THE DEVELOPMENT OF AN EVALUATION Q-SORT:

A STUDY OF NURSING INSTRUCTORS

by

MARGARET S. NEYLAN
B.N., McGill University, 1957

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Department of Education

The University of British Columbia
Vancouver 8, Canada

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ABSTRACT

The purpose of this study was to develop an Evaluation Q-Sort and to test it by measuring the perceptions held by nursing instructors of the relative importance of five functions and effects of evaluation. The functions and effects identified for study were: the measurement of student achievement, the measurement of student progress, psychological effects of evaluation, the influence of evaluation on teaching, and the influence of evaluation on administration. An Evaluation Q-Sort was developed and used to measure the perceptions of evaluation held by the 111 nursing instructors in the six professional nursing schools in the Lower Mainland and Vancouver Island areas of the Province of British Columbia. The population was divided into ten classifications according to various criteria related to role, experience, preparation, and instructional setting. The central hypothesis assumed that the group of instructors as a whole would not assign greater importance to anyone of the five functions and effects of evaluation. The nine sub-hypotheses assumed that the perceptions of evaluation held by nursing instructors would not be influenced by the variables selected for study. The .05 level of significance was used in the study.

The results indicated that the nursing instructors did ascribe significantly different degrees of importance to the five functions and effects of evaluation. Measurement of student achievement was ascribed least importance and measurement

of student progress was ascribed most importance among the functions and effects studied. In addition, differences were found with respect to the nature of the instructors' responsibilities, the type of school in which she taught, and her stated level of satisfaction with preparation as an evaluator. No differences were found with respect to length of experience in nursing service or education, preparation as an instructor, course in tests and measurements, instructional focus, and instructional setting.

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CHAPTER I

PRESENTATION OF THE PROBLEM

The evaluation of students has been considered a problem in nursing education from the beginning. In nursing, evaluation is largely a matter of assessing the performance of learned nursing skills and this has been recognized by educators as the difficult aspect of evaluation in which to develop reliable and valid measuring instruments. Some of the difficulty encountered in nursing with the evaluation of performance can be traced to early schools of nursing where a student was regarded more as a worker than as a learner. Since then, however, learning has become increasingly important, consequently, interest in evaluation has also increased.

Evaluation is an important aspect of the educational process and may be used for a variety of purposes such as measuring achievement, motivating learning, and assessing instructional or administrative practices. Nursing schools have tended to focus on the traditional instruments of measurement such as rating scales, check lists and anecdotal notes, among others. Nursing instructors, however, receive little training in evaluation.

Statement of the Problem

Since nursing instructors receive little training in evaluation, it is presumed that their perception of the functions

of evaluation will be influenced by their experience both in nursing itself and in the instruction of nursing students. In order to assess the perception of the functions and effects of evaluation in nursing education held by nursing instructors an Evaluation Q-Sort was constructed and applied to a group of nursing instructors.

Hypothesis

The central hypothesis of this study is:

Nursing instructors do not assign greater importance to any one of the functions or effects of evaluation identified in an Evaluation Q-sort.

There were a number of sub-hypotheses developed and tested in order to examine the influence of various aspects of experience and role upon the Evaluation Q-sorts of nursing instructors. These are as follows:

1. The Q-sorts of nursing instructors are not influenced by length of experience in nursing service.
2. The Q-sorts of nursing instructors are not influenced by length of experience in nursing education.
3. The Q-sorts of nursing instructors are not influenced by type of preparation as an instructor.
4. The Q-sorts of nursing instructors are not influenced by the nature of their responsibilities.
5. The Q-sorts of nursing instructors are not influenced by the nature of the instructional setting.

6. The Q-sorts of nursing instructors are not influenced by their instructional focus.

7. The Q-sorts of nursing instructors are not influenced by the type of school in which they teach.

8. The Q-sorts of nursing instructors are not influenced by a course in tests and measurements.

9. The Q-sorts of nursing instructors are not influenced by degree of satisfaction with preparation as evaluators.

Significance of the Study

The Royal Commission on Health Services in Canada (79) recommended extended and improved nursing services. In order to implement this recommendation it will be necessary to increase the number of nurses trained and to improve the nature and quality of the training provided. This is being brought about by the gradual movement away from the earlier apprenticeship concept of nursing training to an educational approach in which emphasis is placed equally upon learning and performance. At the heart of nursing education and of crucial concern to the nursing profession is the problem of the evaluation of both nursing education and nursing service. In order to improve evaluation in nursing it is necessary to know the way in which nursing instructors perceive of evaluation, therefore, this study is directed to an assessment of the perceptions of the effects and functions of evaluation held by nursing instructors as measured by an Evaluation Q-Sort. Furthermore, the Evaluation Q-Sort which is developed

for this study will provide a tool which can be used with other populations elsewhere in assessing perceptions of evaluators.

Definition of Terms

A number of terms are used here in a specific sense. These terms are defined as follows:

Perception, this term is used in the same way as it is defined by Morgan (69:160) to denote "....awareness of ourselves and of objects, qualities and relationships in our environment."

Evaluation, this term is used to denote "....the process of ascertaining or judging the value or amount of something by careful appraisal" as defined by Good (44:209).

CHAPTER II

REVIEW OF THE LITERATURE

There is a rather considerable body of material related to evaluation in nursing education but very little of it represents any substantial research. Furthermore, there is material related to the use of the Q-Sort technique in similar or related studies. Both of these categories of research literature are reviewed below.

Literature about Evaluation in Nursing

There has been no substantial review of research related specifically to evaluation in nursing education or service although a recent survey of research in nursing by Simmons and Henderson (83: 376-389) included a brief summary of research related to evaluation. Tschudin (92) summarized much of the current thinking in respect to evaluation in nursing education. For the most part the literature on evaluation has centered about instruments for measuring performance in nursing situations. Among the many reports of research related to instruments designed to measure learning and performance in clinical situations are those by Abhold (1), Boozer, (7), Brester (11), Field (33), Flanagan (34), Fletcher (35), Gerchberg (40), Heter (52), Hoffman (56), Meyer (67), Noll (74), and Small (84).

Lucas (64) investigated reactions of student nurses to the evaluation of their performance in clinical practice.

She investigated attitudes at six month intervals and detected a developmental sequence of attitudes towards evaluation. Initially there was an unemotional acceptance of evaluation as an integral part of learning but this was superseded by an interval during which attitudes were mixed. At this time the students questioned the validity of evaluation and the competence of the evaluator. Six months later the students were guarded in the expression of more diffuse attitudes. At the next interval the students were vocal in expressing their opinions of evaluation and a small number found evaluation helpful, some found it painful while the large majority were critical. Students listed evaluation as being worthless, meaningless or inaccurate. At the final measurement some students were sympathetically aware of the problems of evaluation, some were critical but the larger group expressed indifference. Lucas did not examine the variables related to this sequential development of attitudes, however, she did note instructors' comments as to the function of evaluation. Instructors noted that they used evaluation to motivate, to punish, to reward, to measure achievement, or to indicate progress. Any possible relationships between an instructor's perception and use of evaluation, and the development of student attitudes was not examined further by Lucas.

A study by Howard and Berkowitz (58) investigated the

reactions of non-nursing students towards those who evaluated their performance of a task in a laboratory setting, however, the attitude of the evaluators was not studied. Rines (77:19) study of the beliefs and practices in respect to evaluation held by junior college nursing instructors summarized the functions of evaluation as follows:

1. Determining the progress a student is making towards achieving the goals of the program.
2. Helping the individual student maintain strengths and eliminate weaknesses.
3. Helping the teacher improve her teaching.
4. Determining the worth of the undertaking in general.
5. Clarifying and defining educational objectives.
6. Developing more reliable instruments for evaluation.
7. Motivating the student.
8. Providing psychological security for the students, staff and community.
9. Providing certification to meet legal requirements.

Rines noted that instructors use evaluation for different functions or combination of functions so that as students progress from one learning experience to another they may be evaluated by instructors who use evaluation for different functions. A lack of common understanding between the student and the instructor may give rise to some of the negative and indifferent feelings which come to be associated with evaluation as indicated above in the Lucas study.

In the area of nursing service, as in nursing education, evaluation has been of concern both in measuring personnel

performances and in assessing patients'responses to nursing care. In a study measuring staff nursing performance, Gorham (46) noted that nurses dislike evaluating staff nurses and that staff nurses resent the comments and criticisms. In a similar study Rosen (78:82) noted, "There seems to be a pervasive impression among supervisory personnel that the evaluation and counselling procedure is a forbidding or repulsive task, rather than one which is apt to promote growth and insight on the part of staff nurses and better understanding of their needs, strengths and deficiencies by supervision".

