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ABSTRACT

An assessment was made of the need for continuing education in decision-making as perceived by elementary principals in the Fifty Large Cities School Districts. Questionnaires measuring demonstrated skill in decision-making and interest in increasing skill in decision-making provided data for analysis. Conclusions were that elementary principals were interested in increasing their skill in decision-making; the degree of interest differed according to the principal's level of educational preparation, age, years of experience as an elementary principal, and sex; interest was greatest for skills directly involving other people and for evaluating the effectiveness of decisions made; and continuing education provided by local school districts was most valuable. (Author)

# ASSESSING THE NEED OF ELEMENTARY PRINCIPALS FOR CONTINUING EDUCATION IN DECISION-MAKING

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# ASSESSING THE NEED OF ELEMENTARY PRINCIPALS FOR CONTINUING EDUCATION IN DECISION-MAKING

Ruth E. Randall

Effective leadership is the key to a good school where quality education is provided for students. Becker stated:

> Good schools which successfully prepare our children to deal effectively with their problems, to perform their roles in society competently, and to achieve a state of healthy self-fulfillment, don't just happen. They emerge through careful planning, and most of all, through effective leadership.[1]

The effective leader is the principal who recognizes decision-making as a major responsibility. Griffiths, in 1959, equated administration with decision-making and proposed that "the specific function of administration is to develop and regulate the decision-making process in the most effective manner possible."[2] In 1975, Griffiths updated his theory by stating that present day phenomenology makes it necessary for the administrator "to see that his methods are acceptable and to make everything he does comprehensible to the various publics."[3]

Griffiths, however, did not refute his belief that

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[1]Gerald Becker and others, Elementary School Principals and Their Schools. Beacons of Brilliance and Potholes of Pestilence, U.S. Educational Resources Information Center, ERIC Document 056 380, 1971.

[2]Daniel E. Griffiths, Administrative Theory (New York: Appleton-Century-Crofts, 1959), p. 76.

[3]Daniel E. Griffiths, "Some Thoughts About Theory in Educational Administration--1975" (Paper presented at the meeting of UCEA-AASA, Dallas, Texas, February, 1975).

> . . . directing and controlling the decision-making process is central in the sense that it is more important than other functions, but it is also central in that all other functions of administration can best be interpreted in terms of the decision-making process.[4]

Similarly, Gregg indicated that decision-making is becoming generally recognized as the heart of the administrative process,[5] and McCamy said, "The reaching of a decision is the core of administration, all other attributes of the administrative process being dependent on, interwoven with, and existent for the making of decisions."[6]

Influence of the Organization on Decision-Making

Simon and Livingston shared the view that decision-making is synonymous with managing. Simon believed that the principles of organization that insure correct decision-making must include principles that will insure effective action,[7] while Livingston said, in addition to the processes of making the decision and implementing the decision, decision-making must be recognized as a continuing, dynamic process rather than an occasional event. Thus, decision-making includes not only a decision, but also the acts necessary

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[4]Daniel E. Griffiths, "Administration as Decision-Making," Organization and Human Behavior, eds. Fred D. Carver and Thomas J. Sergiovanni (New York: McGraw Hill, 1969), p. 140.

[5]Russell T. Gregg, "The Administrative Process," Administrative Behavior in Education, eds. Roald F. Campbell and Russell T. Gregg (New York: Harper and Row, 1957), p. 275.

[6]James L. McCamy, "An Analysis of the Process of Decision Making," Public Administration Review, VII (January, 1947), 41.

[7]Herbert A. Simon, The New Science of Management Decision (New York: Harper and Row, 1960), p. 56.

to put the decision into operation which affects the entire course of action of an organization.[8]

Culbertson, Jacobson, and Reller agreed the organization is affected by the decision made, but suggested that organizational decisions may not directly and continually involve a large proportion of the membership since much of the effective influence may be informal. Group decisions are usually made in face-to-face relationships as the collection of people is small enough to interact. If the administrator is making the decision individually, the process may take place physically isolated from other members of the organization.[9]

Participatory Decision-Making

Vroom and Maier and Maier reported employee participation in decision-making resulted in higher production and more efficient learning of the job.[10,11] Bridges found that teachers preferred principals who involved their staffs in decision-making. However, if the principal involved teachers in making

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[8]Robert T. Livingston, "The Theory of Organization and Management," Transactions of the ASME (May, 1953), p. 659.

[9]Jack A. Culbertson, Paul B. Jacobson, and Theodore L. Reller, Administrative Relationships (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1960), p. 459.

[10]Victor H. Vroom, Some Personality Determinants of the Effects of Participation (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1960), p. 4.

[11]Norman R. F. Maier and R. A. Maier, "An Experimental Test of the Effects of 'Developmental' vs. 'Free' Discussions on the Quality of Group Decision," Journal of Applied Psychology, XLI (1957), 320-323.

decisions located in their zone of indifference, participation was less effective. Bridges indicated teachers were interested in participating if the decisions were relevant to them and if they were capable of contributing to the decision.[12]

## CONTINUING EDUCATION

Continuing education for school principals with a particular emphasis on performance objectives is an attempt to provide professional development experiences which make a difference in the leadership provided by the principal. Referent topics reflecting the scope of responsibility of a building administrator were used by Van Meter and Leftoff in choosing competency objectives, representative behaviors, and evaluation procedures for their multi-purpose competency based program used for preservice, inservice, or self-improvement.[13]

Gale and McCleary indicated a major movement is underway to reorder preservice and inservice preparation and on-the-job performance of public school administrators in terms of specific competencies. This movement has developed from the recognized need for precision in training programs

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[12]Edwin M. Bridges, A Model for Shared Decision Making in the School Principalship, U. S. Educational Resources Information Center, ERIC Document ED 013 480, December, 1967.

[13]Eddy J. Van Meter and Marty M. Leftoff, "A Competency Based Training Package for Educational Building Administrators," Project Kansas 76, Kansas State University, Manhattan, Kansas, Fall, 1972. (Mimeographed.); cited by Lloyd E. McCleary and Kenneth E. McIntyre, Competency Development and the Methodology of College Teaching, U. S. Educational Resources Information Center, ERIC Document ED 077 138, 1971.

and for valid assessment procedures for measuring the performance of administrators.[14] Barrilleaux, in 1972, stated that the impetus for accountability provides opportunity for proactiveness rather than reactiveness. He believed a statement of educational purpose translated into performance terms was valuable in altering preparation and inservice programs for administrators.[15]

Need for Competencies in Decision-Making

Since most of those who will serve as principals in the next decade are already on the job, Gaskell suggested focusing on the skills, competencies, and attitudes needed by these individuals. Having identified desired competencie these administrators would have a greater tendency to change since they participated in the decisions surrounding the change.[16] Similarly, Brainard believed inservice programs should be individualized, but suggested principals needed competencies in managing decision-making, implementing scientific problem-solving procedures, becoming aware of resources to help with problem-solving, developing discrimination in selecting resources, and dealing with conflict in the middle management role.[17] Kelley agreed that principals will

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[14]Larrie Gale and Lloyd E. McCleary, Competencies of the Secondary School Principal: A Need Assessment Study, U. S. Educational Resources Information Center, ERIC Document ED 077 127, 1972.

[15]Louis Barrilleaux, "Accountability Through Performance Objectives," NASSP Bulletin, LVI (May, 1972), 103-110.

[16]William G. Gaskell, The Development of a Leadership Training Process for Principals, U.S. Educational Resources Information Center, ERIC Document 074 615, January, 1973.

[17]Edward Brainard, Individualization Administrator Inservice Education, U. S. Educational Resources Information Center, ERIC Document ED 089 422, April, 1973.

continue to need training in the technical skills of making intermediate or appellate decisions, but added, "As stress levels increase for an organization, society, or individual, the addition of a third dimension, creative decision-making skills, becomes ever more urgent."[18]

McCleary and McIntyre believed identification of competencies must include the active participation of practicing school administrators if the competencies are to be relevant and analyzed into their component parts.[19] Culbertson agreed that information for diagnosing the continuing education needs of principals should be obtained from the principals themselves and suggested data gathering instruments related to performance objectives be developed and used to acquire such information.[20]

In the recommendations made by Becker and others following their major study of the elementary principalship, they indicated most principals recognize that they need help both through individual consultation and through inservice preparation. The principals want inservice programs planned on the basis of careful and systematic identification of major needs and problems. The training, then, would be designed to develop the knowledge and skills required by the principalship position.[21]

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[18]Edgar A. Kelley, "Theory, Practice and Reality," Continuing the Search Preservice and Inservice Education (Reston, Virginia: The National Association of Secondary School Principals, 1975), p. 3.

[19]McCleary and McIntrye, loc. cit.

[20]Jack A. Culbertson, Curtis Henson, and Ruel Morrison, Performance Objectives for School Principals, Concepts and Instruments (Berkeley, California: McCutchan Publishing Corporation, 1974), p. vi.

[21]Becker and others, loc. cit.

## PURPOSE IN THE STUDY

The purpose in this study was to assess the need for continuing education in decision-making as perceived by elementary principals in the Fifty Large Cities School Districts. A needs assessment was conducted to determine the gap between demonstrated skill in decision-making based on past experience as perceived by principals and interest in increasing skill in decision-making based on present and anticipated needs as perceived by principals.

## REVIEW OF LITERATURE AND RESEARCH

The first phase of this study was to conduct a selected review of literature and research in the areas of : (1) the principal as a decision-maker, (2) decision theory, and (3) continuing education with emphasis on performance objectives in decision making. The review of literature in the area of decision theory provided the background for designing and constructing the instruments used in this study.

## INSTRUMENTATION

The instrument, developed following the review of literature, was revised and refined several times on the basis of suggestions given

by faculty members and graduate students and the results of pilot testing in three educational administration graduate classes at the University of Nebraska.

Since the focus of this study was to determine the need for continuing education in decision-making, it was necessary to have two instruments, one to measure "what is" in decision-making skill and another to measure "what should be" in decision-making skill. Different prompts were added to the statements on the instrument, thus making two different instruments. The prompt on the instrument to measure "what is" was changed several times during the revision process, but finally read, "Based upon past experience, I demonstrated skill in . . . ." In like manner the prompt on the instrument to measure "what should be" was changed during the revision process, but finally read, "Based upon present and anticipated needs, I am interested in increasing my skill in . . . ." The instrument for measuring "what is" was titled Decision-Making Skill Questionnaire, Form A (DMSQ, Form A) and the instrument measuring "what should be" was titled Decision-Making Skill Questionnaire, Form B (DMSQ, Form B). (See Appendix A for DMSQ, Form A and Appendix B for DMSQ, Form B).

In constructing the instrument an attempt was made to incorporate conceptual, human, and technical skills related to decision-making. Although consideration was given the possibility of clusters of items around descriptors of the three kinds of skills, a decision was made to develop a total, comprehensive instrument. However, for the purpose of data analysis, the items were divided into these

groupings: conceptual (conceptual skill), people development (human skill), and systems approach (technical skill).

Realizing that conceptual ability is necessary to practice every skill in decision making, the items discernible as requiring particular conceptual skill were the following: Items 1, 2, 3, 4, 5, 8, 9, 10, 11, 13, 16, 17, 18, and 19.

People, other than the decision-maker, were directly involved in use of the skills stated in Items 6, 7, 12, 14, 15, and 30. Recognizing that the involvement of other people is implied in other items, the six items listed above were described as people involvement items, or the human skill items.

Technical skill requires specific methods and techniques such as those used in systems approaches. In this instrument, Items 20, 21, 22, 23, 24, 25, 26, 27, 28, and 29 have statements regarding the utilization of systems approaches, therefore, the items listed above are described as technical skill items.

