Perceived management competency needs of practicing school administrators in Montana
by Paul Frederick Ezen

A thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Education
Montana State University

Abstract:
The purpose of this study was to gather data on current perceptions of selected administrators from Montana on the need to have certain management competencies included in Montana State University's graduate program course curriculum for training prospective school administrators.

A sample of school administrators from Montana was sent a needs assessment instrument. The instrument sought to collect data concerning the perceived need for school administrators to be exposed to management competencies. The data that were found to be significant were compared to current course outlines from upper division management and school administration courses. This enabled the researcher to identify areas that needed to be included in the graduate program in school administration at Montana State University.

The Data provided information on the degree of need for each competency. It was determined that most of the management competencies had a medium to high need to be included in a graduate school administration program. Administrators expressed a high need to be exposed to the following competencies: (1) clarifying communication, (2) goal planning, and (3) organizational coordination. These competencies were not addressed in the School Administration Program strongly enough to develop management skills. The Competencies were, however, addressed strongly in certain upper division business management courses.

It was recommended as a result of this study that certain business management courses be required to fulfill a portion of the minor requirements in both the master's and doctoral programs in school administration. This effort to coordinate programs in order to meet the perceived needs of practicing administrators will greatly help to develop better managers/leaders in education.

PERCEIVED MANAGEMENT COMPETENCY NEEDS OF PRACTICING SCHOOL ADMINISTRATORS IN MONTANA

by

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APPROVAL

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This thesis has been read by each member of the author's graduate committee and has been found to be satisfactory regarding content, English usage, format, citations, bibliographic style, and consistency, and is ready for submission to the College of Graduate Studies.

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This dissertation is a product that would not have been possible without the unselfish, positive, and loving attitude that my wife, Karen, has demonstrated over the years. Dedicating this document to her is a small gift in return for what she has given me.

VITA

Paul Frederick Ezen, the son of Joseph and Sadie Ezen, was born April 8, 1952, in Worcester, Massachusetts. Mr. Ezen attended North High School in Worcester and graduated in 1970. He received his B.S. degree in Biology with a minor in Secondary Education from Worcester State College in 1974. From September of 1974 to 1979, Mr. Ezen worked in the Science Department at Merrimack High School in New Hampshire. He graduated from Montana State University in 1980 with an M.Ed. He completed his Doctorate in Education from the same university in 1986. From 1981 to 1982, Mr. Ezen again taught science at Merrimack High School. In 1983 he became an Assistant Principal at Milford Area Senior High School. In 1986, Mr. Ezen became the Principal at Kearsarge Regional High School in New Hampshire.

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ABSTRACT

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The data provided information on the degree of need for each competency. It was determined that most of the management competencies had a medium to high need to be included in a graduate school administration program. Administrators expressed a high need to be exposed to the following competencies: (1) clarifying communication, (2) goal planning, and (3) organizational coordination.

These competencies were not addressed in the School Administration Program strongly enough to develop management skills. The competencies were, however, addressed strongly in certain upper division business management courses.

It was recommended as a result of this study that certain business management courses be required to fulfill a portion of the minor requirements in both the master's and doctoral programs in school administration. This effort to coordinate programs in order to meet the perceived needs of practicing administrators will greatly help to develop better managers/leaders in education.

CHAPTER 1

STATEMENT OF THE PROBLEM

Introduction

The pace at which society moves and changes has had lasting effects on school systems and the ways in which they have been administered. School district officials have increased the responsibility of administrators into areas that previously were not part of the administrators' duties.

Job descriptions include managing budgets, managing personnel and unions, understanding and implementing state and federal programs, managing limited energy resources, administering community needs assessment programs for the school and other change-related areas. Attention has focused on the need for more management skills to be developed within public school administration programs to better prepare administrators to deal with their evolving responsibilities (Goor and Farris, 1978).

Did public school administrators in Montana feel there was a need to be exposed formally to management competencies that may presently be beyond the scope of the school administration program at Montana State University? In what areas of management, if any, did these needs appear? How can the needs of prospective administrators best be met? How did the needs of superintendents, elementary principals, and secondary

principals differ in the areas of management competency needs? This study provides information to answer these questions.

The literature has clearly indicated a need to collect data on the need to have administrators exposed to management competencies. This study sought to provide more data on that need.