A number of writers have attempted to replace these negative attitudes towards evaluation by creating the concept that evaluation is a positive, helpful process enhancing growth and confidence in the professional nurse and assuring patients of competent nursing care. Tate (89:36) summarized this trend in this way.

> "It is only in the past ten years that the majority of nurses have come to realize that our methods (of evaluation) are antiquated and should be replaced by more reliable ones....Today evaluation of nursing practice is the major delemma faced by those who are experimenting with what they consider new and better methods of nursing practice."

Within the various clinical areas of practice, efforts have been made to study and improve the ways in which performance is evaluated. Butler (14), Chernushin (19), and Schultz (80) are representative of such writers within psychiatric nursing. In these studies consideration was given

to the nature of evaluation and various measurement tools were developed and tested, however, the perceptions of those participating in the evaluation process were not examined.

Freeman (37) has summarized the trends in thinking about evaluation in public health practice. Hansen (49), Shyen (82), and Glaser (43) reported upon various extensive research studies attempting to develop specific, reliable instruments to measure performance in public health nursing. Within the content of general hospitals research has focussed upon the staff nurse and has dealt either with the philosophy of evaluation or it has discussed a specific evaluative instrument. Included in this group of writers are Malaspina (65), Church (20), Gilchrist (42), Woodworth (101), and Cochran (21). A study by Medaris (66) concerned the evaluation of the nursing supervisor. Tate (90) studied the performance of the staff nurse and Ellsworth (32) studied the nursing aide. Research studies in this area of practice were summarized by Tate (73) in a publication issued by the National League for Nursing.

This review of literature on evaluation in nursing education and service found a considerable volume of material on the nature, philosophy, and goals of evaluation in addition to a number of studies devoted to tool development. Some of these represented the results of research by students while others were extensive research endeavors directed by

experienced researchers, however, little attention has been directed to the study of the perception of evaluation held by instructors.

Literature About the Q-Sort Technique

The Q-Sort technique of psychological measurement had its origin in Q-methodology as developed by Stephenson (86). He used Q-methodology to derive hypotheses from theory and Q-technique to test such hypotheses. Reactions to Stephenson's work have varied. Butler and Fisk (15) believed that this approach was a major contribution to assessment, Cronbach and Glaser (26) have expressed cautions optimism, while Cattell (17) has been critical. Cronbach (24: 378-9) cited certain advantages of the Q-sort as a data gathering device.

> " In the Q-sort we have a variant of the forced choice procedure which has so many psychometric advantages. For one thing, this method of interrogation is much more penetrating than the common questionnaire where the person can say "Yes" to all the favorable symptoms and "No" to all the unfavorable ones. The method is free from these idiosyncracies of response which cause some persons to respond "cannot say" twice as often as others, and so make their scores noncomparable. The forced choice requires every person to put himself on the measuring scale in much the same manner. Since more statements are placed in the middle pile the subject is freed from many difficult and rather unimportant discriminations he would have to make if he were forced to rank every statement. And the fact that discrimination near the center of the scale is difficult, is reduced by the fact that in product-moment correlations the end cells received greatest weight."

Acceptance of the Q-sort as a psychological measuring device in the health professions was hastened by its use by Rogers as reported by Mowrer (71) for assessing perceptions of changes in persons undergoing psychotherapy. Whiting (96) used the Q-sort to assess the perceptions of the functions of nurses held by doctors and nurses. He stated that one of the central problems for which the Q-sort is suitable to collect data is "the problem of correlation or degree of similarity, between different individuals or different groups' attitudes, expectations or opinions at a given time." (97:71). Whiting stressed the importance of careful preparation of items as "careless item writing will confront a subject with logically meaningless choices." (97:73). Whiting modified the actual sort from a one to four step method to reduce difficulties in ranking a large number of items.

Gorham (47) and Butler (13) used Q-sorts to study attitudes in psychiatric nursing. Draper (28), Bower (9), Oldridge (76) and Dunlap (30) used this technique to measure attitudinal change as a result of an educational experience while Tyler (94) and Kerlinger (61) used Q-sorts to investigate concepts in the field of education.

CHAPTER III

RESEARCH PROCEDURES

The purpose of this study is to measure the perceptions of the functions and effects of evaluation in nursing education held by nursing instructors. The population studied consisted of the nursing instructors located in professional schools of nursing in the Lower Mainland and Vancouver Island areas of the Province of British Columbia. The data were collected by interviews with 105 of the 111 instructors identified using an Evaluation Q-Sort. The data were then analyzed with respect to certain characteristics of the population.

Development of the Evaluation Q-Sort

The Evaluation Q-Sort consists of 56 statements about the effects and the functions of evaluation. The subject was required to rank these items in a forced choice normal distribution pattern according to the importance which was ascribed to each statement.

Item Selection

Items were obtained from books and articles in professional journals as well as published and unpublished studies relating to evaluation in both nursing and education. Each item was a simple declarative statement beginning with "Evaluation" as the subject of the sentence followed by a

verb denoting a function or effect of evaluation[1]. This method of item preparation followed the pattern established by Whiting (96:24). The resultant list of 164 items represented a wide range of effects and functions of evaluation and constituted the basic components of the Evaluation Q-Sort used in this study.

Category Selection

From the review of the professional literature on evaluation the functions and effects of evaluation were identified and the 164 items were grouped into the following categories:

1. Achievement:

Evaluation is a process that measures the performance of all students in a group, at the conclusion of a learning experience, with respect to the degree of achievement of specified learning objectives.

2. Progress:

Evaluation is a process that assesses the behavior of individual students in a learning situation in order to define her learning needs and problems as well as her progress towards achieving specified learning objectives.

3. Psychological Effects:

Evaluation is a process which influences the motivation, attitudes, feelings and interaction of students and instructors.

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[1]See Appendix II

4. Teaching:

Evaluation is a process that influences teaching.

5. Administration:

Evaluation is a process that influences the administration of a school.

Test for Truth and Importance

Three members of the Faculty of Education at the University of British Columbia served as a panel of judges to determine the generally accepted truth and importance of the 164 statements which were submitted to them. The judges inspected each statement and were asked to make two separate decisions about it: (1) to determine if, in his opinion, it expressed a true function or effect of evaluation and (2) to determine if it was of importance to the student, the instructor, the administrator or the community[2]. The judges unaminously selected 127 items as representing true functions or effects of evaluation, while of these, 102 were designated as important by two of the three judges.

Test for Validity of Category

In addition, a panel of twelve judges were used to test the validity of each category. These judges were selected from among professional nurses with master's degrees and all but one of these were practising nurses.

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[2]See Appendix I

Each judge was provided with a box that had six slots in the top. The title of each of the categories was attached to a slot while the sixth slot had a "no category" label attached. The 127 items selected by the first panel of judges were typed on 3" x 5" cards and the judges were instructed to read each item and place it in one of the five categories. If, in their judgment, it did not fit into one of the five identified categories, they were instructed to place it in the sixth slot.[3]

The criterion established for the acceptance of an item was that nine of the twelve judges must agree on the placement of an item in a particular category. The distribution of these items among the categories is shown in Table One.

TABLE ONE

NUMBER OF ITEMS ACCEPTED BY CATEGORIES

Category	Number of Items	%
1. Achievement	10	14
2. Progress	8	11
3. Psychological Effects	19	26.5
4. Teaching	19	26.5
5. Administration	16	22
Total	72	100%

[3]See Appendix I

In view of the smaller number of items retained in categories 1 and 2, it was decided to combine these to form a single category entitled Achievement and Progress with sub-categories 1A - Achievement and 1B - Progress, and to re-number categories 3, 4 and 5 accordingly.