Validity

The instrument was analyzed for validity by a jury composed of eight authorities in the fields of decision theory and continuing professional education. In the initial review of the literature, and by consultation with faculty members at the University of Nebraska, those professionals with perceived expertise in the areas of decision-making and continuing professional education were identified. Letters were written to these people to ask for any input about research

they, or others, were conducting which focused on decision-making. They were also asked if they were knowledgeable about graduate students who had conducted research utilizing instruments to assess continuing education needs in the area of decision-making skills. (See Appendix C for a list of professionals who responded with help and suggestions.)

In the responses received, there was no indication of any instruments available to assess continuing education needs in the area of decision-making skills, but other individuals were identified as being possible sources of expert consultation. Those individuals who indicated both a continuing interest in the area of decision-making and continuing professional education and an interest in this study were asked to serve as a jury to validate the research instrument. (See Appendix D for a list of jury members.) The United States mail was used as a delivery system for a copy of the instrument to each jury member, together with directions to review each statement for validity of content in regard to decision-making. The jury was asked to indicate the rationale for choosing one of the following responses for each of the thirty-four items on the instrument:

4 = accept as is

3 = accept with reservation

2 = accept with revision

1 = reject

Another jury composed of five elementary principals randomly chosen from the population of elementary principals in one of the Fifty Large Cities School Districts was asked to review each item on

the instrument for clarity and understanding of the vocabulary, wording, and sentence structure.[22] The jury of principals was also asked to indicate the rationale for choosing one of the four responses listed above for each of the thirty-four statements on the instrument. (See Appendix $E_1$ for a copy of the directions and a copy of the instrument sent to the jury of authorities and Appendix $E_2$ for a copy of the directions which were sent with an identical instrument to the jury of elementary principals.)

Measures of central tendency computed for each of the statements on the instrument from the responses given by the jury of authorities in decision-making and continuing professional education are reported in Table I. In a similar manner, measures of central tendency were computed for the responses of the jury of elementary principals and are reported in Table II.

Revision of Instrument

Revision of the instrument was based on the data provided from the measures of central tendency and from the rationale given by each jury member for a particular response. On statements where the average of the measures of central tendency was below 3.0, the rationale for a particular response by each jury member was given a plus or minus. A plus score greater than the minus score for a statement was

[22] The jury of elementary principals randomly chosen from the population in one of the Fifty Large City School Districts was promised anonymity and therefore are not listed in the appendices.

TABLE I

MEASURES OF CENTRAL TENDENCY FOR EACH OF THIRTY-FOUR STATEMENTS ON DECISION-MAKING SKILL QUESTIONNAIRE AS COMPUTED FROM RESPONSES OF JURY OF AUTHORITIES IN DECISION-MAKING AND CONTINUING PROFESSIONAL EDUCATION

| Statement | Mean | Mode | Median |
|---|---|---|---|
| 1 | 3.64 | 4 | 4 |
| 2 | 3.64 | 4 | 4 |
| 3 | 2.50 | 3 | 3 |
| 4 | 3.87 | 4 | 4 |
| 5 | 2.85 | 4 | 3 |
| 6 | 2.62 | 2 | 2.5 |
| 7 | 3.25 | 4 | 4 |
| 8 | 3.14 | 4 | 4 |
| 9 | 2.75 | 2 | 2.5 |
| 10 | 3.00 | 4 | 4 |
| 11 | 2.87 | 2 | 2.5 |
| 12 | 2.57 | 2 | 2 |
| 13 | 3.50 | 4 | 4 |
| 14 | 3.00 | 2,4 | 3 |
| 15 | 2.62 | 2 | 2 |
| 16 | 3.37 | 4 | 4 |
| 17 | 3.37 | 4 | 4 |
| 18 | 1.62 | 2 | 2 |
| 19 | 3.37 | 4 | 4 |
| 20 | 2.62 | 2 | 2 |

TABLE I (continued)

| Statement | Mean | Mode | Median |
|---|---|---|---|
| 21 | 2.75 | 2,4 | 2.5 |
| 22 | 2.12 | 1 | 2 |
| 23 | 3.00 | 4 | 4 |
| 24 | 2.75 | 4 | 4 |
| 25 | 3.75 | 4 | 4 |
| 26 | 3.62 | 4 | 4 |
| 27 | 3.50 | 4 | 4 |
| 28 | 3.75 | 4 | 4 |
| 29 | 3.66 | 4 | 4 |
| 30 | 3.50 | 4 | 4 |
| 31 | 3.87 | 4 | 4 |
| 32 | 3.25 | 4 | 4 |
| 33 | 3.75 | 4 | 4 |
| 34 | 2.50 | 1,2,3,4 | 2.5 |

TABLE II

MEASURES OF CENTRAL TENDENCY FOR EACH OF THIRTY-FOUR STATEMENTS ON DECISION-MAKING SKILL QUESTIONNAIRE AS COMPUTED FROM RESPONSES OF JURY OF ELEMENTARY PRINCIPALS

| Statement | Mean | Mode | Median |
|---|---|---|---|
| 1 | 3.8 | 4 | 4 |
| 2 | 3.8 | 4 | 4 |
| 3 | 3.8 | 4 | 4 |
| 4 | 3.6 | 4 | 4 |
| 5 | 4.0 | 4 | 4 |
| 6 | 4.0 | 4 | 4 |
| 7 | 3.6 | 4 | 4 |
| 8 | 3.3 | 4 | 4 |
| 9 | 4.0 | 4 | 4 |
| 10 | 4.0 | 4 | 4 |
| 11 | 3.8 | 4 | 4 |
| 12 | 4.0 | 4 | 4 |
| 13 | 4.0 | 4 | 4 |
| 14 | 3.8 | 4 | 4 |
| 15 | 3.6 | 4 | 4 |
| 16 | 3.6 | 4 | 4 |
| 17 | 4.0 | 4 | 4 |
| 18 | 3.0 | 4 | 4 |
| 19 | 4.0 | 4 | 4 |
| 20 | 3.6 | 4 | 4 |

TABLE II (continued)

| Statement | Mean | Mode | Median |
|---|---|---|---|
| 21 | 4.0 | 4 | 4 |
| 22 | 4.0 | 4 | 4 |
| 23 | 2.6 | 4 | 4 |
| 25 | 4.0 | 4 | 4 |
| 26 | 3.8 | 4 | 4 |
| 27 | 3.6 | 4 | 4 |
| 28 | 3.8 | 4 | 4 |
| 29 | 3.8 | 4 | 4 |
| 30 | 3.5 | 4,3 | 3.5 |
| 31 | 3.2 | 4 | 4 |
| 32 | 3.2 | 4 | 4 |
| 33 | 4.0 | 4 | 4 |
| 34 | 4.0 | 4 | 4 |

reason for retaining the statement in the instrument. A minus score greater than the plus score was cause for deleting the statement from the instrument. On this basis statements three, six, and twenty-two were deleted. Statement twenty-four, even though it had an average score higher than 3.0, was deleted because the minus scores on the rationale were greater than the plus scores. Statements retained in the instrument were revised on the basis of the suggestions given in the rationale by members of each of the juries.

Jury members were asked to critique Decision-Making Skill Questionnaire, Form B, in its entirety as the instrument which would have directions asking each principal to indicate to what extent he or she would be interested in increasing skill in decision-making. Jurors were informed Decision-Making Skill Questionnaire, Form A, would have directions asking each principal to indicate to what extent he or she has present competence in decision-making. As reported on page 8 of this paper, suggestions given by the jurors were incorporated into the prompts used on the two instruments in their final revised forms.

Reliability

The instruments, Decision-Making Skill Questionnaire, Form A, and Decision-Making Skill Questionnaire, Form B, were tested for reliability by a test-retest procedure and by split-half procedures.

The test-retest procedure was carried out in the following manner. Forty elementary principals were randomly chosen from the population in one of the Fifty Large Cities School Districts. Decision-

Making Skill Questionnaire, Form A, was randomly assigned to twenty of the principals.

In a like manner, Decision-Making Skill Questionnaire, Form B, was randomly assigned to twenty of the principals. A copy of the instrument and a cover letter asking principals to complete the questionnaire were sent via the district's school mail on a Friday. Directions indicated the questionnaire should be returned within five days using the stamped self-addressed envelope and the United States mail service.

Two weeks later on a Friday, an identical questionnaire was sent to each of the forty principals. The principals were asked to again complete the questionnaire and return it in a similar manner, by using the enclosed stamped, self-addressed envelope.

Responses were tabulated on Hollerith cards using the keypunch. From this data Pearson correlation coefficients were generated by the computer at the University of Nebraska Computing Center. Decision-Making Skill Questionnaire, Form A, had a coefficient of .78. Decision-Making Skill Questionnaire, Form B, had a coefficient of .79.

The split-half procedures utilized the data gathered on the test-retest decision questionnaire. Using the data cards Pearson correlation coefficients were calculated for both the pre- and posttests of DMSQ, Form A, and pre- and posttests of DMSQ, Form B. The results of the computation are shown in Table III. On pretest, DMSQ, Form A, the coefficient was .91, and on posttest, DMSQ, Form A, the coefficient was .92. On the prestest, DMSQ, Form B, the coefficient was .95. On the

posttest, DMSQ, Form B, the coefficient was .89.

TABLE III

PEARSON CORRELATION COEFFICIENTS FOR DECISION-MAKING SKILL QUESTIONNAIRES, FORM A, PRE- AND POSTTESTS, AND FOR DECISION-MAKING SKILL QUESTIONNAIRE, FORM B, PRE- AND POSTTESTS

| Test | Coefficient | Number of Cases |
|---|---|---|
| Form A, Pretest | .91 | 16 |
| Form A, Posttest | .92 | 16 |
| Form B, Pretest | .95 | 16 |
| Form B, Posttest | .89 | 15 |

SAMPLE

Elementary principals from the Fifty Large Cities School Districts composed the population for this study. A letter was sent to the assistant superintendent of personnel in each of the Fifty Large Cities School Districts apprising them of the study and its purpose and asking for a list of elementary principals, their schools, and school addresses. Principal lists were sent, following second and third letter requests and telephone calls to the assistant superintendents of personnel in some instances, by sixty percent of the districts. Additional detailed information, copies of the proposal and questionnaires, and a letter from the writer's advisor indicating knowledge of the study were requested by, and sent to, forty percent of the school districts. Final approval

for participation of elementary principals on a voluntary basis was given by forty-four of the fifty school districts. (See Appendix F for a list of the Fifty Large Cities School Districts.)

The lists of elementary principals were placed in alphabetical order by school districts and the principals were numbered from one through 5,810. A random sample was drawn from the total population of principals by computer with numbers sorted in ascending order. A random number was then matched with the number by the principal's name.

Sample Size

A sample size of 175 elementary principals for each instrument was determined through use of Sample Size Tables.[23] The alpha level was established at .05, power at .80, and effect size at .30. Alpha, the probability of a Type I error, when established at the .05 level, meant that only five times out of 100 would a true null hypothesis be rejected. Beta, the probability of a Type II error, was used in computing power since power is one minus Beta. For this study, 1.00-.80 is .20, which meant that only twenty times out of 100 would a false null hypothesis be rejected. A medium effect size for the t-test of .30 was established which meant that three-tenths of a standard deviation difference between the means was acceptable.