In reviewing the related literature, the researcher found indications of this changing demand on administrators to be prevalent. Management skills commonly found to be important in most of the review of related literature were communication, group problem solving and decision making skills. It was indicated that principals should be able to facilitate group process to effect positive resolutions out of conflict. They should possess the skills to foster communication regarding needs assessment, set goals, and then translate shared goals into student-centered programs. They should also realize that the competency areas (theories, principles and systems) that deal with many educational problems are available and need only to be searched out and adapted to local school needs (California State Legislature, 1980). Robson (1976) concluded that superintendents desired further training, mostly in the areas of managing and planning.

Drucker (1974) states that:

> Strategic planning has been utilized in the management of organizations. It is the continuous process of making present enterpreneurial (risk taking) decisions systematically and with the greatest knowledge of their futurity; organizing systematically the efforts needed to carry out the decisions; and measuring the results of these decisions against the expectations through organized systematic feedback. . . . In educating managers emphasis has been replaced in the area of systematic planning of the job and the supply of knowledge to do it, which has strengthened the managers' judgement, leadership and vision.

Management work, management jobs, and management organization are not absolute, but are determined and shaped by the tasks to be performed. "Structure follows strategy" is one of the concepts acquired through management training. Without understanding the mission, the objectives and the strategy of the enterprise, managers cannot be managed, organizations cannot be designed and managerial jobs cannot be made effective (Drucker, 1974).

Hanson (1977) indicated in the literature that many administrators felt a great deal of disconnectedness between the complexity and diversity of demands encountered in the field and the kind of educational preparation received for the tasks of present administrators. Drucker (1974) also stated that ". . . a recognition of the diversity of demands did not mean that the service institutions understood the problem of managing. It only indicated they were beginning to realize they were not being managed."

Statement of the Problem

Evidence was found in the review of literature that the role of the public school administrator has constantly changed and expanded. The purpose of this study was to gather data on current perceptions of selected administrators from Montana on the need to have certain management competencies included in training prospective school administrators. The data provided information that:

1. Determined if school administrators in Montana felt there was a need to acquire competencies in management theories, principles, and systems through administrative training programs.

2. Determined if there was any significant difference in the needs of superintendents, elementary principals and secondary principals relating to stated management competencies.

3. Compared the suggested competencies with the existing curriculum for preparing school administrators at Montana State University.

4. Suggested how these management competencies not taught in the existing curriculum could be addressed through the management curriculum in the College of Business at Montana State University.

Ten common management skill categories were found by the researcher with the aid of the related literature. This list led directly to the development of the management competency areas that were used in the assessment instrument.

Contributions to Educational Theory and Product

In light of significant changes in our educational environment, it was important to examine management skill needs of practicing administrators. The American Association of School Administrators (AASA) stated that many fields can contribute to the educational needs of school administrators and that business management courses should have an active role in the preparation of school administrators (AASA, 1979).

The literature clearly indicated needs for management skills by school administrators. This study contributed data on competency needs that would help the Department of Educational Services at Montana State University make decisions about its current Public School Administration Program. More importantly, the data reflected the feelings of school

administrators in Montana as to the actual need for the program to expand and include business management courses.

The study:

1. Determined which management courses from the Montana State University College of Business could be of value to the practicing school administrator.

2. Suggested a core of management courses that could be required in the School Administration Program.

3. Determined if there was any significant difference in the expressed needs of superintendents, elementary principals and secondary principals with regard to management competency needs.

Questions to Be Answered

This study examined management competency needs as perceived by a selected group of school administrators in Montana. Course summaries for current administrative courses and for the upper division management courses that were used to analyze the data are listed in Appendix I.

The study helped to answer the following questions:

1. What were the perceived management competency needs of selected school administrators in Montana?

2. Did the course descriptions in the School Administration Program and the upper division management courses from the Montana State College of Business meet the perceived needs of the administrators?

3. Which perceived needs of administrators were addressed in the current School Administration Program at Montana State University?

4. Which perceived needs of administrators were addressed in the upper division management courses in the Montana State University College of Business?

5. Which perceived needs of administrators were addressed in both the School Administration Program at Montana State University and the upper division management courses in the College of Business at Montana State University?

6. Should certain upper division management courses taught in the College of Business become part of the School Administration Program at Montana State University?

7. Were the perceived needs of superintendents, elementary principals and secondary principals the same, or were they different in each of the management competency areas?