Final Selection of Items

The final step was the selection of items for the Evaluation Q-Sort from the 72 items remaining at the conclusion of the test for validity of category. Items were rejected which had been designated as unimportant by two out of three judges of the first panel. The final items were selected so as to reduce the repetition in content of items and at the conclusion of this process there were fourteen items in each of the four categories of the Evaluation Q-Sort.[4]

Category 1 (Achievement and Progress	Items 1-14
Sub-Category 1A - (Achievement)	Items 1-7
Sub-Category 1B - (Progress)	Items 8-14
Category 2 (Psychological Effects)	Items 15-28
Category 3 (Teaching)	Items 29-42
Category 4 (Administration)	Items 43-56

Reliability

The final Evaluation Q-Sort consisted of 56 items divided equally into four categories. Prior to using the instrument for data collection in the study, the test-retest method of

[4] See Appendix II

determining consistency of response was performed using the practice established by Whiting (96: 45-6) and Butler (13: 41-5). A group of homogeneous subjects which had a status similar to the population to be tested and which was relatively free from educational experiences with respect to evaluation was used for the test and re-test. This group consisted of fifteen nursing instructors in a non-professional nursing school. They performed the Q-Sort on two separate occasions with twelve days intervening between the two sorts. This group resembled the actual sample in that they taught a variety of nursing subjects, had diverse kinds of preparation, and had a range of experience in a variety of nursing practice areas. Two of the test-retest group were male whereas the population studied were female. A small amount of exposure to education regarding evaluation was found to have occurred during the interval, however, it was not considered such as to effect the outcome of the test-retest procedure.[5] The length of the interval between the sorts was set at twelve days to reduce the possibility that memory might dictate the placement of items on the second test and to minimize the likelihood of changes in attitudes towards evaluation. Each instructor completed a data sheet for the Evaluation Q-Sort at the first test.

The determination of reliability was calculated by a product-moment correlation using the scores for each test

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[5]Two members of the group attended a nursing institute in which one hour was devoted to a discussion of evaluation.

administration. Care was exercised to ensure that both tests were given under similar conditions so that the correlation coefficient would more accurately indicate the amount of error attributable to the test itself. Whiting (96:45) has reported reliability coefficients for Q-sorts ranging from .40 to .80 when the test-retest method was used with the correlation between scores on the first and second tests computed by the Pearson "r" method. Thirteen of the fifteen instructors in the group completed both tests. The correlation coefficients for all subjects are shown in Table Two and the mean coefficient of .72 approaches the highest figure reported by Whiting.

TABLE TWO

RELIABILITY DATA ON EVALUATION Q-SORT

Instructor	Correlation
1	.66
2	.76
3	.69
4	.88
5	.79
6	.69
7	.75
8	.74
9	.73
10	.59
11	.71
12	.72
13	.63
Mean	.72

Population Studied

There are six professional schools of nursing in the Lower Mainland and Vancouver Island areas of the Province of British Columbia. Five of these schools are located in hospitals and one is at the University of British Columbia. All full time nursing instructors and Directors of Nursing with responsibility for both nursing service and education in these schools constituted the population for the study and numbered 111 individuals. The entire population was female.

Characteristics Studied

A data sheet was used to record pertinent information regarding characteristics selected for analysis. This form was pretested on the instructors making up the test-retest group. As a result of this pre-test, ambiguous items were restructured to form the final data sheet. One difficulty that did not appear in the pre-test was encountered later in using the data sheet. This arose in connection with one item on the sheet which recorded the instructional setting in which the nursing instructor operated. The form asked the respondent to designate mainly "classroom" or mainly "clinical", however, many instructors divided their time evenly between the two settings consequently a third alternate to accommodate this was added in the tabulation of the data for Group Six.

The population studied was classified into sub-groups that were appropriate for each of the characteristics as shown on Table Three. One characteristic (Group 10) was a scaled item in which a scale score was computed from weighted responses. These ten primary groups and their appropriate sub-groups constituted the independent variables that were tested against the Evaluation Q-Sort to detect any statistically significant differences in responses that may result from the characteristics.

Collection of Data

The Evaluation Q-Sort and the data sheet were administered to the population in the spring of 1965. Data were secured from 105 of the 111 subjects. Of the 6 subjects from whom data were not obtained, 1 had resigned, 3 were on vacation and 2 did not attend. Interest in and cooperation with the study were high. Many subjects found the Q-Sort interesting, challenging, and provocative while a few reported the experience as distressing and confusing. The tests were administered by the writer and an assistant, both of whom followed the same procedure. Prior to administration of the Q-sort it was emphasized that the tool was designed to test opinions, not knowledge, and that the returns were anonymous.[6]

The Q-sort required each instructor to rank in relative importance, 56 items regarding evaluation on a nine-point normal distribution continuum. Multiple sets of Q-sort cards

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[6] See Appendix I

TABLE THREE

CLASSIFICATION OF INSTRUCTORS

Group	CHARACTERISTIC	Sub-Groups	
1.	Years of Experience in Nursing Service	1. 0-2 years 2. 3-5 years 3. 6-10 years	4. 11-20 years 5. over 20 years
2.	Years of Experience in Nursing Education	1. 0-2 years 2. 3-5 years 3. 6-10 years	4. 11-20 years 5. over 20 years
3.	Program Taken as Preparation to Instruct	1. none 2. diploma 3. basic baccalaureate	4. post-basic baccalaureate 5. master's
4.	Instructional Responsibilities	1. full time 2. half time	3. less than half time
5.	Administrative Responsibilities	1. full time 2. half time	3. less than half time
6.	Instructional Setting	1. classroom 2. clinical	3. half classroom and half clinical
7.	Instructional Focus	1. Physical Sciences 2. Social Sciences	3. Administration, Teaching, Supervision
8.	Type of School	1. Hospital	2. University
9.	Course in Tests and Measurements	1. No	2. Yes
10.	Degree of Satisfaction with Preparation as an Instructor	1. Low 2. Average	3. High

allowed from one to ten subjects to be tested at one time. The time required to complete the Evaluation Q-Sort and the data sheet ranged from 40 to 90 minutes with an average of 50 minutes.

Processing of the Data

Each item was assigned an item score which was determined by the position assigned to it on the nine-point continuum of the forced choice distribution made by each instructor. A mean score was computed for each item. In addition, a category score was computed by totalling the values assigned each item in that category. A mean score was established for each category for the total number of instructors doing the Q-Sort. A mean category score was computed for each sub-group derived by classifying the instructors according to the ten classifications on the basis of the characteristics identified earlier.

In order to test the central hypothesis concerning the relative importance assigned to the functions and effects of evaluation, single factor analysis of variance and the Newman-Keuls (99: 304-12) technique were used to test differences among and between the mean scores of categories and sub-categories, of the 105 instructors. Single factor analysis of variance was performed on the mean category and sub-category scores of each of the sub-groups of the ten characteristics in order to test the sub-hypotheses concerned with various aspects of the preparation, experience and instructional roles of the instructors.

CHAPTER IV

PRESENTATION OF FINDINGS

The results of this study are presented in three sections. The first section contains the analysis of the Evaluation Q-Sorts of the total population to test the central hypothesis of the study. The second section contains the analysis of the Evaluation Q-Sort scores of the various classifications of instructors to test the sub-hypotheses of the study. The last section presents some information concerning item analysis and sources of consultation.

Analysis of the Q-Sort Scores of All Instructors

The central hypothesis of the study stated that the instructors would not assign greater importance to any one of the functions or effects of evaluation included in the study. In order to test this hypothesis, the Q-Sort scores of the 105 instructors were examined. Mean scores, standard deviations, and ranks of category and sub-category scores of the total group are presented in Table Four. Scores for the sub-categories were doubled to facilitate comparison with categories.

A single factor analysis of variance among the mean scores of the four categories yielded an F-value of 3.96 which is significant at the .05 level. Since this indicated that there was a significant difference but did not indicate

TABLE FOUR

MEANS, STANDARD DEVIATIONS AND RANKS OF CATEGORY AND SUB-CATEGORY Q-SORT SCORES OF THE TOTAL GROUP

Category or Sub-category	Mean	S.D.	Rank
Category 1 - Achievement & Progress	68.65	6.10	3
Sub-cat 1A - Achievement	83.88	8.81	6
Sub-cat 1B - Progress	53.82	8.56	1
Category 2 - Psychological Effects	71.40	8.94	5
Category 3 - Teaching	68.67	5.87	2
Category 4 - Administration	70.95	6.44	4

which individual pairs of means had a significant difference, the Newman-Keuls procedure was used to examine the differences between all possible pairs of means. This test of the data indicated that there were no significant differences between pairs of means, however, the differences between Psychological Effects and Teaching, as well as between Achievement and Progress and Psychological Effects, approached significance. Since Winer (99) indicates that the Newman-Keuls procedure is more conservative than the single factor analysis of variance, the differences between the indicated pairs of means were re-examined using a single factor analysis of variance. Once again there was inconsistency in the findings as the difference between Psychological Effects and Teaching, yielded an F-value of 4.84 which is significant at the .05 level whereas the difference between Achievement and Progress and

Psychological Effects did not yield a significant F-Value. Since statistical tests depend heavily upon probabilities in formulating decisions about hypotheses, it is not unusual for a marginal difference to yield inconsistent results. The inconsistencies argue for a conservative evaluation of the data. There is some tendency for instructors to attach more importance to the function of influencing teaching than they do to the psychological effects of evaluation.