Since another research project related to the problem investigated

[23]Jacob Cohen, Statistical Power Analysis for the Behavioral Sciences (New York: Academic Press, 1969), p. 53.

in this study was planned, data from a total of 600 questionnaires were required. Assuming that 100 percent of the 600 principals would not return the questionnaires, a larger sample was needed. Thus, a decision was made to draw a random sample of 700 principals to insure acquisition of the necessary data for both research projects. From the sample of 700 principals, 350 principals were randomly assigned Decision-Making Skill Questionnaire, Form A, and another 350 principals were randomly assigned Decision-Making Skill Questionnaire, Form B. For this study, a sample of 175 principals was randomly drawn from the total of principals who responded to DMSQ, Form A, and a sample of 175 principals was randomly drawn from the total of principals who responded to DMSQ, Form B.

## DATA COLLECTION

Data were collected in March and April, 1976, for this study. A cover letter stating the purpose of the study and asking principals to participate by completing the questionnaire and returning it in the stamped, self-addressed envelope through the United States mail accompanied Decision-Making Skill Questionnaire, Form A, sent to 350 randomly drawn principals and Decision-Making Skill Questionnaire, Form B, sent to another 350 randomly drawn principals.

A follow-up letter, an identical questionnaire, and another stamped self-addressed envelope were sent to each principal who had not responded within three weeks after the first mailing.

## DATA PROCESSING

The data from Decision-Making Skill Questionnaire, Form A, and Decision-Making Skill Questionnaire, Form B, were keypunched directly from

the questionnaires. Keypunching was done by Keypunch Associates, Lincoln, Nebraska. The keypunched cards were then taken to the University of Nebraska Computing Center, Lincoln, Nebraska, where the programming was written for the computer analysis of the data.

## DATA ANALYSIS

A univariate t-test was used to determine whether there was a significant difference between the scores of principals on Decision-Making Questionnai Form A, and Decision-Making Skill Questionnaire, Form B. Scores from each of the questionnaires were treated as a single factor, since the assumption was made that one construct, decision-making, was being measured.

A multivariate t-test, Hotelling's $t^2$, was used to test for a significant difference between the two dimensions, demonstrated skill in decision-making and interest in increasing skill in decision-making, on all thirty items on DMSQ, Form A, and DMSQ, Form B. In this case, the assumption was made that each one of the items was a dependent variable and a mean vector could be calculated.

The Friedman two-way analysis of variance was used to determine whether there was a significant difference between the ranked item scores with each of the subgroups on each of the two questionnaires. Demographic data were gathered from elementary principals on each of these factors: level of educational preparation, age, years of experience as an elementary principal, and sex. Subgroups for level of educational preparation were master's degree, six year degree or certificate, and doctorate. Subgroups for age were twenty-two to thirty-five years of age, thirty-six to fifty years of age, and fifty-one plus years of age. Subgroups for years of experience as an elementary

principal were one to three years experience, four to ten years experience, and eleven plus years experience. Subgroups for sex were male and female.

## DEMOGRAPHIC DATA

Demographic data were collected from the principals responding to Decision-Making Skill Questionnaire, Form A, and Decision-Making Skill Questionnaire, Form B, in March and April, 1976. Table IV shows that DMSQ, Form A, had 175 (50 percent) of the elementary principal responses used in the study and DMSQ, Form B, also had 175 (50 percent) of the elementary principal responses used in the study.

TABLE IV

NUMBER OF ELEMENTARY PRINCIPAL RESPONSES USED IN STUDY

| Test Form | Frequency | Percent |
|---|---|---|
| Form A (Demonstrated Skills) | 175 | 50.0 |
| Form B (Interest in Increasing Skills) | 175 | 50.0 |
| Total | 350 | 100.0 |

Information is given in Tables V-VIII about the principals' level of educational preparation, age, years of experience as an elementary principal, and sex. Frequency and percentage of principals for each factor for DMSQ, Form A; DMSQ, Form B; and the total are shown. Percentage figures from the tables were rounded to the nearest whole number when reported in the text.

Level of Educational Preparation

Table V shows the level of educational preparation of responding principals divided into three distinct subgroups: master's degree, six year degree or certificate, and doctorate. Of the principals responding to DMSQ, Form A, 118 (67 percent) held a master's degree, 44 (25 percent) held a six year degree or certificate, and 13 (seven percent) held a doctorate. Of the principals responding to DMSQ, Form B, 128 (73 percent) held a master's degree, 25 (20 percent) held a six year degree or certificate, and 12 (seven percent) held a doctorate. Therefore, the level of educational preparation of the two groups was similar. A total of 246 (70 percent) of the principals held a master's degree, 79 (23 percent) held a six year degree or certificate, and 25 (seven percent) held a doctorate.

TABLE V

LEVEL OF EDUCATIONAL PREPARATION OF RESPONDING PRINCIPALS

| Level of Educational Preparation | Frequency Form A* | Percent Form A | Frequency Form B* | Percent Form B | Frequency Total | Percent Total |
|---|---|---|---|---|---|---|
| Master's Degree | 118 | 67.4 | 128 | 73.1 | 246 | 70.3 |
| Six Year Degree or Certificate | 44 | 25.1 | 35 | 20.0 | 79 | 22.6 |
| Doctorate | 13 | 7.4 | 12 | 6.9 | 25 | 7.1 |

*Form A = Demonstrated Skills
Form B = Interest in Increasing Skills

Age

Table VI shows the ages of responding principals divided into three distinct subgroups: twenty-two to thirty-five years of age, thirty-six to fifty years of age, and fifty-one plus years of age. Of the principals responding to DMSQ, Form A, nine (five percent) were twenty-two to thirty-five years of age, 93 (53 percent) were thirty-six to fifty years of age, and 78 (42 percent) were fifty-one plus years of age. Of the principals responding to DMSQ, Form B, five (three percent) were twenty-two to thirty-five years of age, 102 (58 percent) were thirty-six to fifty years of age, and 68 (39 percent) were fifty-one plus years of age. Therefore, the ages of the two groups were similar. A total of 14 (four percent) of the principals were twenty-two to thirty-five years of age, 195 (58 percent) were thirty-six to fifty years of age, and 141 (40 percent) were fifty-one plus years of age.

TABLE VI

AGES OF RESPONDING PRINCIPALS

| Age in Years | Frequency Form A* | Percent Form A | Frequency Form B* | Percent Form B | Frequency Total | Percent Total |
|---|---|---|---|---|---|---|
| 22-35 | 9 | 5.1 | 5 | 2.9 | 14 | 4.0 |
| 36-50 | 93 | 53.1 | 102 | 58.3 | 195 | 55.7 |
| 51 plus | 73 | 41.7 | 68 | 38.9 | 141 | 40.3 |

*Form A = Demonstrated Skills
Form B = Interest in Increasing Skills

Years of Experience as an Elementary Principal

Table VII shows the years of experience as an elementary principal of the responding principals divided into three distinct subgroups: one to three years experience, four to ten years experience, and eleven plus years experience. Of the principals responding to DMSQ, Form A, 31 (18 percent) had one to three years experience as an elementary principal, 79 (45 percent) had four to ten years experience as an elementary principal, and 65 (37 percent) had eleven plus years experience as an elementary principal. Of the principals responding to DMSQ, Form B, 36 (21 percent) had one to three years experience as an elementary principal, 64 (37 percent) had four to ten years experience as an elementary principal, and 75 (43 percent) had eleven plus years experience as an elementary principal. Therefore, the years of experience as an elementary principal of the two groups were similar. A total of 67 (19 percent) of the principals had one to three years experience as an elementary principal, 143 (41 percent) had four to ten years experience as an elementary principal, and 140 (40 percent) had eleven plus years experience as an elementary principal.

Sex

Table VIII shows the sex of the responding principals divided into two distinct subgroups, male and female. Of the principals responding to DMSQ, Form A, 116 (66 percent) were males and 59 (34 percent) were females. Of the principals responding to DMSQ, Form B, 129 (74 percent) were male and 46 (26 percent) were females. Therefore, the

TABLE VII

YEARS OF EXPERIENCE AS AN ELEMENTARY PRINCIPAL
OF RESPONDING PRINCIPALS

| Years of Experience | Frequency Form A* | Percent Form A | Frequency Form B* | Percent Form B | Frequency Total | Percent Total |
|---|---|---|---|---|---|---|
| 1- 3 | 31 | 17.7 | 36 | 20.6 | 67 | 19.1 |
| 4-10 | 79 | 45.1 | 64 | 36.6 | 143 | 40.9 |
| 11 plus | 65 | 37.1 | 75 | 42.9 | 140 | 40.0 |

the proportion of males and females in each of the two groups was similar. A total of 245 (70 percent) of the principals were male and 105 (30 percent) were female.

TABLE VIII

SEX OF RESPONDING PRINCIPALS

| Sex | Frequency Form A* | Percent Form A | Frequency Form B* | Percent Form B | Frequency Total | Percent Total |
|---|---|---|---|---|---|---|
| Male | 116 | 66.3 | 129 | 73.7 | 245 | 70.0 |
| Female | 59 | 33.7 | 46 | 26.3 | 105 | 30.0 |

*Form A = Demonstrated Skills
Form B = Interest in Increasing Skills

## MAJOR QUESTION DATA

Since the purpose in this study was to assess the need for continuing education in decision-making as perceived by elementary principals in the Fifty Large Cities School Districts, the major question asked in the study was: Was there a significant difference in elementary principals' perceptions of their present competence in decision-making skill and their need for continuing education in decision-making skill?

Other questions asked in the study were: (1) Was there a significant difference in elementary principals' perceptions of their present competence in decision-making skill and their need for continuing education in decision-making skill when the elementary principals were categorized by levels of educational preparation into three distinct subgroups? (2) Was there a significant difference in elementary principals' perceptions of their present competence in decision-making skill and their need for continuing education in decision-making skill when the elementary principals were categorized by age into three distinct subgroups? (3) Was there a significant difference in elementary principals' perceptions of their present competence in decision-making skill and their need for continuing education in decision-making skill when the elementary principals were categorized by years of experience as an elementary principal into three distinct subgroups? (4) Was there a significant difference in elementary principals' perceptions of their present competence in decision-making skill and their need for continuing education in decision-making skill when the elementary principals were categorized by sex into two distinct subgroups? (Levels of significance at 0.000 or 0.0000 as printed by the computer are reported at the 0.0001 or 0.00001 level in Tables X, XI, XIII, XIV.

## HYPOTHESIS

The hypothesis of the study was:

> When elementary principals in the Fifty Large Cities School Districts indicated their perception of their present competence in decision-making skill and their perception of their need for continuing education in decision-making skill, there was no significant difference between their perceptions.

Mean scores were computed from the total scores of principals responding to Decision-Making Skill Questionnaire, Form A, and Decision-Making Skill Questionnaire, Form B. The t-test was used to determine whether there was a significant statistical difference between the total scores on the two questionnaires. As reported in Table IX, the t-test score of 1.76 was not significant at the .05 level. Thus, the first null hypothesis was not rejected based on the univariate t-test score.

TABLE IX

A COMPARISON OF TOTAL ITEM SCORES BETWEEN PRINCIPAL PERCEPTIONS OF DEMONSTRATED SKILL IN DECISION-MAKING AND PRINCIPAL PERCEPTIONS OF INTEREST IN INCREASING SKILL IN DECISION-MAKING (N = 350)

| Perceptions | $\bar{x}$ Response | t-Value | p Value |
|---|---|---|---|
| Demonstrated skill | 110.9257 | | |
| Interest in increasing skills | 107.5371 | | |
| | | 1.76 | .08* |

*$p > .05$

However, in computing Hotelling's $t^2$, a multivariate t-test, on the thirty questionnaire items, a significant difference was found between the mean vector score on Decision-Making Skill Questionnaire, Form A, and the mean vector score on Decision-Making Skill Questionnaire, Form B. As reported in Table X, the F value of 14.5928 was significant at the .0001 level. This null hypothesis, then, was rejected at alpha $\leq .05$.