General Procedures

A stratified random sample of one hundred and fifty school administrators from Montana were sent a needs assessment instrument. The needs assessment process was used because it represented a formal, systematic attempt to determine and close the more important gaps between "what is" and "what should be" (Kaufman and English, 1979). The instrument consisted of eleven management categories. Under each category there were listed two to three theories, principles or systems (referred to as competencies) that aided in the development of the particular management skill. The instrument sought to collect data concerning the perceived need for school administrators to be exposed to each competency that was

listed below each of the management skill categories. (A copy of the instrument appears in Appendix B.)

The null and alternate hypotheses were tested with a Chi Square Goodness of Fit. This determined if there was a significant degree of need for the competencies listed under each management skill category. The data was then tested with a Chi Square Test for Independence. This test determined if the perceived need for the competency in this category was independent of administrative position (superintendent, elementary principal and secondary principal).

The competency needs data that were found to be significant were compared to current course descriptions from management and administrative courses. This helped to identify areas needed to be included within the graduate program in School Administration at Montana State University.

When the data were collected and analyzed, a short monograph was prepared for publication by the researcher and submitted to the Doctoral Committee in October 1985.

Limitations and Delimitations

1. The first controlling factor applied to the study was to select an unbiased stratified sample of one hundred and fifty school administrators from Montana.

2. Montana State University course descriptions were used.

3. Course descriptions from the School Administration Program and upper division management courses from the College of Business at

Montana State University were used with the data to correlate competency needs and competencies developed in certain courses.

4. The majority of sources considered in the review of related literature were from the Montana State University library and the ERIC inter-library loan resources. Sources used were from the period 1967 through the present. The key descriptors used to aid in the research for related literature were: Business Management, School Administration, School Management, Management Education, School Administrator Education, Management Skills, Administrative Programs, Effective Management, and Effective School Administration.

5. Only upper division courses in the business management curriculum were used in this study. This was because upper division courses were acceptable in a graduate program.

Definition of terms

In order to perceive more clearly the direction of study, the following terms have been defined:

1. *Management Skills*. Peter F. Drucker has stated that managing is specific work. As such, it will require specific skills. These are: (a) making effective decisions, (b) communications within and without the organization, (c) the proper use of controls and measurements, and (d) the proper use of analytical tools -- that is, of management sciences. In order to further understand how the term "management skills" is used and provide insight into the definition, the following information from Drucker (1974) was used:

> No manager is likely to master all of these skills. But every manager needs to understand what they are, what they can do for them, and what, in turn, they will require of them. Every manager needs basic literacy with respect to essential management skills.

2. *Manager*. An individual who is concerned with the means to the accomplishment of his tasks. He must be concerned with managerial jobs, with the work of the managers, with the skills he needs and with his organization (Drucker, 1974).

3. *Management*. The process of planning, organizing, leading, and controlling the efforts of the organizational resources in order to achieve stated organizational goals (Stoner, 1978).

4. *Decision Making*. A choice among alternatives: (a) Managers must choose and decide what to do on the basis of some conscious and deliberate logic or judgement; (b) managers have alternatives available when they are making a decision; and (c) managers have a purpose in mind when they make a decision (Stoner, 1978).

5. *Competencies*. For the purpose of this study, "competency" will be used to designate particular learned facts, such as theories, principles and systems that aid in the development of management skills.

6. *Needs Assessment*. Kaufman (1979) defines a needs assessment as "the formal harvesting, collection, and listing of needs, placing the needs in priority order, and selecting the needs of highest priority for action."

Summary

Peter F. Drucker (1974) has made several comments concerning school administration and schools. His statements suggest that administrators

must learn to manage the institution for performance. The schools have performance trouble because they are not like a business. He writes:

> What businesslike means in a service institution is control of cost. What characterizes a business, however, is control by performance and result. It is effectiveness and not efficiency which the service institution lacks.

The purpose of this study was to collect data that provided information which:

1. Determined if school administrators in Montana felt there was a need to acquire competencies in management theories, principles and systems through administrative training programs.

2. Determined if there was any significant difference in the needs of superintendents, elementary principals and secondary principles relating to stated management competencies.

3. Compared the suggested competencies with the existing curriculum for preparing school administrators at Montana State University.