A single factor analysis of variance among categories 2, 3, 4 and sub-categories 1A and 1B yielded an F-value of 175.96 which is significant at the .01 level of confidence. The Newman-Keuls procedure again was used to examine differences between each possible pairs of means of this group of scores. Significant differences were found between the two sub-categories and when each sub-category is compared with each of the three categories. This indicates that nursing instructors consider the measurement of student progress to be more important than any of the other functions and effects of evaluation, while at the same time considering the measurement of student achievement to be less important. In view of this, therefore, the central hypothesis of this study is rejected.

Analysis of the Q-Sort Scores of Various Classifications of the Instructors

Findings resulting from the analysis of the Q-sorts of various classifications of the instructors will be presented

to test each of the sub-hypotheses proposed in this study.

Sub-hypothesis 1. The Q-sorts of instructors are not influenced by length of experience in nursing service.

A single factor analysis of variance was performed on the category and sub-category scores of instructors grouped according to length of experience in nursing service. The data are presented in Table Five. Differences among the Q-sorts of instructors classified according to length of experience in nursing service are not significant at the .05 level, therefore this sub-hypothesis is accepted. Nursing instructors do not have perceptions of the role of evaluation which differ according to their length of experience in nursing service.

Sub-hypothesis 2. The Q-sorts of nursing instructors are not influenced by length of experience in nursing education.

A single factor analysis of variance was performed on the category and sub-category scores of instructors grouped according to length of experience in nursing education. The data are presented in Table Six. Differences in Q-sorts of instructors classified according to years of experience in nursing education are not significant at the .05 level, therefore this hypothesis is accepted. Nursing instructors do not have perceptions of evaluation that differ according to their length of experience in nursing education.

TABLE FIVE

CATEGORY AND SUB-CATEGORY MEAN SCORES AND F-VALUES OF Q-SORTS: GROUP ONE: CLASSIFIED ACCORDING TO YEARS OF EXPERIENCE IN NURSING SERVICE

Years of Experience in Nursing Service	No. in Group	% in Group	Means					
			Cat.1	Cat.2	Cat.3	Cat.4	S.cat.1A	S.cat.1B
0-2	38	36	67.92	72.08	68.47	71.45	41.02	28.89
3-5	25	24	69.20	70.84	68.72	71.16	42.28	26.92
6-10	18	17	68.56	70.44	68.33	72.56	42.44	26.11
11-20	20	19	70.25	72.35	68.65	68.60	42.55	27.70
over 20	4	4	70.00	68.25	71.75	69.50	43.25	26.75
Total	105	100						
F-Value			0.53	0.29	0.30	1.04	0.66	0.35

TABLE SIX

CATEGORY AND SUB-CATEGORY MEAN SCORES AND F-VALUES OF Q-SORTS: GROUP TWO: CLASSIFIED ACCORDING TO YEARS OF EXPERIENCE IN NURSING EDUCATION

Years of Experience in Nursing Service	No. in Group	% of Group	Means Cat.1	Cat.2	Cat.3	Cat.4	S.cat.1A	S.cat.1B
0-2	25	24	67.60	72.76	67.00	72.64	41.64	25.96
3-5	38	36	68.39	73.15	68.13	70.26	41.60	26.79
6-10	21	20	70.67	70.44	70.90	68.14	42.86	27.81
11-20	16	15	68.44	67.81	70.56	73.00	41.44	27.00
over 20	5	5	72.40	68.20	65.60	73.00	43.80	28.70
Total	105	100						
F-Value			1.53	0.29	0.30	1.04	0.66	0.35

Sub-hypothesis 3. The Q-sorts of nursing instructors are not influenced by the type of preparation as an instructor.

A single factor analysis of variance was performed on the category and sub-category scores of instructors grouped according to type of preparation. The data are presented in Table Seven. Differences in Q-sort scores among groups of instructors with various types of preparation are not significant at the .05 level, therefore, this sub-hypothesis is accepted. The perception of evaluation held by nursing instructors is not affected by the type of preparation to instruct.

Sub-hypothesis 4. The Q-sorts of instructors are not influenced by the nature of their responsibilities.

The nature of the responsibilities of the instructors tested were measured in terms of the amount of time devoted to instruction and to administration. While all respondents indicated a measure of their instructional responsibilities, only 65 indicated any administrative responsibilities. At this point there is some inconsistency in the data which cannot be explained.

A single factor analysis was performed on category and sub-category scores of instructors grouped according to the extent of their instructional responsibilities. These data are presented in Table Eight. Significant differences at

TABLE SEVEN

CATEGORY AND SUB-CATEGORY MEAN SCORES AND F-VALUES OF Q-SORTS: GROUP THREE: CLASSIFIED ACCORDING TO TYPE OF PREPARATION

Type of Preparation	No.in Group	% of Group	Means Cat.1	Cat.2	Cat.3	Cat.4	S-cat.1A	S-cat.1B
None	3	3	71.67	68.33	68.67	70.00	44.00	27.67
Diploma	28	27	68.32	71.71	69.61	70.21	41.53	26.79
Basic Baccalaureate	36	34	68.61	70.80	68.75	71.80	42.64	25.97
Post-Basic Baccalaureate	26	25	69.23	72.73	67.92	70.00	41.69	27.54
Master's	12	11	69.33	70.42	67.83	72.41	40.83	28.50
Total	105	100						
F-Value			0.26	0.30	0.34	0.55	0.63	1.10

TABLE EIGHT

CATEGORY AND SUB-CATEGORY MEAN SCORES AND F-VALUES OF Q-SORTS: GROUP FOUR: CLASSIFIED ACCORDING TO EXTENT OF INSTRUCTIONAL RESPONSIBILITIES

Instructional Responsibilities	No. in Group	% of Group	Means Cat.1	Cat.2	Cat.3	Cat.4	S-cat.1A	S-cat.1B
Fulltime	87	83	68.59	71.79	68.47	71.01	41.91	26.68
Half-time	5	5	66.00	71.60	68.20	74.20	41.00	25.00
Less than half time	13	12	71.77	68.77	70.15	69.31	42.54	29.23
Total	105	100						
F-Value			2.10	0.62	0.48	1.05	0.22	2.84*

* Significant at the .05 level

the .05 level of confidence are found in the Q-sorts of instructors grouped according to instructional responsibilities. Instructors reporting less than half-time instructional responsibility attach less importance to the measurements of student progress than do those who have full or half-time instructional responsibilities.

A similar analysis was performed on scores grouped according to the extent of administrative responsibilities. These data are presented in Table Nine. Significant differences at the .05 level of confidence are found in the Q-sorts of instructors grouped according to administrative responsibility. Those with full time administrative responsibility attach less importance to the measurement of student progress than do those with administrative responsibilities reported as half time or less.

In view of the fact that there are significant differences according to the amount of time devoted to instruction and to administration, this sub-hypothesis is rejected. Consequently, there are differences in the perceptions of evaluation which are related to the responsibilities of the nursing instructor.

Sub-hypothesis 5. The Q-sorts of nursing instructors are not influenced by the nature of the instructional setting.

Since instruction in schools of nursing tends to be either in a classroom or a clinical setting this character-

TABLE NINE

CATEGORY AND SUB-CATEGORY MEAN SCORES AND F-VALUES OF Q-SORTS: GROUP FIVE: CLASSIFIED ACCORDING TO EXTENT OF ADMINISTRATIVE RESPONSIBILITIES

Administrative Responsibilities	No.in Group	% of Group	Means Cat.1	Cat.2	Cat.3	Cat.4	S-cat.1A	S-cat.1B
full time	11	17	71.73	68.91	69.54	69.82	42.47	29.45
half time	4	6	65.00	71.00	70.75	73.25	40.75	24.25
less than half time	50	77	68.34	71.86	68.56	71.15	41.92	26.42
Total	65	100						
F-Values			2.23	0.48	0.30	0.54	0.15	3.48*

* Significant at the .05 level

istic was used to test if there were any significant differences among nursing instructors with respect to the amount of time they spent in (1) classroom instruction, (2) clinical situations, or (3) equally in both. A single factor analysis of variance among these groups showed no significant difference at the .05 level of confidence, therefore, this sub-hypothesis is accepted.