TABLE X

A MULTIVARIATE COMPARISON OF PRINCIPAL PERCEPTIONS BETWEEN DEMONSTRATED SKILL AND INTEREST IN INCREASING SKILL IN DECISION-MAKING: DIFFERENCES AMONG GROUP MEANS USING ALL VARIABLES (N = 350)

| | Scores | p Value |
|---|---|---|
| Hotelling $t^2$ | 477.5981 | |
| F value | 14.5928* | 0.0001 |

*Significance $p \leq .05$

Therefore, in considering the hypothesis of the study, when the questionnaire items were treated as a single factor (since the assumption was that one construct, decision-making, was being measured) there was no significant difference between the total scores on the two questionnaires. However, when the assumption was made that each one of the questionnaire items was a dependent variable, a significant difference was found between the mean vector scores on the two questionnaires.

## QUESTIONS

The first question of the study was:

> When elementary principals in the Fifty Large Cities School Districts were categorized by levels of educational preparation into three distinct subgroups, was there a difference between subgroups with regard to elementary principals' perceptions of (a) their present competence in decision-making skill and (b) their need for continuing education in decision-making skill?

Sums and means were computed for each item on each questionnaire, DMSQ, Form A and DMSQ, Form B, within levels of educational preparation subgroups. The levels were master's degree, six year degree or certificate, and doctorate. The item means within educational level subgroups were then rank ordered. The Freidman two-way analysis of variance was used to determine whether there was a significant difference between the ranked item scores within each of the three distinct subgroups on each of the two questionnaires. As reported in Table XI, the Friedman test statistic of 6.19995 was statistically significant at the .05 level. Thus, there was a significant difference between the scores of elementary principals categorized by levels of educational preparation into three distinct subgroups for both (a) present competence in decision-making skill and (b) need for continuing education in decision-making skill.

TABLE XI

FRIEDMAN TEST STATISTIC AND LEVEL OF SIGNIFICANCE FOR DMSQ, FORM A, AND DMSQ, FORM B, FOR ELEMENTARY PRINCIPALS CATEGORIZED BY LEVELS OF EDUCATIONAL PREPARATION

| DMSQ Form | Friedman Test Statistic | Level of Significance |
|---|---|---|
| Form A (Demonstrated Skills) | 6.1995 | 0.0451* |
| Form B (Interest in Increasing Skills) | 6.06641 | 0.0482* |

*Assuming chi square distribution with df = 2

The second question of the study was:

> When elementary principals in the Fifty Large Cities School Districts were categorized by age into three distinct subgroups, was there a difference between subgroups with regard to elementary principals' perceptions of (a) their present competence in decision-making skill and (b) their need for continuing education in decision-making skill?

Sums and means were computed for each item on each questionnaire, DMSQ, Form A, and DMSQ, Form B, within age subgroups. The age subgroups were twenty-two to thirty-five years of age, thirty-six to fifty years of age, and fifty-one plus years of age. The item means within age subgroups were then rank ordered. The Friedman two-way analysis of variance was used to determine whether there was a significant difference between the ranked item scores within each of the three distinct subgroups on each of the two questionnaires. As reported in Table XII, the Friedman test statistic of 10.06641 was statistically significant

TABLE XII

FRIEDMAN TEST STATISTIC AND LEVEL OF SIGNIFICANCE FOR DMSQ, FORM A, AND DMSQ, FORM B, FOR ELEMENTARY PRINCIPALS CATEGORIZED BY AGE

| DMSQ Form | Friedman Test Statistic | Level of Significance |
|---|---|---|
| Form A (Demonstrated Skills) | 10.06641 | 0.0065* |
| Form B (Interest in Increasing Skills) | 24.44995 | 0.00001* |

*Assuming chi square distribution with df = 2

at the .05 level for DMSQ, Form A. The Friedman test statistic of 24.44995 for DMSQ, Form B, was statistically significant at the .05 level. Thus, there was a significant difference between the scores of elementary principals categorized by age into three distinct subgroups for both (a) present competence in decision-making skill and (b) need for continuing education in decision-making skill.

The third question of the study was:

> When elementary principals in the Fifty Large Cities School Districts were categorized by years of experience as an elementary principal into three distinct subgroups, was there a difference between subgroups with regard to elementary principals' perception of (a) their present competence in decision-making skill and (b) their need for continuing education in decision-making skill?

Sums and means were computed for each item on each questionnaire, DMSQ, Form A, and DMSQ, Form B, within the years of experience as an elementary principal subgroups. The years of experience as an elementary principal subgroups were one to three years experience, four to ten years experience, and eleven plus years experience. The item means within years of experience as an elementary principal subgroups were then rank ordered. The Friedman two-way analysis of variance was used to determine whether there was a significant difference between the ranked item scores within each of the three distinct subgroups on each of the two questionnaires. As reported in Table XIII, the Friedman test statistic of 29.06641 was statistically significant at the .05 level for DMSQ, Form A. The Friedman test statistic of 33.06641 for DMSQ, Form B, was statistically significant at the .05 level. Thus,

there was a significant difference between the scores of elementary principals categorized by years of experience as an elementary principal into three distinct subgroups for both (a) present competence in decision-making skill and (b) need for continuing education in decision-making skill.

TABLE XIII

FRIEDMAN TEST STATISTIC AND LEVEL OF SIGNIFICANCE FOR DMSQ, FORM A, AND DMSQ, FORM B, FOR ELEMENTARY PRINCIPALS CATEGORIZED BY YEARS OF EXPERIENCE AS AN ELEMENTARY PRINCIPAL

| DMSQ Form | Friedman Test Statistic | Level of Significance |
|---|---|---|
| Form A (Demonstrated Skills) | 29.06641 | 0.00001* |
| Form B (Interest in Increasing Skills) | 33.06641 | 0.00001* |

*Assuming chi square distribution with df = 2

The fourth question of the study was:

> When elementary principals were categorized by sex into two distinct subgroups, was there a difference between subgroups with regard to elementary principals' perceptions of (a) their present competence in decision-making skill and (b) their need for continuing education in decision-making skill?

Sums and means were computed for each item on each questionnaire, DMSQ, Form A, and DMSQ, Form B, within sex subgroups. The subgroups were male and female. The item means within sex subgroups were then rank ordered. The Friedman two-way analysis of variance was used to determine whether there was a significant difference between the ranked

item scores within each of the two distinct subgroups on each of the two questionnaires.

As reported in Table XIV, the Friedman test statistic of -0.00024 was not statistically significant at the .05 level for DMSQ, Form A. Thus, there was no significant difference between the scores of male elementary principals and female elementary principals for (a) present competence in decision-making skill.

Table XIV shows the Friedman test statistic for DMSQ, Form B, as 26.13330 which was statistically significant at the .05 level. Thus, there was a significant difference between the scores of male elementary principals and female elementary principals for (b) need for continuing education in decision-making.

TABLE XIV

FRIEDMAN TEST STATISTIC AND LEVEL OF SIGNIFICANCE FOR DMSQ, FORM A, AND DMSQ, FORM B, FOR ELEMENTARY PRINCIPALS CATEGORIZED BY SEX

| DMSQ Form | Friedman Test Statistic | Level of Significance |
|---|---|---|
| Form A (Demonstrated Skills) | -0.00024 | 1.0000* |
| Form B (Interest in Increasing Skills) | 26.13330 | 0.00001* |

*Assuming chi square distribution with df = 1

## RANK SUM DATA

Since significant differences were found in the principals' perceptions of demonstrated skill in decision-making and interest in increasing skill in decision-making when the principals were categorized by subgroups, a closer examination of the data appeared to be logical. Therefore, the rank sum data are presented and analyzed in the following section.

Elementary principals responding to Decision-Making Skill Questionnaire, Form A, and Decision-Making Skill Questionnaire, Form B, were categorized into distinct subgroups on each of these factors: level of educational preparation, age, years of experience as an elmentary principal, and sex. The numbers assigned by principals in the subgroups to items in the questionnaires were summed and averaged to provide composite ratings for each subgroup. The composite ratings were then ranked and a sum of the ranks for each subgroup computed. The highest rank sum indicated the greatest perceived demonstrated skill in decision-making on DMSQ, Form A, and the greatest perceived interest in increasing skill in decision-making on DMSQ, Form B.

### Level of Educational Preparation

Rank sums computed for subgroups of the factor, level of educational preparation, are shown in Table XV. Of the subgroups responding to DMSQ, Form A, the master's degree subgroup had a rank sum of 64, the six year degree or certificate subgroup had a rank sum of 49, and the doctorate subgroup had a rank sum of 67. Of the subgroups

responding to DMSQ, Form B, the master's degree subgroup had a rank sum of 50, the six year degree or certificate subgroup had a rank sum of 69, and the doctorate subgroup had a rank sum of 61.

According to the rank sum data, principals with a doctorate or a master's degree perceieved greater demonstrated skill in decision-making than principals with a six year degree or certificate. However, principals with a six year degree or certificate perceived greater interest in increasing skill in decision-making than principals with a doctorate or a master's degree. Principals with a master's degree perceived least interest in incr[illegible]ng skill in decision-making.

TABLE XV

RANK SUMS FOR LEVEL OF EDUCATIONAL PREPARATION OF RESPONDING PRINCIPALS ON DMSQ, FORM A, AND DMSQ, FORM B

| DMSQ Form | Master's Degree | Six Year Degree or Certificate | Doctorate |
|---|---|---|---|
| Form A (Demonstrated Skills) | 64.0 | 49.0 | 67.0 |
| Form B (Interest in Increasing Skills) | 50.0 | 69.0 | 61.0 |

Age

Rank sums computed for subgroups of the factor, age, are shown in Table XVI. Of the subgroups responding to DMSQ, Form A, the twenty-two to thirty-five years of age subgroup had a rank sum of 65, the thirty-

six to fifty years of age subgroup had a rank sum of 69, and the fifty-one plus years of age subgroup had a rank sum of 46. Of the subgroups responding to DMSQ, Form B, the twenty-two to thirty-five years of age subgroup had a rank sum of 39, the thirty-six to fifty years of age subgroup had a rank sum of 64.5, and the fifty-one plus years of age subgroup had a rank sum of 76.5.

TABLE XVI

RANK SUMS FOR AGE OF RESPONDING PRINCIPALS ON DMSQ, FORM A, AND DMSQ, FORM B

| DMSQ Form | Ages 22-35 | Ages 36-50 | Ages 51 plus |
|---|---|---|---|
| Form A (Demonstrated Skills) | 65.0 | 69.0 | 46.0 |
| Form B (Interest in Increasing Skills) | 39.0 | 64.5 | 76.5 |

According to the rank sum data, principals in the thirty-six to fifty years of age subgroup perceived greater demonstrated skill in decision-making than principals in the other age subgroups. Principals in the fifty-one plus years of age subgroup perceived the least demonstrated skill in decision-making; however, these principals also perceived the greatest interest in increasing skill in decision-making. Principals in the twenty-two to thirty-five years of age subgroup perceived a high demonstrated skill and the least interest in increasing skill in decision-making.

Years of Experience as an Elementary Principal

Rank sums computed for subgroups of the factor, years of experience as an elementary principal, are shown in Table XVII. Of the subgroups responding to DMSQ, Form A, the one to three years experience subgroups had a rank sum of 50, the four to ten years experience subgroup had a rank sum of 84, and the eleven plus years experience subgroup had a rank sum of 46. Of the subgroups responding to DMSQ, Form B, the one to three years experience subgroup had a rank sum of 80, the four to ten years experience subgroup had a rank sum of 36, and the eleven plus years experience subgroup had a rank sum of 64.

