--	3.2	5.4	2.6	--	--

Item 70: Plans to teach and/or supervise nursing practice

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
School of Nsg	100.0	--	16.7	25.0	33.3	42.9	37.5	33.3	--	--
Inservice	--	100.0	16.7	--	--	28.6	18.8	33.3	66.7	--
N.E. Admin	--	--	--	--	16.7	--	--	--	--	--
N.S. Admin	--	--	66.7	25.0	50.0	28.6	25.0	33.3	--	100.0
Other	--	--	--	50.0	--	--	18.8	--	33.3	--

APPENDIX M continued

Item 71: Plans for further education

	SF65	SF66	SF67	SF68	SF69	SF70	SF71	SF72	UP71	UP72
Continuing Educ	12.5	33.3	38.5	8.7	38.1	22.2	24.1	40.0	--	71.4
Grad Prog Nsg	62.5	41.7	38.5	82.6	47.6	66.7	62.1	50.0	87.5	28.6
Grad Prog Other	12.5	8.3	7.7	4.3	--	3.7	3.4	--	12.5	--
Other	12.5	16.7	15.4	4.3	14.3	7.4	10.3	10.0	--	--

Item 72: omitted