Sub-hypothesis 6. The Q-sorts of nursing instructors are not influenced by their instructional focus.

The instructional focus of the respondents was measured by an identification of the types of courses which they taught. These were classified into three main types which consisted of courses in the (1) physical sciences, (2) social sciences, and (3) administration, teaching or supervision. A single factor analysis of variance among instructors grouped according to these three main types of courses produced no significant differences at the .05 level of confidence; therefore, this sub-hypothesis is accepted. Thus, the perceptions of evaluation held by nursing instructors is not influenced by the type of course they teach.

Sub-hypothesis 7. The Q-sorts of nursing instructors are not influenced by the type of school in which they teach.

A single factor analysis of variance was performed on the category and sub-category scores of instructors grouped according to the type of school in which they teach. The data

TABLE TEN

CATEGORY AND SUB-CATEGORY MEAN SCORES AND F-VALUES OF Q-SORTS: GROUP SIX: CLASSIFIED ACCORDING TO INSTRUCTIONAL SETTING

Instructional Setting	No. in Group	% of Group	Cat.1	Cat.2	Cat.3	Cat.4	Sub-cat.1A	Sub-cat.1B
Classroom	33	32	70.15	70.76	69.09	69.82	42.15	28.00
Clinical	50	48	67.64	71.98	68.70	71.72	41.74	25.90
Classroom & Clinical	20	20	69.45	71.40	67.40	71.35	41.90	27.55
Total	103	100						
F-Values			1.78	0.17	0.54	0.87	0.08	2.97

TABLE ELEVEN

CATEGORY AND SUB-CATEGORY MEAN SCORES AND F-VALUES

OF Q-SORTS: GROUP SEVEN: CLASSIFIED ACCORDING TO TEACHING FOCUS

Teaching Focus	No. in Group	% of Group	Means Cat.1	Cat.2	Cat.3	Cat.4	S-cat.1A	S-cat.1B
Social Sciences	36	35	70.47	71.08	67.69	70.72	42.42	28.06
Physical Sciences	56	54	67.79	71.57	68.86	71.62	41.59	26.20
Administrative, Supervision Teaching	11	11	68.45	72.27	70.00	69.09	41.84	26.64
Total	103	100						
F-Values			2.10	0.07	0.79	0.76	0.37	2.28

are presented in Table Twelve. Significant differences at the .05 level of confidence are found between the Q-sorts of nursing instructors teaching in different types of schools. These differences occur in the categories of Achievement and Progress, Psychological Effects. When measurement of achievement is considered separately in sub-category 1A, the difference is significant at the .01 level. Sub-hypothesis 7 is rejected. Instructors who teach in hospital schools attach less importance to the measurement of student achievement and progress and more importance to the psychological effects of evaluation than do nursing instructors in university schools.

Sub-hypothesis 8. The Q-sorts of nursing instructors are not influenced by having had a course in tests and measurements.

A single factor analysis of variance was performed on the category and sub-category scores of the instructors grouped as to whether or not they had a course in tests and measurements. The data are presented in Table Thirteen. Differences in Q-sorts of nursing instructors who have had a course in tests and measurements and the Q-sorts of nursing instructors who have not had such a course are not significant at the .05 level, therefore, this sub-hypothesis is accepted. This indicates that having had a course in tests and measurements does not influence the perception of evaluation held by nursing instructors.

TABLE TWELVE

CATEGORY AND SUB-CATEGORY MEAN SCORES AND F-VALUES OF Q-SORTS: GROUP EIGHT: CLASSIFIED ACCORDING TO TYPE OF SCHOOL IN WHICH THEY TEACH

Type of School	No. in Group	% of Group	Means Cat.1	Cat.2	Cat.3	Cat.4	S-cat.1A	S-cat.1B
Hospital	89	85	69.45	70.46	68.79	70.99	42.57	26.88
University	16	15	65.56	75.69	68.00	70.75	38.44	27.12
Total	105	100						
F-Values			5.60*	4.33*	0.24	0.02	12.84**	0.04

* Significant at the .05 level ** Significant at the .01 level

TABLE THIRTEEN

CATEGORY AND SUB-CATEGORY MEAN SCORES AND F-VALUES OF Q-SORTS: GROUP NINE: CLASSIFIED ACCORDING TO A COURSE IN TESTS AND MEASUREMENTS

Course in Tests and Measurements	No.in Group	% of Group	Means Cat.1	Cat.2	Cat.3	Cat.4	S-cat.1A	S-cat.1B
No	74	70	69.26	71.04	68.63	70.95	42.18	27.08
Yes	31	30	67.90	72.29	68.74	70.97	41.39	26.52
Total	105	100						
F-Values			1.05	0.41	0.07	0.01	0.67	0.41

Sub-hypothesis 9. The Q-sorts of nursing instructors are not influenced by stated degree of satisfaction with preparation as an evaluator.

In view of the fact that different instructors may have differing perceptions of their own ability and preparation for evaluation, a scale was devised to measure an individuals satisfaction with her preparation in evaluation. This scale consisted of eight items which were weighted and which provided a scale score. These scores were translated into three degrees of satisfaction: (1) low, (2) medium, and (3) high. The Q-Sort scores for each category and sub-category were tested by a single factor analysis of variance, and significant differences were found at the .05 level among the degrees of satisfaction so that this sub-hypothesis is rejected. The data are presented in Table Fourteen.

There is a significant relationship between the degree of satisfaction with the preparation as an evaluator and the importance attached to the measurement of achievement and progress. Instructors with a high level of satisfaction attach greater importance to achievement and progress than to any of the other functions and effects of evaluation tested. When the measurement of achievement is considered separately as sub-category 1A, the differences are not significant, however, when progress, sub-category 1B, is tested independently the differences were significant

TABLE FOURTEEN

CATEGORY AND SUB-CATEGORY MEAN SCORES AND F-VALUES OF Q-SORTS: GROUP TEN: CLASSIFIED ACCORDING TO STATED DEGREE OF SATISFACTION WITH PREPARATION AS AN EVALUATOR

Stated Degree of Satisfaction and Preparation as an Evaluator	No.in Group	% of Group	Cat.1	Cat.2	Cat.3	Cat.4	S-cat.1A	S-cat.1B
low	9	9	73.22	66.56	72.33	67.67	42.79	30.44
medium	81	77	68.83	72.33	68.02	70.74	42.02	26.80
high	15	14	66.40	69.33	69.93	74.07	41.00	25.40
Total	105	100						
F-Values			3.60*	2.15	2.70	3.04	0.49	4.67*

* Significant at the .05 level

at the .05 level. Thus, instructors with higher levels of satisfaction attach greater importance to the measurement of progress than do instructors with lower levels of satisfaction.

Summary

The analysis of the data shows that an instructor's perception of the importance of various functions and effects of evaluation is influenced by certain factors in her experience and preparation. Significant differences in the Q-sorts were found that indicate that three of the characteristics studied appear to be related to the individual's perception of the function and effects of evaluation.

Instructors whose responsibilities are primarily administrative attach less importance to the measurement of student progress than do those whose responsibilities are mainly instructional. Those instructors working in hospital schools attach less importance to the measurement of student achievement and progress and more importance to the psychological effects of evaluation than do those working in university schools of nursing. Finally, higher degrees of satisfaction with preparation for evaluation is associated with the attachment of greater importance to the measurement of student progress than to any of the other functions of evaluation.

Analyses of Q-Sort Item Scores

The individual item statements which make up the Evaluation Q-Sort were analyzed and ranked in order of the importance assigned them by nursing instructors. The mean value and the standard deviation of the ten most important items are shown in Table Fifteen. All four categories of items are represented among the ten most important items, however, fifty percent of the items are from sub-category 1B which relates to progress and twenty percent from Category 4 which involves administration. All of the remaining categories are represented by ten percent of the items. The preponderance of items related to progress reinforces the analysis presented earlier in which the total group of instructors tested tended to rate the measurement of student progress as the most important of the functions and effects of evaluation considered in this study.