TABLE XVII

RANK SUMS FOR YEARS OF EXPERIENCE AS AN ELEMENTARY PRINCIPAL OF RESPONDING PRINCIPALS ON DMSQ, FORM A, AND DMSQ, FORM B

| DMSQ Form | Experience 1-3 Years | Experience 4-10 Years | Experience 11 Plus Years |
|---|---|---|---|
| Form A (Demonstrated Skills) | 50.0 | 84.0 | 46.0 |
| Form B (Interest in Increasing Skills) | 80.0 | 36.0 | 64.0 |

According to the rank sum data, principals in the four to ten years experience subgroup perceived greater demonstrated skill in decision-making than principals in the other experience subgroups and less interest in increasing skill in decision-making than principals

in the other experience subgroups. Principals in the one to three years experience subgroup perceived the greatest interest in increasing skill in decision-making.

Sex

Rank sums computed for subgroups of the factor, sex, are shown in Table XVIII. Of the subgroups responding to DMSQ, Form A, males had a rank sum of 45 and females had a rank sum of 45. Of the subgroups responding to DMSQ, Form B, males had a rank sum of 31 and females had a rank sum of 59.

According to the rank sum data, perceptions of demonstrated skill in decision-making were the same for males and females. However, males perceived less interest in increasing skill in decision-making than females.

TABLE XVIII

RANK SUMS FOR SEX OF RESPONDING PRINCIPALS ON DMSQ, FORM A, AND DMSQ, FORM B

| DMSQ Form | Male | Female |
|---|---|---|
| Form A (Demonstrated Skills) | 45.0 | 45.0 |
| Form B (Interest in Increasing Skills) | 31.0 | 59.0 |

QUESTIONNAIRE ITEM DATA

DMSQ, Form A, Items

The data provided in Table XIX give the rank order of mean scores of the extent of demonstrated skill in decision-making for the thirty items on Decision-Making Skill Questionnaire, Form A, as perceived by the principals responding to the questionnaire. A mean of 5.00 indicates a great extent of demonstrated skill in decision-making perceived by responding principals and a mean of 1.00 indicates no extent of demonstrated skill in decision-making perceived by responding principals.

Means Between 4.0 and 5.0

As reported in Table XIX, principals perceived demonstrated skill in decision-making to a greater extent on the sixteen items with means between 4.0 and 5.0 than on the seven items with means between 3.0 and 4.0 and the seven items with means between 2.0 and 3.0.

For the sixteen items with means between 4.0 and 5.0, the rank order of mean scores was Items 1, 3, 11, 4, 16, 12, 13, 2, 6, 17, 30, 14, 5, 10, 7, and 15.

Means Between 3.0 and 4.0

For the seven items with means between 3.0 and 4.0, the rank order of mean scores was Items 19, 9, 8, 20, 29, 18, and 21.

Means Between 2.0 and 3.0

For the seven items with means between 2.0 and 3.0, the rank order of mean scores was Items 22, 28, 26, 24, 27, 25, and 23.

Summary of Rank Order of Mean Scores Data on DMSQ, Form A

It is interesting to note that the sixteen items with means between 4.0 and 5.0 included all of the people involvement items and ten of the conceptual items. Thus, principals perceived demonstrated skill in decision-making to a greater extent on people involvement (human skill) and conceptual (conceptual skill) items than on systems approach (technical skill) items.

Of the seven items with means between 3.0 and 4.0, four were conceptual items and three (Items 20, 29, and 21) were systems approach items. The seven items with means between 2.0 and 3.0 were systems approach items, therefore, principals perceived the least demonstrated skill in decision-making on the systems approach (technical skill) items. However, since Items 20, 29, and 21 were ranked with means between 3.0 and 4.0, principals perceived demonstrated skill in decision-making to some extent on three of the systems approach (technical skill) items. The statements for Items 20, 29, and 21, without the prompt, were as follows: (20) using needs assessment to identify problems, (29) utilizing evaluation procedures in determining the effectiveness of the decision made, and (21) utilizing management by objectives (MBO) to identify decision-making resonsibilities.

TABLE XIX

RANK ORDER OF MEAN SCORES OF EXTENT OF DEMONSTRATED SKILL IN DECISION-MAKING FOR THIRTY ITEMS ON DECISION-MAKING SKILL QUESTIONNAIRE, FORM A

| Rank Order | Item Number | Statement | Mean Score |
|---|---|---|---|
| 1 | 1 | Based upon past experience, I have demonstrated skill in recognizing the existence of a problem. | 4.520 |
| 2 | 3 | Based upon past experience, I have demonstrated skill in assigning priority to a problem. | 4.360 |
| 3 | 11 | Based upon past experience, I have demonstrated skill in differentiating between fact and opinion. | 4.337 |
| 4 | 4 | Based upon past experience, I have demonstrated skill in determining who should make the decision through delegating authority. | 4.326 |
| 5 | 16 | Based upon past experience, I have demonstrated skill in recognizing that varying periods of time may be needed for deliberation before a decision is reached. | 4.251 |
| 6 | 12 | Based upon past experience, I have demonstrated skill in communicating between the school system and community about a problem and/or decision. | 4.223 |
| 7 | 13 | Based upon past experience, I have demonstrated skill in anticipating alternative consequences of decision. | 4.206 |
| 8 | 2 | Based upon past experience, I have demonstrated skill in defining the origin of a problem. | 4.189 |
| 9 | 6 | Based upon past experience, I have demonstrated skill in dealing with conflict in decision-making. | 4.160 |
| 10 | 17 | Based upon past experience, I have demonstrated skill in determining the effect of timing in decision-making. | 4.160 |

TABLE XIX (continued)

| Rank Order | Item Number | Statement | Mean Score |
|---|---|---|---|
| 11 | 30 | Based upon past experience, I have demonstrated skill in gaining commitments from the persons who will implement and/or be affected by a decision. | 4.160 |
| 12 | 14 | Based upon past experience, I have demonstrated skill in using group processes for participatory decision-making. | 4.154 |
| 13 | 5 | Based upon past experience, I have demonstrated skill in choosing a method for decision-making in situations where the rules and regulations of the organization are not applicable. | 4.143 |
| 14 | 10 | Based upon past experience, I have demonstrated skill in anticipating how a person's awareness of a problem will be affected by his or her personal values. | 4.137 |
| 15 | 7 | Based upon past experience, I have demonstrated skill in diagnosing ways in which relationships between individuals affect the decision-making process. | 4.069 |
| 16 | 15 | Based upon past experience, I have demonstrated skill in involving students, staff, and community as active participants in decision-making. | 4.011 |
| 17 | 19 | Based upon past experience, I have demonstrated skill in predicting the probable outcomes of each alternative. | 3.914 |
| 18 | 9 | Based upon past experience, I have demonstrated skill in predicting how the decision-maker's values affect the decisions. | 3.909 |
| 19 | 8 | Based upon past experience, I have demonstrated skill in determining whether the process used affected the decision. | 3.863 |

TABLE XIX (continued)

| Rank Order | Item Number | Statement | Mean Score |
|---|---|---|---|
| 20 | 20 | Based upon past experience, I have demonstrated skill in using needs assessment to identify problems. | 3.806 |
| 21 | 29 | Based upon past experience, I have demonstrated skill in utilizing evaluation procedures in determining the effectiveness of the decision made. | 3.777 |
| 22 | 18 | Based upon past experience, I have demonstrated skill in considering the decision not to decide as one alternative. | 3.709 |
| 23 | 21 | Based upon past experience, I have demonstrated skill in utilizing management by objectives (MBO) to identify decision-making responsibilities. | 3.291 |
| 24 | 22 | Based upon past experience, I have demonstrated skill in utilizing the planning-programming, budgeting system (PPBS) to examine alternatives. | 2.834 |
| 25 | 28 | Based upon past experience, I have demonstrated skill in designing and using survey instruments to determine who should be involved in the decision-making process. | 2.720 |
| 26 | 26 | Based upon past experience, I have demonstrated skill in utilizing flow charting as a means of identifying both major and minor decisions that can be made. | 2.589 |
| 27 | 24 | Based upon past experience, I have demonstrated skill in using the nominal group technique (NGT) to reach group consensus on a decision. | 2.406 |
| 28 | 27 | Based upon past experience, I have demonstrated skill in utilizing program evaluation review technique (PERT) and critical path method (CPM) to more effectively and efficiently implement the chosen alternative. | 2.360 |

TABLE XIX (continued)

| Rank Order | Item Number | Statement | Mean Score |
|---|---|---|---|
| 29 | 25 | Based upon past experience, I have demonstrated skill in using a decision tree to examine alternatives and possible outcomes. | 2.813 |
| 30 | 23 | Based upon past experience, I have demonstrated skill in utilizing the Delphi technique to reach consensus on a decision. | 2.160 |

DMSQ, Form B, Items

The data provided in Table XX give the rank order of mean scores of the extent of interest in increasing skill in decision-making for the thirty items on Decision-Making Skill Questionnaire, Form B, as perceived by the principals responding to the questionnaire. A mean of 5.00 indicates a great extent of interest in increasing skill in decision-making perceived by responding principals and a mean of 1.00 indicates no extent of interest in increasing skill in decision-making perceived by responding principals.

Means Between 4.0 and 5.0

As reported in Table XX, principals perceived interest in increasing skill in decision-making to a greater extent on the four items with means between 4.0 and 5.0 than on the twenty-five items with means between 3.0 and 4.0 and the one item with a mean between 2.0 and 3.0.

For the four items with means between 4.0 and 5.0, the rank order of mean scores was Items 30, 6, 12, and 7. The four statements, without the prompt, were as follows: (30) gaining commitments from the persons who will implement and/or be affected by a decision, (6) dealing with conflict in decision-making, (12) communicating between the school system and community about a problem and/or decision, and (7) diagnosing ways in which relationships between individuals affect the decision-making process.

Means Between 3.0 and 4.0

For the twenty-five items with means between 3.0 and 4.0, the rank order of mean scores was Items 29, 15, 2, 13, 14, 5, 3, 10, 8, 20, 19, 9, 1, 17, 11, 21, 16, 28, 4, 18, 26, 27, 24, 22, and 25.

Means Between 2.0 and 3.0

For the one item with a mean between 2.0 and 3.0, the statement, without the prompt, was as follows: utilizing the Delphi technique to reach on a decision.

Summary of Rank Order of Mean Scores Data on DMSQ, Form B

It is interesting to note that the four items with mean between 4.0 and 5.0 were people involvement items. Of the twenty-five items with means between 3.0 and 4.0, Item 15, a people development item, had a higher mean (3.931) than twenty-four of the thirty items, and Item 14, a people development item, had a higher mean (3.851) than twenty-one of the thirty items. The statements for Items 15 and 14, without the prompt, were as follows: (15) involving students, staff, and community as active participants in decision-making and (14) using group processes for participatory decision-making. Thus principals perceived interest in increasing skill in decision-making to a greater extent on people development (human skill) items than on conceptual (conceptual skill) items or systems approach (technical skill) items.