4. Suggested how these management competencies not taught in the existing curriculum could be addressed by incorporating upper division management courses from the Montana State University College of Business into the School Administration Program.

Much of the literature suggested that management skills are needed by today's school administrator. Is the current School Administrative Program at Montana State University supplying the prospective administrator with the competencies to be used to develop management skills? A needs assessment instrument sent to one hundred and fifty school administrators in Montana collected data on this question. If these management competencies are not addressed in the current program, but

are perceived as necessary, could they be addressed through management courses? Should these courses be added to the administrative program?

This study added to the knowledge concerning administrative management competency needs, how well the Montana State University program in school administration is addressing these needs, and how these needs could be accommodated in the future.

CHAPTER 2

REVIEW OF LITERATURE

Introduction

This chapter reports the findings of selected studies found in the literature. The literature provided information that the researcher used to:

1. View the evolution of the job of school administrator from 1950 through the 1980's.

2. Develop a list of management skills that had increasing importance to the success of school administrators.

3. Develop a list of management skills that were successful in business and offered in management science classes.

Little previous research has gone so far as to define specific competencies that would aid in the development of managerial skills for the public school administrator. A list of skill areas was developed from this research and is listed at the end of this chapter. The literature also revealed that there is a need for management training for school administrators, both present and future.

The first section of the review of literature began by researching the job of school administrators during the 1950's and into the early 1970's. The next section showed the administrator's changing role during the period 1972-79. In the third section the literature revealed

the management needs of the school administrators in the 1980's. Finally, the last two sections revealed the need for the integration of management sciences into the school administration programs and what the future may hold for these administrators. A summary ties all of the sections together and includes a composite list of management skills needed by school administrators.

School Administrator Skills and Training, 1950-1972

Changes and shifts in the school environment through the history of education has brought about changes in administrative duties and responsibilities. The changing educational environment has left the administrator, who was gifted in dealing with the problems of growth and expansion, without the personality or skills to handle the problems of retrenchment (McIntosh and Maier, 1976).

In the mid-Seventies, some school districts realized the need for newer skills. Administrators became involved in building these team skills in areas such as shared decision making and shared team management of the schools (Deane, 1974).

The training programs for administrators of the Fifties and Sixties involved a movement that incorporated concepts, research and theories from the social and behavioral sciences. This trend became clearly established during the early Sixties (University Council for Educational Administration, 1973).

With the passage of time, changes also occurred in the programs for prospective administrators. In the mid-Sixties, several institutions

incorporated content from the humanities into their administrative programs. This trend was typical as the Sixties turned into the Seventies. Most programs then became more specialized, while still offering more discipline and interdisciplinary-based knowledge and skills. This change brought about an achievement of greater flexibility in most preparation programs. In the past years there was a growing interest in the development of new approaches to preparing educational, business and governmental managers in common programs (University Council for Educational Administration, 1973).

As Havinghurst (1972) points out, the environment and the preparatory programs have changed over the years, producing different needs and skills for the school administrators. In reviewing the time and place in which the administrator existed, his type of leadership has been identified depending on his emphasis on power, truth or words. The administrator of the Fifties and the early Sixties depended on power and was considered a prophet of sorts. The late Sixties brought about the administrator who dealt with truth and was considered to be a scholar-scientist. In the Seventies we saw the emerging administrator who was the social engineer, who used words and people skills to help him become a good leader.

The Development of New Skills and Training for Administrators, 1972-1979

Robert Havinghurst (1972) defines a leader as "one who successfully stimulates and directs actions in a socially desirable direction." The late Seventies and early Eighties have been no exception. Principals

and superintendents have had to develop skills that comply more with Havinghurst's definition of leaders than the literature reflected for the Fifties, Sixties and early Seventies. As the educational sector experienced a steady state of declining enrollment, administration has become more demanding and requires different skills from those required during the years of rapid expansion (McIntosh and Maier, 1976).

It has been found that the schools of today require a leader who has the capability to adapt his leadership ability to different situations (Berg, 1977). The evidence is clear that leadership potential and skills are possessed by a larger number of people than was once suspected. Many of these attributes are not inborn characteristics, but skills that can be acquired and developed. An emergent area where skills could be improved indicated that leadership results in the way the leader uses new skills to interrelate with his subordinates (McIntosh and Maier, 1976).