The ten items ranked as least important are shown in Table Sixteen. All four categories are again represented among the least important items, however, fifty percent are from sub-category 1A which relates to achievement and thirty percent are from Category 4, which involves administration. The two remaining categories are represented by ten percent of the items. The preponderance of items related to achievement reinforces the analysis presented earlier in which the total group of instructors tested tended to rate the measurement of student achievement as the least important of the

TABLE FIFTEEN

THE TEN MOST IMPORTANT ITEMS IN RANK ORDER

Rank of Item	No. of Item	Item	Category	Sub-Category	Mean	S.D.
1	1	Evaluation is used to determine the extent to which students are achieving the educational goals of the program.	1.Achievement & Progress	1.Achievement	2.86	1.53
2	14	Evaluation is used to locate individual learning needs of students.	1. " "	2.Progress	3.06	1.15
3	49	Evaluation is used to assess how well the school is meeting its educational objectives.	4.Administration		3.30	1.41
4	10	Evaluation is used to determine the progress students are making in the learning situation.	1.Achievement & Progress	2.Progress	3.30	1.18
5	11	Evaluation is used to show a student how she is progressing.	1. " "	2. "	3.45	1.21
6	13	Evaluation assesses potential for further growth in students	1. " "	2. "	3.77	1.29
7	9	Evaluation assesses the extent of changes taking place in students.	1. " "	2. "	3.91	1.38
8	46	Evaluation is used to guide curriculum revision.	4.Administration		3.94	1.21
9	28	Evaluation affects confidence of students in a new learning situation.	2.Psychological Effects		4.83	1.24
10	34	Evaluation assesses the efficiency of teaching methods.	3.Teaching		4.98	1.12

TABLE SIXTEEN

THE TEN LEAST IMPORTANT ITEMS IN RANK ORDER

Rank of Item	No. of Item	Item	Category	Sub-Category	Mean	S.D.
1	2	Evaluation means grading	1.Achievement & Progress	1.Achievement	7.99	1.22
2	3	Evaluation is used to compare the performance of groups of students.	1. " "	1. "	7.39	1.28
3	22	Evaluation influences peer relationships among students.	2.Psychological Effects		6.90	1.16
4	4	Evaluation is used to place students in categories of achievement	1.Achievement & Progress	1.Achievement	6.77	1.11
5	5	Evaluation is used to compare the performance of groups of students.	1. " "	1. "	6.45	1.02
6	35	Evaluation is used to provide an instructor with feedback on her teaching.	3.Teaching		6.29	1.57
7	53	Evaluation is used by the director in deciding upon the retention of instructors.	4.Administration		6.03	1.02
8	54	Evaluation is used by the director in deciding upon promotion of instructors.	4. "		5.84	1.02
9	7	Evaluation is used to determine the current status of students.	1.Achievement & Progress	1.Achievement	5.69	1.23
10	55	Evaluation helps administration understand the problems faced by students.	4.Administration		5.68	1.58

functions and effects of evaluation considered in this study.

Tabulation of Sources of Consultation

The instructors were asked to indicate which of eight possible sources of help they consulted when a problem arose in evaluation. They were permitted any number of the sources if they consulted more than one source. The rank ordering of these choices is presented in Table Seventeen.

TABLE SEVENTEEN

SOURCES OF CONSULTATION USED BY NURSING INSTRUCTORS IN RANK ORDER

Rank	Consultant	Number of Instructions Citing the Source	Percent	Cumulative Percentage
1	Fellow Instructor	73	30.4	30.4
2	Director of School	69	28.7	59.1
3	Head Nurse	52	21.7	80.8
4	Nursing Supervisor	19	7.9	88.7
5	Someone Else	17	7.1	95.8
6	Educator	6	2.5	98.3
7	Psychologist	4	1.7	100.
8	No one	0	0	100.
Total		240	100	

Persons most frequently cited as source of consultation for evaluative problems are nurses; fellow instructors, the director of the school, the head nurse or the nursing supervisor. When the percentage checking these sources are totalled

it shows that nurses consult mainly with other nurses who may or may not have had any greater knowledge regarding evaluation than they do themselves. The very low use of the psychologist and the educator, who may be presumed to be experts in evaluation, may indicate that the nurses are unaware that these sources exist, an unwillingness to consult members of another profession, or it may indicate that these sources are relatively inaccessible to nursing instructors.

It is possible that instructors construe the "problem in evaluation" as being essentially one of insufficient or contradictory data concerning the performance of a particular student rather than a matter of more general concern. If this is their understanding, then the frequent consultation with other nurses would raise fewer questions relating to the general problem of evaluation.

CHAPTER V

CONCLUSIONS AND IMPLICATIONS

Evaluation is recognized as an important problem in nursing service and education. Some writers have been concerned with the enunciation of a philosophy of evaluation for nursing while some have designed instruments to measure performance in clinical situations; however, no one has examined heretofore the perceptions of evaluation held by nursing instructors.

The present study sought to measure the perceptions held by nursing instructors of the relative importance of five functions and effects of evaluation. These were identified as (1) the measurement of student achievement, (2) the measurement of student progress, (3) the psychological effects of evaluation, (4) the influence of evaluation on teaching, and (5) the influence of evaluation on administrative behavior. In order to measure the perceptions of nursing instructors, the Q-sort was selected as a suitable instrument. Data were collected from the nursing instructors in the professional schools of nursing in the Lower Mainland and Vancouver Island areas of British Columbia.

The single factor analysis of variance and the Newman-Keuls Method of examining differences between pairs of means was performed on the Q-sort scores of all instructors to test the main hypothesis of the study, using the .05 level

of confidence. As a result of this analysis the central hypothesis was rejected since student achievement is perceived by instructors as least important and student progress as most important among the functions and effects of evaluation considered in this study.

The single factor analysis of variance was performed on the Q-sort scores of the various groupings of instructors to test the sub-hypotheses proposed in this study. Results led to the acceptance of the following sub-hypotheses:

1. The Q-sorts of nursing instructors are not influenced by length of experience in nursing service.
2. The Q-sorts of nursing instructors are not influenced by length of experience in nursing education.
3. The Q-sorts of nursing instructors are not influenced by type of preparation as an instructor.
5. The Q-sorts of nursing instructors are not influenced by the nature of the instructional setting.
6. The Q-sorts of nursing instructors are not influenced by their instructional focus.
8. The Q-sorts of nursing instructors are not influenced by having had a course in tests and measurements.

Three sub-hypotheses were rejected, namely:

4. The Q-sorts of nursing instructors are not influenced by the nature of their responsibilities.
7. The Q-sorts of nursing instructors are not influenced by the type of school in which they teach.
9. The Q-sorts of nursing instructors are not influenced by degree of satisfaction with preparation as evaluators.

This study has determined that nursing instructors attach significantly different degrees of importance to the functions and effects of evaluation considered in this study. Least importance is ascribed to the measurement of student achievement and most importance to the measurement of student progress. Moderate importance is attached to the other three functions and effects studied. Variables that affect the perceptions of evaluation held by nursing instructors are the nature of her responsibilities, the type of school in which she teaches, and her stated level of satisfaction with preparation as an evaluator.

Since the Evaluation Q-Sort has proven to be a satisfactory instrument to measure the perceptions of evaluation held by nursing instructors, it could be used to study the perceptions held by other groups associated with nursing education. It could, for example, be used to assess the perceptions of evaluation held by nursing students and nursing service personnel. This would provide an opportunity to compare the perceptions of evaluation held by students, by service personnel and by instructors - the three groups most concerned with the evaluation of the clinical performance of student nurses. Such a comparison would test whether a lack of common understanding of evaluation gives rise to the negative feelings towards evaluation reported by Lucas (64), Rosen (78), and Gorham (46). A similar study

of the perceptions of evaluation held by students at various intervals in their program might locate possible changes in perception which could help to explain the developmental sequence of attitudes described by Lucas (64). A scrutiny of the analysis of the scores of the Evaluation Q-Sort by beginning nursing students would identify differences in perceptions from those held by instructors, thus indicating changes needed to reconcile any divergent views of the functions of evaluation. Various learning experiences to affect such reconciliation of perceptions could be planned as an integral part of the program of the nursing student.

Furthermore, this study suggests other matters for discussion and exploration. It has been demonstrated that differences do exist among instructors with respect to the importance they ascribe to the five effects and functions of evaluation included in this study. It can be postulated that it is important for nursing educators to have a common understanding of such a critical element in the educational process. Means might be sought to study the functions and purposes of evaluation in an effort to achieve greater agreement among instructors than exists at present.