TABLE XX

RANK ORDER OF MEAN SCORES OF EXTENT OF INTEREST IN INCREASING SKILL IN DECISION-MAKING FOR THIRTY ITEMS ON DECISION-MAKING SKILL QUESTIONNAIRE, FORM B

| Rank Order | Item Number | Statement | Mean Score |
|---|---|---|---|
| 1 | 30 | Based upon present and anticipated needs, I am interested in increasing my skill in gaining commitments from the persons who will implement and/or be affected by a decision. | 4.126 |
| 2 | 6 | Based upon present and anticipated needs, I am interested in increasing my skill in dealing with conflict in decision-making. | 4.086 |
| 3 | 12 | Based upon present and anticipated needs, I am interested in increasing my skill in communicating between the school system and community about a problem and/or decision. | 4.029 |
| 4 | 7 | Based upon present and anticipated needs, I am interested in increasing my skill in diagnosing ways in which relationships between individuals affect the decision-making process. | 4.017 |
| 5 | 29 | Based upon present and anticipated needs, I am interested in increasing my skill in utilizing evaluation procedures in determining the effectiveness of the decision made. | 3.954 |
| 6 | 15 | Based upon present and anticipated needs, I am interested in increasing my skill involving students, staff, and community as active participants in decision-making. | 3.931 |
| 7 | 2 | Based upon present and anticipated needs, I am interested in increasing my skill in defining the origin of a problem. | 3.886 |
| 8 | 13 | Based upon present and anticipated needs, I am interested in increasing my skill in anticipating alternative consequences of decisions. | 3.880 |

TABLE XX (continued)

| Rank Order | Item Number | Statement | Mean Score |
|---|---|---|---|
| 9 | 14 | Based upon present and anticipated needs, I am interested in increasing my skill in using group processes for participatory decision-making. | 3.851 |
| 10 | 5 | Based upon present and anticipated needs, I am interested in increasing my skill in choosing a method for decision-making in situations where the rules and regulations of the organization are not applicable. | 3.823 |
| 11 | 3 | Based upon present and anticipated needs, I am interested in increasing my skill in assigning priority to a problem. | [illegible] |
| 12 | 10 | Based upon present and anticipated needs, I am interested in increasing my skill in anticipating how a person's awareness of a problem will be affected by his or her personal values. | 3.777 |
| 13 | 8 | Based upon present and anticipated needs, I am interested in increasing my skill in determining whether the process used affected the decision. | 3.743 |
| 14 | 20 | Based upon present and anticipated needs, I am interested in increasing my skill in using needs assessment to identify problems. | 3.743 |
| 15 | 19 | Based upon present and anticipated needs, I am interested in increasing my skill in predicting the probable outcomes of each alternative. | 3.686 |
| 16 | 9 | Based upon present and anticipated needs, I am interested in increasing my skill in predicting how the decision-maker's values affect the decision. | 3.674 |
| 17 | 1 | Based upon present and anticipatd needs, I am interested in increasing my skill in recognizing the existence of a problem. | 3.651 |

TABLE XX (continued)

| Rank Order | Item Number | Statement | Mean Score |
|---|---|---|---|
| 18 | 17 | Based upon present and anticipated needs, I am interested in increasing my skill in determining the effect of timing in decision-making. | 3.600 |
| 19 | 11 | Based upon anticipated needs, I am interested in increasing my skill in differentiating between fact and opinion. | 3.423 |
| 20 | 21 | Based upon present and anticipated needs, I am interested in increasing my skill in utilizing management by objectives (MBO) to identify decision-making responsibilities. | 3.371 |
| 21 | 16 | Based upon present and anticipated needs, I am interested in increasing my skill in recognizing that varying periods of time may be needed for deliberation before a decision is reached. | 3.309 |
| 22 | 28 | Based upon present and anticipated needs, I am interested in increasing my skill in designing and using survey instruments to determine who should be involved in the decision-making process. | 3.269 |
| 23 | 4 | Based upon present and anticipated needs, I am interested in increasing my skill in determining who should make the decision through delegating authority. | 3.240 |
| 24 | 18 | Based upon present and anticipated needs, I am interested in increasing my skill in considering the decision not to decide as one alternative. | 3.217 |
| 25 | 26 | Based upon present and anticipated needs, I am interested in increasing my skill in utilizing flow charting as a means of identifying both major and minor decisions that can be made. | 3.177 |
| 26 | 27 | Based upon present and anticipated needs, I am interested in increasing my skill in utilizing program evaluation review technique (PERT) and critical path method (CPM) to more effectively and efficiently implement the chosen alternative. | 3.137 |

TABLE XX (continued)

| Rank Order | Item Number | Statement | Mean Score |
|---|---|---|---|
| 27 | 24 | Based upon present and anticipated needs, I am interested in increasing my skill in using the nominal group technique (NGT) to reach group consensus on a decision. | 3.114 |
| 28 | 22 | Based upon present and anticipated needs, I am interested in increasing my skill in utilizing the planning-programming-budgeting system (PPBS) to examine alternatives. | 3.063 |
| 29 | 25 | Based upon present and anticipated needs, I am interested in increasing my skill in using a decision tree to examine alternatives and possible outcomes. | 3.029 |
| 30 | 23 | Based upon present and anticipated needs, I am interested in increasing my skill in utilizing the Delphi technique to reach consensus on a decision. | 2.931 |

## CONTINUING EDUCATION EXPERIENCE DATA

In the collection of demographic data principals were asked for their perception of the value of five common sources of continuing education. Respondents were asked to rate the value of their experiences in continuing education during the past three years. The rank order of mean scores given by principals to each of the five sources of continuing education is shown in Table XXI, with a mean of 5.00 having high value to principals and a mean of 1.00 having little or no value to principals.

TABLE XXI

RANK ORDER OF MEAN SCORES OF VALUE GIVEN TO CONTINUING EDUCATION EXPERIENCES DURING PAST THREE YEARS BY RESPONDING PRINCIPALS

| Rank Order | Continuing Education Experience | Mean Score |
|---|---|---|
| 1 | Local school district seminars or workshops | 3.723 |
| 2 | Professional education organization meetings or conferences | 2.983 |
| 3 | College or university course work | 2.200 |
| 4 | Private educational consultant firm seminars or workshops | 1.526 |
| 5 | State department of education seminars or workshops | 1.449 |

From the data included in Table XXI, responding principals rated local school district seminars or workshop (3.723) of the most value followed in order by professional education organization meetings or

conferences (2.983), college or university course work (2.200), private educational consultant firm seminars or workshop (1.526), and state department of education seminars or workshops (1.449).

## FINDINGS

### Hypothesis and Questions

An analysis of the data indicated that in answer to the major question there was a significant difference in elementary principals' perception of their present competence in decision-making skill and their need for continuing education in decision-making skill. The difference existed when the skills involved in making a decision were treated separately rather than when decision-making was treated as a single construct.

Findings of the study also indicated: (1) There was a significant difference in elementary principals' perceptions of present competence in decision-making skill and need for continuing education in decision-making when the elementary principals were categorized by levels of educational preparation into three distinct subgroups, (2) There was a significant difference in elementary principals' perceptions of present competence in decision-making skill and need for continuing education in decision-making when the elementary principals were categorized by age into three distinct subgroups, (3) There was a significant difference in elementary principals' perceptions of present competence in decision-making skill and need for continuing education in decision-making when the elementary principals were categorized by years of experience as an elementary principal into three distinct subgroups, (4a) There was no significant difference in elementary

principals' perceptions of present competence in decision-making skill between males and females, and (4b) There was a significant difference in elementary principals' perceptions of need for continuing education in decision-making between males and females.

Rank Sum Data

An analysis of the rank sum data indicated principals with a doctorate or master's degree perceived greater demonstrated skill in decision-making than principals with a six-year degree or certificate. However, principals with a six-year degree or certificate perceived greater interest in increasing skill in decision-making than principals with a doctorate or master's degree. Principals with a master's degree perceived least interest in increasing skill in decision-making.

Principals in the thirty-six to fifty years of age subgroup perceived greater demonstrated skill in decision-making than principals in other age subgroups. Principals in the fifty-one plus years of age subgroup perceived the least demonstrated skill in decision-making; however, these principals also perceived the greatest interest in increasing skill in decision-making. Principals in the twenty-two to thirty-five years of age subgroup perceived a high demonstrated skill and the least interest in increasing skill in decision-making.

Principals in the four to ten years experience as an elementary principal subgroup perceived both greater demonstrated skill in decision-making and less interest in increasing skill in decision-making than principals in the other experience subgroups. Principals in the one to

three years experience subgroups perceived the greatest interest in increasing skill in decision-making.

Male and female principals perceived demonstrated skill in decision-making to the same extent. However, male principals perceived less interest in increasing skill in decision-making than female principals.

Rank Order of Mean Scores for Questionnaire Items

An analysis of the rank order of mean scores for the thirty items on Decision-Making Skill Questionnaire, Form A, indicated principals gave higher means to the people involvement (human skill) and conceptual (conceptual skill) items than to systems approach (technical skill) items. The rank order of mean scores for the thirty items on Decision-Making Skill Questionnaire, Form B, indicated principals gave higher means to the people involvement (human skill) items than to conceptual (conceptual skill) and systems approach (technical skill) items, with the exception of one systems approach item which was stated as follows: Utilizing evaluation procedures in determining the effectiveness of the decision made.

Continuing Education Experiences Data

In the collection of demographic data principals were asked for their perception of the value of five common sources of continuing education. Responding principals rated local school district seminars or workshops of the most value followed in order by professional education organization meetings or conferences, college or university course work, private educational consultant firm seminars or workshops, and state department of education seminars or workshops.

## CONCLUSIONS

Based on the data reported in this study, it can be concluded that:

1. Elementary principals in the Fifty Large Cities School Districts were interested in increasing their skill in decision-making.

2. The degree of interest in increasing skill in decision-making differed according to the principal's level of educational preparation, age, years of experience as an elementary principal, and sex.

3. Interest in increasing skill in decision-making was greatest for skills directly involving other people and for evaluating the effectiveness of decisions made.

4. Continuing education experiences provided by local school districts were perceived to be the most valuable by elementary principals with value also given continuing education experiences provided by professional education organizations and universities and colleges.

## IMPLICATIONS

The major implication of this study is for those persons in the local school districts who plan professional development experiences for elementary principals since the principals perceived an interest in increasing skill in decision-making and also perceived the local school district to be the most valuable source of continuing education experiences. It should be noted that the principals in this study were interested in the various skills of the decision-making process rather than in decision-making as a single construct.

A needs assessment should be conducted to ascertain the specific needs of individuals since principals' perceptions of interest in increasing skill differed with level of educational preparation, age, years of experience as an elementary principal, and sex. It is possible that results of the needs assessment would be similar to this study. Greatest interest in increasing skill in decision-making was perceived by elementary principals with a six-year degree or certificate, by elementary principals in the fifty-one plus years of age subgroup, by elementary principals in the one to three years experience as an elementary principal subgroup, and female elementary principals.

The instrument used to assess the need for increasing skill in decision-making should provide information for the planners of professional development experiences as to the specific conceptual, human, or technical skills to include in the continuing education experiences. In this study, the principals perceived a particular

interest in those skills which directly involved other people and in evaluation of the effectiveness of the decisions made.

The local school districts should work with the professional education organizations and university and college professors in diagnosing, planning, implementing, and evaluating professional development experiences in decision-making since principals valued both professional education organizations and university and college course work as sources of continuing education.

## RECOMMENDATIONS FOR FURTHER STUDY

As a result of the foregoing conclusions, the following recommendations are offered:

1. Replication of this study with elementary principals in smaller size school districts to ascertain their need for continuing education in decision-making.

2. Replication of this study with secondary principals in the Fifty Large Cities School Districts to ascertain their need for continuing education in decision-making.

3. Replication of this study with secondary principals in smaller size school districts to ascertain their need for continuing education in decision-making.