Within a particular nursing school such differences in the perceptions of evaluation among the staff are probable. The proportions of administration to teaching responsibilities and the level of satisfaction with preparation as an evaluator

have been demonstrated to be influential in producing such divergence of opinions and emphasizes the need for enunciating a philosophy of evaluation to guide the evaluative process. Such a philosophy should be made known to students as well as to the staff of the school. If instructors perceived of and used evaluation in a consistent manner, comparison made of the performance of students in various courses would be more meaningful and the students would be more likely to experience evaluation as that positive, helping, growth-inducing process described so frequently and so longingly throughout the nursing literature on evaluation. The probability that students would develop evaluative skills to appraise nursing care as well as their own performance would be enhanced. It should be noted also that increasing an instructor's skill and self-confidence in evaluation will probably influence her perception of the process.

Nursing instructors teach in either a hospital or university school during the course of their professional careers. Recognizing that differences in the perceptions of evaluation do exist between hospital and university schools emphasizes the importance of enunciating a philosophy of evaluation and using it in the orientation of new instructors. Since many graduates from hospital schools seek further education in university schools, they will be expected to accommodate themselves to a different emphasis in evaluation which raises an important question concerning the

orientation of the nurse to the new educational setting.

This study of the perceptions of evaluation held by nursing instructors has demonstrated that significant differences do exist among instructors concerning the importance of the five functions and effects of evaluation selected for study. If this is found to be the case in Schools of Nursing it will probably be found to exist also in other educational situations and institutions. The Evaluation Q-Sort developed for this study is applicable to similar measurements in other situations such as professional or vocational schools and with instructors in adult education programs. Only through such continuous research and education can we develop evaluation that is functional and uniform.

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APPENDIX I

1. DIRECTIONS FOR THE TEST FOR TRUTH AND IMPORTANCE

Research study: A study of nursing instructors' attitudes towards evaluation.

Background: The final research instrument to be used in collecting the data for this study will be a Q-sort of 60 items regarding the functions and effects of evaluation.

Your task: The first step is to be sure that the list of items is relatively a complete statement of functions and effects of evaluation. These items have been compiled from nursing and educational literature and studies. You are requested to do the following three things:

1. Inspect each item to determine if it is a function or effect of evaluation. If the statement is true, encircle the T. (true). If it is not a true statement, circle the F. (false).

2. Inspect each item a second time to determine if the function or effect is important. If it is a function, then it may be important to the student, the instructor, the administrator or the community that it be performed. If it is an effect, then it may be one that affects students, instructors, administrators or the community. If the item has importance, circle the I. (important) but if you believe that it has no importance, circle the U. (unimportant).

3. On page 10 you may list any item which you think should be added to this list. Possibly some of the items marked false would be acceptable with a simple rewording. Your help in this area would be particularly important at this stage of the study.

2. INSTRUCTIONS FOR VALIDITY OF CATEGORY TEST

This test is one of the steps in eliminating items in the preparation of a Q-sort to assess the attitudes of nursing instructors towards evaluation. The items printed on 3" x 4½" cards are statements about the functions or effects of evaluation.

The categories are described as follows:

1. ACHIEVEMENT:
   Evaluation is a process that measures the performance of all students in a group, at the conclusion of a learning experience, with respect to the degree of achievement of specified learning objectives.

2. PROGRESS:
   Evaluation is a process that assesses the behavior of individual students in a learning situation in order to define her learning needs and problems as well as her progress towards achieving specified learning objectives.

3. PSYCHOLOGICAL EFFECTS:
   Evaluation is a process which influences the motivation, attitudes, feelings and interaction of students and instructors.

4. TEACHING:
   Evaluation is a process that influences teaching.

5. ADMINISTRATION:
   Evaluation is a process that influences the administration of a school.

PROCEDURE FOR CATEGORY JUDGE

1. On each card is written a function or effect of evaluation.

2. You are to read each item and place it in the appropriate labelled slot in the category box.

3. If, in your opinion, the item does not belong in any of the five categories, place it in the "No category" slot.

3. DATA SHEET FOR EVALUATION Q-SORT Instructor No.____

1. Years of experience in nursing service
   0 to 2____ 3 to 5 ___ 6 to 10 ___ 10 to 20 ___ over 20 ___

2. Years of experience in nursing education
   0 to 2 ____ 3 to 5 ___ 6 to 10 ___ 11 to 20 ___ over 20 ___

3. Type of program taken as preparation to instruct
   None _____ Post Basic Baccalaureate
   Diploma _____ Degree _____
   Basic Baccalaureate Degree _____ Master's Degree _____

4. Teaching responsibilities are: full time ____ half time ____
   less than half time ____

5. Administrative responsibilities are: full time ____ half time ____
   less than half time ____

6. Instructional setting is mainly: classroom ____ clinical ____

7. Teaching focus is:

Social Sciences in Nursing	)	Physical Sciences in Nursing	)
Maternal and Child "	)____	Surgical Nursing	)__
Psychiatric "	)	Operating Room Nursing	)
Public Health "	)	Medical Nursing	)

Administration	)
Teaching	)____
Supervision	)

8. Type of school in which you teach: Hospital ____ university ____

9. Have you had a course at university in tests and measurements?
   No_____ Yes _____

10. Do you feel that your preparation in evaluation of content was:
    Unsatisfactory ____ Adequate ____ Excellent ____?

11. Do you feel that your preparation in evaluation of performance was:
    Unsatisfactory ____ Adequate ____ Excellent ____?

12. Do you feel that your preparation in the development and use of rating scales was:
    Unsatisfactory ____ Adequate ____ Excellent ____?

13. Do you feel that your preparation in the development and use of check lists was:
    Unsatisfactory ____ Adequate ____ Excellent ____?

14. Do you feel that your preparation in the development and use of anecdotal note technique was:
    Unsatisfactory ____ Adequate ____ Excellent ____?

(cont'd)

Data Sheet for Evaluation Q-Sort (cont'd)

15. Do you feel that your preparation in the development and use of the critical incident technique was:
Unsatisfactory ____ Adequate ____ Excellent ____?

16. When you began in your present position, did you feel that the orientation to the school's philosophy of evaluation was:
Unsatisfactory ____ Adequate ____ Excellent ____?

17. When you began in your present position, did you feel that the orientation to the instruments of evaluation used in the school was:
Unsatisfactory ____ Adequate ____ Excellent ____?

18. When you have a problem in evaluation do you consult with:

a psychologist _____	a nursing supervisor _____
an educator _____	a head nurse _____
the director of the school _____	no one _____
a fellow instructor _____	someone else (Please specify) _____

4. DIRECTIONS FOR ADMINISTRATION OF EVALUATION Q-SORT

Introduction

The Evaluation Q-sort tool is designed to assess nursing instructors' opinions of the relative importance of the various functions and effects of evaluation. This tool is not designed to test knowledge. The returns are anonymous.

Up to ten instructors can be tested at a session. Similarity of testing conditions and procedures are important.

Steps

ONE Shuffle the ten packs of 56 Q-sort cards

TWO Provide each instructor with:
a) a pack of Q-Sort cards (white)
b) a pack of pile cards (Yellow)
c) a numbered raw tabulation sheet
d) a data sheet with the same number as (c) above
e) an instruction sheet for the evaluation Q-Sort
f) work space equal to half of a card table

THREE Read the data sheet to the group of instructors with explanatory comments and have them complete the form.

FOUR Read the instructions for the Q-Sort to the instructors

FIVE Request the instructors to do the sort, fill out the raw tabulation sheet and leave their materials for the Q-Sort administrator to check.

SIX Collect the material and mark the number of subjects tested. A record of instructors missing the test must be kept. Three attempts will be made to secure sorts from missing persons in order to complete the sample.

5. INSTRUCTIONS FOR THE EVALUATION Q-SORT

Evaluation is an important process in nursing education. Evaluation has a number of functions and effects which have varying degrees of importance to instructors.

Your jobs will be one of sorting 56 cards with statements on them regarding evaluation. While you are sorting cards you should keep the following question in mind:

Which of these functions and effects of evaluation do you feel are of high importance, of medium importance, of low importance, in your job as an instructor?

Here are the steps to follow in sorting the cards:

Step I: Sort the 56 cards into three roughly equal piles of high, medium and low importance. Place the high pile on your left, the low pile on your right, with the medium pile in the middle.