4. Research to identify or develop activities, resources, and instructional materials which can be used in providing professional development experiences for the specific skills in decision-making.

5. Research to ascertain the construct validation of the items in the instruments used in this study followed by revision of the instruments as necessary.

6. Research to ascertain how local school districts, professional education organizations, and colleges and universities can best work together in providing professional development experiences in the skills of decision-making for elementary principals.

Elementary principals evidently want to be the "good principals" who provide educational opportunities for students in "good schools."[24] The desire of the elementary principals in the Fifty Large Cities School Districts to learn or improve their creative decision-making skills through continuing education experience lends a positive aura to the principalship. Planners of professional development experiences have a real opportunity at the present time to meet the assessed needs of elementary principals by providing inservice activities in the various skills of decision-making.

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[24]James B. Conant, Education in the Junior High School Years (Princeton, New Jersey: Educational Testing Service, 1970), p. 37.

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APPENDIX A

DECISION-MAKING SKILL QUESTIONNAIRE
FORM A

Please supply the following information by placing a check mark in the blank of the category which applies to you.

Level of educational preparation--indicate highest degree held:

(1) ____ Master's degree
(2) ____ Six year degree or certificate
(3) ____ Doctorate

Sex:

(1) ____ Male
(2) ____ Female

Age:

(1) ____ 22-35
(2) ____ 36-50
(3) ____ 51 plus

Years of experience as an elementary principal including current year:

(1) ____ 1-3
(2) ____ 4-10
(3) ____ 11 plus

Five common sources of continuing education experiences are listed below. Use the following scale to rate the value of each of these, according to your perception of their value to you during the past three years.

5 = High Value
3 = Some Value
1 = Little or No Value
0 = Have not had, in past three years, any continuing education experience from this source.

(1) ____ College or university course work
(2) ____ Local school district seminars or workshops
(3) ____ State department of education seminars or workshops
(4) ____ Private educational consultant firm seminars or workshops
(5) ____ Professional education organization meetings or conferences

# DECISION-MAKING SKILL QUESTIONNAIRE, FORM A

Based upon past experience, indicate to what extent you have demonstrated skill in each of the following areas. Circle the number next to each statement which best indicates your demonstrated skill in regard to that statement. The response categories are:

1. To no extent
2. To little extent
3. Undecided
4. To some extent
5. To a great extent

For example: Based upon past experience, I have demonstrated skill in recognizing the pertinence of a problem. 1 2 3 (4) 5

| | No Extent ← → Great Extent | | | | |
|---|---|---|---|---|---|
| 1. Based upon past experience, I have demonstrated skill in recognizing the existence of a problem. | 1 | 2 | 3 | 4 | 5 |
| 2. Based upon past experience, I have demonstrated skill in defining the origin of a problem. | 1 | 2 | 3 | 4 | 5 |
| 3. Based upon past experience, I have demonstrated skill in assigning priority to a problem. | 1 | 2 | 3 | 4 | 5 |
| 4. Based upon past experience, I have demonstrated skill in determining who should make the decision through delegating authority. | 1 | 2 | 3 | 4 | 5 |
| 5. Based upon past experience, I have demonstrated skill in choosing a method for decision making in situations where the rules and regulations of the organization are not applicable. | 1 | 2 | 3 | 4 | 5 |
| 6. Based upon past experience, I have demonstrated skill in dealing with conflict in decision making. | 1 | 2 | 3 | 4 | 5 |
| 7. Based upon past experience, I have demonstrated skill in diagnosing ways in which relationships between individuals affect the decision-making process. | 1 | 2 | 3 | 4 | 5 |
| 8. Based upon past experience, I have demonstrated skill in determining whether the process used affected the decision. | 1 | 2 | 3 | 4 | 5 |
| 9. Based upon past experience, I have demonstrated skill in predicting how the decision-maker's values affect the decisions. | 1 | 2 | 3 | 4 | 5 |

| | | No Extent | | | | Great Extent |
|---|---|---|---|---|---|---|
| 10. | Based upon past experience, I have demonstrated skill in anticipating how a person's awareness of a problem will be affected by his or her personal values. | 1 | 2 | 3 | 4 | 5 |
| 11. | Based upon past experience, I have demonstrated skill in differentiating between fact and opinion. | 1 | 2 | 3 | 4 | 5 |
| 12. | Based upon past experience, I have demonstrated skill in communicating between the school system and community about a problem and/or decision. | 1 | 2 | 3 | 4 | 5 |
| 13. | Based upon past experience, I have demonstrated skill in anticipating alternative consequences of decisions. | 1 | 2 | 3 | 4 | 5 |
| 14. | Based upon past experience, I have demonstrated skill in using group processes for participatory decision-making. | 1 | 2 | 3 | 4 | 5 |
| 15. | Based upon past experience, I have demonstrated skill in involving students, staff, and community as active participants in decision-making. | 1 | 2 | 3 | 4 | 5 |
| 16. | Based upon past experience, I have demonstrated skill in recognizing that varying periods of time may be needed for deliberation before a decision is reached. | 1 | 2 | 3 | 4 | 5 |
| 17. | Based upon past experience, I have demonstrated skill in determining the effect of timing in decision-making. | 1 | 2 | 3 | 4 | 5 |
| 18. | Based upon past experience, I have demonstrated skill in considering the decision not to decide as one alternative. | 1 | 2 | 3 | 4 | 5 |
| 19. | Based upon past experience, I have demonstrated skill in predicting the probable outcomes of each alternative. | 1 | 2 | 3 | 4 | 5 |
| 20. | Based upon past experience, I have demonstrated skill in using needs assessment to identify problems. | 1 | 2 | 3 | 4 | 5 |
| 21. | Based upon past experience, I have demonstrated skill in utilizing management by objectives (MBO) to identify decision-making responsibilities. | 1 | 2 | 3 | 4 | 5 |
| 22. | Based upon past experience, I have demonstrated skill in utilizing the planning-programming-budgeting system (PPBS) to examine alternatives. | 1 | 2 | 3 | 4 | 5 |

| | No Extent ← | | | | → Great Extent |
|---|---|---|---|---|---|
| 23. Based upon past experience, I have demonstrated skill in utilizing the Delphi technique to reach consensus on a decision. | 1 | 2 | 3 | 4 | 5 |
| 24. Based upon past experience, I have demonstrated skill in using the nominal group technique (NGT) to reach group consensus on a decision. | 1 | 2 | 3 | 4 | 5 |
| 25. Based upon past experience, I have demonstrated skill in using a decision tree to examine alternatives and possible outcomes. | 1 | 2 | 3 | 4 | 5 |
| 26. Based upon past experience, I have demonstrated skill in utilizing flow charting as a means of identifying both major and minor decisions that can be made. | 1 | 2 | 3 | 4 | 5 |
| 27. Based upon past experience, I have demonstrated skill in utilizing program evaluation review technique (PERT) and critical path method (CPM) to more effectively and efficiently implement the chosen alternative. | 1 | 2 | 3 | 4 | 5 |
| 28. Based upon past experience, I have demonstrated skill in designing and using survey instruments to determine who should be involved in the decision-making process. | 1 | 2 | 3 | 4 | 5 |
| 29. Based upon past experience, I have demonstrated skill in utilizing evaluation procedures in determining the effectiveness of the decision made. | 1 | 2 | 3 | 4 | 5 |
| 30. Based upon past experience, I have demonstrated skill in gaining commitments from the persons who will implement and/or be affected by a decision. | 1 | 2 | 3 | 4 | 5 |

Follow-up by the researcher is possible through use of a code number. Anonymity for individuals and school districts is assured.

Code number _____

# APPENDIX B

## DECISION-MAKING SKILL QUESTIONNAIRE, FORM B

Based upon present and anticipated needs, indicate to what extent you are interested in increasing your skill in each of the following areas. Circle the number next to each statement which best indicates your interest in increasing your skill in regard to that statement. The response categories are:

1. To no extent
2. To little extent
3. Undecided
4. To some extent
5. To a great extent

For example: Based upon present and anticipated needs, I am interested in increasing my skill in recognizing the pertinence of a problem. 1 2 3 (4) 5

| | No Extent ← Great Extent |
|---|---|
| 1. Based upon present and anticipated needs, I am interested in increasing my skill in recognizing the existence of a problem. | 1 2 3 4 5 |
| 2. Based upon present and anticipated needs, I am interested in increasing my skill in defining the origin of a problem. | 1 2 3 4 5 |
| 3. Based upon present and anticipated needs, I am interested in increasing my skill in assigning priority to a problem. | 1 2 3 4 5 |
| 4. Based upon present and anticipated needs, I am interested in increasing my skill in determining who should make the decision through delegating authority. | 1 2 3 4 5 |
| 5. Based upon present and anticipated needs, I am interested in increasing my skill in choosing a method for decision making in situations where the rules and regulations of the organization are not applicable. | 1 2 3 4 5 |
| 6. Based upon present and anticipated needs, I am interested in increasing my skill in dealing with conflict in decision-making. | 1 2 3 4 5 |
| 7. Based upon present and anticipated needs, I am interested in increasing my skill in diagnosing ways in which relationships between individuals affect the decision-making process. | 1 2 3 4 5 |

| | No Extent ← | | | | Great Exten |
|---|---|---|---|---|---|
| 8. Based upon present and anticipated needs, I am interested in increasing my skill in determining whether the process used affected the decision. | 1 | 2 | 3 | 4 | 5 |
| 9. Based upon present and anticipated needs, I am interested in increasing my skill in predicting how the decision-maker's values affect the decision. | 1 | 2 | 3 | 4 | 5 |
| 10. Based upon present and anticipated needs, I am interested in increasing my skill in anticipating how a person's awareness of a problem will be affected by his or her personal values. | 1 | 2 | 3 | 4 | 5 |
| 11. Based upon present and anticipated needs, I am interesting in increasing my skill in differentiating between fact and opinion. | 1 | 2 | 3 | 4 | 5 |
| 12. Based upon present and anticipated needs, I am interested in increasing my skill in communicating between the school system and community about a problem and/or decision. | 1 | 2 | 3 | 4 | 5 |
| 13. Based upon present and anticipated needs, I am interested in increasing my skill in anticipating alternative consequences of decisions. | 1 | 2 | 3 | 4 | 5 |
| 14. Based upon present and anticipated needs, I am interested in increasing my skill in using group processes for participatory decision-making. | 1 | 2 | 3 | 4 | 5 |
| 15. Based upon present and anticipated needs, I am interested in increasing my skill involving students, staff, and community as active participants in decision-making. | 1 | 2 | 3 | 4 | 5 |
| 16. Based upon present and anticipated needs, I am interested in increasing my skill in recognizing that varying periods of time may be needed for deliberation before a decision is reached. | 1 | 2 | 3 | 4 | 5 |
| 17. Based upon present and anticipated needs, I am interested in increasing my skill in determining the effect of timing in decision making. | 1 | 2 | 3 | 4 | 5 |
| 18. Based upon present and anticipated needs, I am interested in increasing my skill in considering the decision not to decide as one alternative. | 1 | 2 | 3 | 4 | 5 |
| 19. Based upon present and anticipated needs, I am interested in increasing my skill in predicting the probable outcomes of each alternative. | 1 | 2 | 3 | 4 | 5 |