Step II: From the high pile in Step I, select the nine most important items (cards) and place the rest in the medium pile. Then from these nine items, select the three most important items. Then, from these three items select the one most important item. The result will be three piles of one, two and six items each which are placed on pile cards #1, #2 and #3 respectively.

Step III: From the low pile in Step I, follow the same procedure as above in Step II; i.e. select the nine least important items, placing the remainder in the medium pile. Then from these select three, then from these select one least important. The result will be three piles of one, two and six items which are placed on pile cards #9, #8 and #7 respectively.

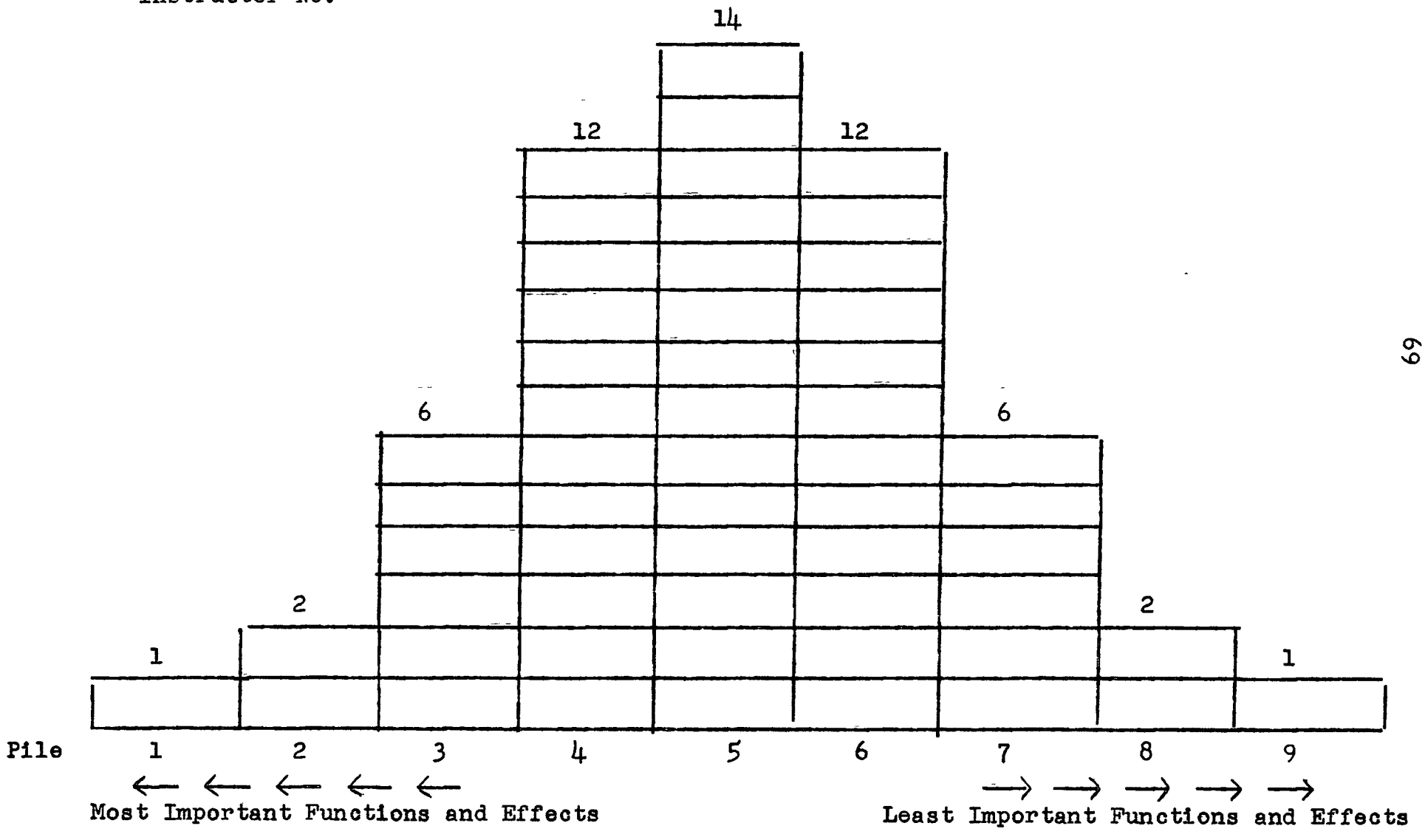
Step IV: Separate the medium pile of 38 remaining items into three piles of slightly more important, medium importance and slightly less important. Place the slightly more important on your left and the slightly less important on your right. When you are finished sorting, you should have 12 items in the slightly more important pile, 14 items in the medium importance pile and 12 items in the slightly less important pile to be placed on pile cards #4, #5 and #6 respectively.

You will then have nine piles of cards in the following distribution:

Number of pile:	#1	#2	#3	#4	#5	#6	#7	#8	#9
Number of items:	1	2	6	12	14	12	6	2	1

6. RAW DATA TABULATION SHEET

Instructor No.



APPENDIX II

EVALUATION Q-SORT ITEMS

Category 1 - Achievement and Progress
Sub-category 1A- Achievement

1. Evaluation is used to determine the extent to which students are achieving the educational goals of the program.
2. Evaluation means grading.
3. Evaluation is used to compare the performance of groups of students.
4. Evaluation is used to place students in categories of achievement.
5. Evaluation is used to compare the performance of groups of students.
6. Evaluation measures achievement with respect to a predetermined standard.
7. Evaluation is used to determine current status of students.

Sub-category 1B- Progress

8. Evaluation is used by students as a guide to study.
9. Evaluation assesses the extent of changes taking place in students.
10. Evaluation is used to determine the progress students are making in the learning situation.
11. Evaluation is used to show a student how she is progressing.
12. Evaluation is used to identify particular strengths of students.
13. Evaluation assesses potential for further growth in students.
14. Evaluation is used to locate individual learning needs of students.

Category 2 - Psychological Effects

15. Evaluation affects the psychological security of students.

16. Evaluation affects the students' attitude toward the content of the learning experience.

17. Evaluation influences the motivation of students.

18. Evaluation influences adaptation to the learning environment.

19. Evaluation modifies the self-image of students.

20. Evaluation influences the willingness of students to assume responsibility for their own learning.

21. Evaluation influences the quality of the instructor-student relationship.

22. Evaluation influences the peer relationships among students.

23. Evaluation affects the climate for learning.

24. Evaluation affects the students' attitude toward subsequent learning experience.

25. Evaluation influences the students' attitude towards their profession.

26. Evaluation influences the frequency of instructor-student interaction.

27. Evaluation affects the communication between instructor and student.

28. Evaluation affects confidence of students in a new learning situation.

Category 3 - Teaching

29. Evaluation is used to individualize teaching.

30. Evaluation gives indications as to the effectiveness of teaching methods.

31. Evaluation gives indications as to the adequacy of learning experience.

Category 3 - Teaching (cont'd)

32. Evaluation is used to effect improvements in teaching.

33. Evaluation is used to assess the value of alternate learning experiences.

34. Evaluation assesses the efficiency of teaching methods.

35. Evaluation is used to provide an instructor with feedback on her teaching.

36. Evaluation provides data which guides modifications in teaching.

37. Evaluation is used in determining the starting point for instruction.

38. Evaluation is used by instructors in self-evaluation.

39. Evaluation is used by instructors to plan modifications in teaching style.

40. Evaluation is used to compare effectiveness of teaching methods.

41. Evaluation is used to investigate the suitability of teaching materials.

42. Evaluation is used to analyze the sequence of learning experiences.

Category 4 - Administration

43. Evaluation is used in the selection of students.

44. Evaluation is used in making the decision to retain students in a school.

45. Evaluation is used in making the decision to require students to withdraw from the school.

46. Evaluation is used to guide curriculum revision.

47. Evaluation is used to assess the performance of an instructor.

48. Evaluation is used to analyze performance of an instructor.

Category 4 - Administration (cont'd)

49. Evaluation is used to assess how well the school is meeting its education objectives.

50. Evaluation indicates the strengths of a program.

51. Evaluation indicates the weaknesses of a program.

52. Evaluation is used to appraise needs for in-service education.

53. Evaluation is used by the director in deciding upon retention of instructors.

54. Evaluation is used by the director in deciding upon promotion of instructors.

55. Evaluation helps administration understand the problems faced by students.

56. Evaluation is used to control the quality of graduating students.