| | No Extent ← | | | | → Great Extent |
|---|---|---|---|---|---|
| 20. Based upon present and anticipated needs, I am interested in increasing my skill in using needs assessment to identify problems. | 1 | 2 | 3 | 4 | 5 |
| 21. Based upon present and anticipated needs, I am interested in increasing my skill in utilizing management by objectives (MBO) to identify decision-making responsibilities. | 1 | 2 | 3 | 4 | 5 |
| 22. Based upon present and anticipated needs, I am interested in increasing my skill in utilizing the planning-programming-budgeting system (PPBS) to examine alternatives. | 1 | 2 | 3 | 4 | 5 |
| 23. Based upon present and anticipated needs, I am interested in increasing my skill in utilizing the Delphi technique to reach consensus on a decision. | 1 | 2 | 3 | 4 | 5 |
| 24. Based upon present and anticipated needs, I am interested in increasing my skill in using the nominal group technique (NGT) to reach group consensus on a decision. | 1 | 2 | 3 | 4 | 5 |
| 25. Based upon present and anticipated needs, I am interested in increasing my skill in using a decision tree to examine alternatives and possible outcomes. | 1 | 2 | 3 | 4 | 5 |
| 26. Based upon present and anticipated needs, I am interested in increasing my skill in utilizing flow charting as a means of identifying both major and minor decisions that can be made. | 1 | 2 | 3 | 4 | 5 |
| 27. Based upon present and anticipated needs, I am interested in increasing my skill in utilizing program evaluation review technique (PERT) and critical path method (CPM) to more effectively and efficiently implement the chosen alternative. | 1 | 2 | 3 | 4 | 5 |
| 28. Based upon present and anticipated needs, I am interested in increasing my skill in designing and using survey instruments to determine who should be involved in the decision-making process. | 1 | 2 | 3 | 4 | 5 |
| 29. Based upon present and anticipated needs, I am interested in increasing my skill in utilizing evaluation procedures in determining the effectiveness of the decision made. | 1 | 2 | 3 | 4 | 5 |
| 30. Based upon present and anticipated needs, I am interested in increasing my skill in gaining commitments from the persons who will implement and/or be affected by a decision. | 1 | 2 | 3 | 4 | 5 |

Follow-up by the researcher is possible through use of a code number. Anonymity for individuals and school districts is assured.

Code number ___ _____

APPENDIX C

List of Professionals Giving Help and Suggestions

Dr. Daniel Griffiths
New York University

Dr. Max Abbott
Director, CASEA
University of Oregon

Dr. Van Miller
University of Illinois

Dr. Neal Gross
University of Pennsylvania

Dr. William R. Dill
New York University

Dr. Eddy J. Van Meter
Kansas State University

Dr. David Erlandson
Queens College

Dr. Thomas J. Sergiovanni
University of Illinois

Dr. Jack Culbertson
Director, UCEA

Dr. Emery Giles
University of Utah

Dr. Lloyd McCleary
University of Utah

Dr. Raphael O. Nystrand
Ohio State University

Dr. Charles Achilles
University of Tennessee

Dr. James B. Appleberry
Oklahoma State University

Dr. Roald Campbell
Ohio State University

Dr. Robert G. Owens
Brooklyn College

Dr. James M. Lipham
University of Wisconsin

Dr. Laurence Iannacone
University of California

Dr. Jacob W. Getzels
University of Chicago

Dr. Fred Cattitta
Brooklyn College
City University of New York

Dr. William L. Pharis
Executive Director, NAESP

Dr. Gerald R. Rasmussen
California State University

Dr. William Davis
Oklahoma State University

Dr. Edwin M. Bridges
Stanford University

# APPENDIX D

## List of Jury Members

Dr. Max G. Abbott
University of Oregon (CASE)

Dr. Charles M. Achilles
University of Tennessee

Dr. Fred Cuttitta
Brooklyn College of City University of New York

Dr. William Davis
Oklahoma State University

Dr. Emory Giles
University of Utah

Dr. Daniel E. Griffiths
New York University

Dr. James M. Lipham
University of Wisconsin

Dr. Eddy J. Van Meter
Kansas State University

APPENDIX $E_1$

Direction for Jury Members and Copy of the Instrument Sent to them for Validation

DIRECTIONS TO JURY MEMBERS

The Decision Making Skills Questionnaire has two forms. The directions on Form A ask each individual to indicate to what extent he feels he has skill. The directions on Form B ask each individual to indicate to what extent he would be interested in increasing his skill.

Form B of the Decision Making Skills Questionnaire has been reproduced in its entirety for critique by the jury. The Likert type scale of four points, on the left of the questionnaire, and the space for comments have been added for response by jury members.

Review each statement for clarity and understanding of the vocabulary, wording, and sentence structure. Circle the number to the left of the statement which best indicates your judgment of the clarity and understanding of the statement in the Decision Making Skill Questionnaire. In the space for comments, indicate the rationale for circling a particular number for that statement.

# DECISION MAKING SKILL QUESTIONNAIRE, FORM B

Indicate to what extent you would be interested in increasing your skill in each of the following areas. Circle the number next to each statement which best indicates how you feel about that statement. The response categories are:

1. To a very little extent
2. To a little extent
3. To some extent
4. To a great extent
5. To a very great extent

For example: I would be interested in increasing my skill in recognizing the pertinence of a problem. 1 2 (3) 4 5

| Accept as is | Accept with reservation | Accept with revision | Reject | | Very Little Extent ← → Very Great Extent |
|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 1. I would be interested in increasing my skill in recognizing the existence of a problem. | 1 2 3 4 5 |

Comments: _____

_____

| | | | | | |
|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 2. I would be interested in increasing my skill in defining the origin of a problem. | 1 2 3 4 5 |

Comments: _____

_____

| Accept as is | Accept with reservation | Accept with revision | Reject | | Very Little Extent ← | | | | Very Great Extent → |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | 2 | 3 | 4 | 5 |
| 4 | 3 | 2 | 1 | 3. I would be interested in increasing my skill in defining the urgency of a problem. | | | | | |

Comments: _____

_____

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 4. I would be interested in increasing my skill in assigning priority to a problem. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 5. I would be interested in increasing my skill in determining who should make the decision. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 6. I would be interested in increasing my skill in choosing a method for decision making when organizational rules and regulations are applicable. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 7. I would be interested in increasing my skill in choosing a method for decision making when the rules and and regulations of the organization are not applicable. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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| Accept as is | Accept with reservation | Accept with revision | Reject | | Very Little Extent ← | | | | Very Great Extent → |
|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 8. I would be interested in increasing my skill in dealing with conflict in compromise decision making. | 1 | 2 | 3 | 4 | 5 |

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|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 9. I would be interested in increasing my skill in recognizing that the relationship between individuals may affect the decision-making process. | 1 | 2 | 3 | 4 | 5 |
| 4 | 3 | 2 | 1 | 10. I would be interested in increasing my skill in recognizing that the process used may affect the decision made. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 11. I would be interested in increasing my skill in recognizing that the decision-maker's values may affect the decision made. | 1 | 2 | 3 | 4 | 5 |

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|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 12. I would be interested in increasing my skill in recognizing that a person's awareness of a problem may be affected by his personal values. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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| Accept as is | Accept with reservation | Accept with revision | Reject | | Very Little Extent ← | | | | → Very Great |
|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 13. I would be interested in increasing my skill in differentiating between fact and opinion. | 1 | 2 | 3 | 4 | 5 |

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|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 14. I would be interested in increasing my skill in communicating information within the school system and the community. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 15. I would be interested in increasing my skill in recognizing that alternatives require consideration of the criteria against which the outcomes will be assessed. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 16. I would be interested in increasing my skill in using formal or informal group processes in participatory decision making. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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| Accept as is | Accept with reservation | Accept with revision | Reject | | | Very Little Extent ← | | | | Very Great Extent → |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 17. | I would be interested in increasing my skill in involving community representatives, staff, and students as active participants in decision making. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 18. | I would be interested in increasing my skill in recognizing that a decision may be reached after a period of consideration which may be minimal or time consuming. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 19. | I would be interested in increasing my skill in recognizing that timing may be important when making a decision. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 20. | I would be interested in increasing my skill in recognizing that a decision not to decide may be an alternative. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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| Accept as is | Accept with reservation | Accept with revision | Reject | | Very Little Extent ← | | | | Very Great Extent → |
|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 21. I would be interested in increasing my skill in recognizing that the consequences of each alternative may be predicted only in terms of probable outcomes. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 22. I would be interested in increasing my skill in recognizing that a decision may alter a course of action, correct it, or permit the course of action to continue. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 23. I would be interested in increasing my skill in using survey instruments to determine who should be involved in the decision-making process. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 24. I would be interested in increasing my skill in using information from survey instruments to determine the decision-making responsibilities of the principalship. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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| Accept as is | Accept with reservation | Accept with revision | Reject | | Very Little Extent ← | | | | → Very Great Extent |
|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 25. I would be interested in increasing my skill in utilizing a needs assessment procedure to identify problems. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 26. I would be interested in increasing my skill in utilizing management by objectives (MBO) as a tool to formulate objectives. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 27. I would be interested in increasing my skill in utilizing the planning-programming-budgeting system (PPBS) to examine alternatives. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 28. I would be interested in increasing my skill in utilizing the Delphi technique to reach group consensus on a decision. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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| Accept as is | Accept with reservation | Accept with revision | Reject | | | Very Little Extent ← | | | | Very Great Extent → |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 29. | I would be interested in increasing my skill in using the nominal group technique (NGT) to reach group consensus on a decision. | 1 | 2 | 3 | 4 | 5 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 30. | I would be interested in increasing my skill in using a decision tree to examine alternatives and possible outcomes. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 31. | I would be interested in increasing my skill in utilizing flow charting as a means of identifying both major and minor decisions that can be made. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 32. | I would be interested in increasing my skill in utilizing program evaluation review technique (PERT) and critical path methods (CPM) to implement the chosen alternative. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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| Accept as is | Accept with reservation | Accept with revision | Reject | | Very Little Extent ← | | | | Very Great Extent → |
|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 33. I would be interested in increasing my skill in utilizing evaulation procedures in determining the effectiveness of the decision made. | 1 | 2 | 3 | 4 | 5 |

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|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2 | 1 | 34. I would be interested in increasing my skill in clarifying the commitments resulting from a decision to the individuals who will implement the decision and to the individuals whom the decision will affect. | 1 | 2 | 3 | 4 | 5 |

Comments: _____

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APPENDIX $E_2$

Directions for Elementary Principal Jury

DIRECTIONS TO JURY MEMBERS:

The Decision Making Skills Questionnaire has two forms. The directions on Form A ask each individual to indicate to what extent he feels he has skill. The directions on Form B ask each individual to indicate to what extent he would be interested in increasing his skill.

Form B of the Decision Making Skills Questionnaire has been reproduced in its entirety for critique by the jury. The Likert type scale of four points, on the left of the questionnaire, and the space for comments have been added for response by jury members.

Review each statement for validity of content in regard to decision making. Circle the number to the left of the statement which best indicates your judgement of the appropriateness of the statement for inclusion in the Decision Making Skill Questionnaire. In the space for comments, indicate the rationale for circling a particular number for that statement.

## APPENDIX F

### List of Fifty Large Cities School Districts

Atlanta
Baltimore
Birmingham
Boston
Buffalo
Chicago
Cincinnati
Cleveland
Columbus
Dallas
Denver
Detroit
El Paso
Fort Worthy
Honolulu
Houston
Indianapolis
Jacksonville
Kansas City
Long Beach
Los Angeles
Louisville
Memphis
Miami
Milwaukee
Minneapolis
Nashville
Newark
New Orleans
New York City
Norfolk
Oakland
Oklahoma City
Omaha
Orlando
Philadelphia
Phoenix
Pittsburgh
Portland
St. Louis
St. Paul
San Antonio
San Diego
San Francisco
Seattle
Toledo
Toronto
Tulsa
Vancouver
Washington, D.C.