Some states have mandated job descriptions for principals. These mandates mold the principal's position into that of a manager-leader (Barea, 1977). Michigan is one of these states. The general school law of the state lists the following duties of the principal:

> The building principal shall:
>
> 1. Supervise the operation and management of the school and property as the board determines.
> 2. Be assigned administrative responsibilities and coordinate instructional leadership, under the supervision of the superintendent, for the planning, management, operation and evaluation of the educational programs and services.
> 3. Submit recommendations to the superintendent for the appointment, assignment, promotion or dismissal of all personnel (Barea, 1977).

This statute clearly illustrates that a principal is a manager and a very important part of the educational process. In fact, the principal may be managing one of the biggest businesses in the community (Barea, 1977).

Other managerial skills being adopted by principals and other administrators were concerned with the previously-mentioned interrelationship with subordinates. Decision making ensuing from collegial relationships and as close to the operational level of those involved as possible is a skill that has been most important. The belief that people are responsible agents, capable of furthering the goals of the school, is very important. This, also, is a skill that can be developed through the understanding of management theory and practices (Barea, 1977).

In the mid-Seventies, School Based Management (SBM) became entrenched in several school systems. SBM's key point was based on a philosophy which reflects a previous point. When the individual who will be affected by decisions participates in making those decisions, there will be more acceptable decisions made, and the participants in the decision-making process will become responsible for the consequences. The result of improved decision making in school management is intended to create better educational programs for students. This type of management takes skills that are based on competencies to which principals and superintendents are just now becoming exposed (Deane, 1975). This philosophy was also echoed by James E. Albrecht. His idea of establishing proprietorship among teachers to work with the administration in joint decision making has helped the credibility of the

principal. Developing this joint ownership of decision has become a new focus for principals, developed from management and social science (Albrecht, 1981).

Another concept of a management system was the development of a District Management Team (DMT). The basic purpose of the DMT was not to add another layer to management hierarchy, but to reorganize existing systems in such a way that they can respond more easily to the needs of the community they serve and all the personnel within the system. The function of the DMT is outlined as follows:

1. Identify problems.
2. Order the problems into priorities.
3. Review problems, definitions and problem solutions.
4. Act upon the findings of the field test phase of the problem resolution.

Again, it is important to note that this system also requires certain skills that administrators in the past did not have, and for whom training programs have been only recently available (Infelise, 1975).

The more important aspect of all this literature indicates that certain skills and competencies are needed to make programs successful. With leadership training designed to increase competencies of leaders in the areas of interpersonal relationships, team building, team development, organizational processes, policy and program analysis and evaluation, we can assume that our educational programs will be successful (Deane, 1975).

The skills that are now being used by administrators are the result of a variety of programs offered through various educational

institutions. Emergent content areas in administrative preparation draw upon the management and information sciences. Several universities now provide courses in systems analysis, operations research, quantitative management methods, and others (Farquhar and Martin, 1972).

It was noted when certification requirements were compared with trends in preparatory programs that it was evident the latter were oriented more to the environment of management and leadership, while the former were closely related to curriculum, instruction and supervision. This suggests that the universities were trying to stay in line with needs and trends more than the certification requirements (University Council for Educational Administration, 1973).

Recently, suggestions have arisen as to the characteristics of administrator programs. It was felt that the characteristics should be that of a professional school rather than that of a graduate study in a single academic discipline. The preparation should be performance-based, field-oriented, and incorporate concepts, theories and research findings from other academic fields (American Association of School Administrators, 1979). This clearly points out the need for an interdisciplinary approach.

One of the major areas of leadership training and identification is that of the assessment centers. Widely used by business, industry and many governmental agencies here and abroad, assessment centers measure skills needed for success in a variety of supervisory, managerial and administrative areas. Education was no exception (Moses, 1977). After preliminary research was completed, the NASSP's assessment center was set up. The center collected information from schools relating to job

requirements and skills needed for the principal (Hersey, 1977). Administrative skills and emotional stability were stressed in making an appraisal of management potential (McIntosh and Maier, 1976). Measurement techniques included group exercises, business games, stimulated problem-solving interviews, and such traditional methods as interviews and tests. All of the data collected and data put out by the assessment centers suggest the need for more interdisciplinary training of school administrators, especially in the area of management (Moses, 1977).

The literature clearly indicates that while management science competencies have been used in the private sector for some time, they are a relatively new phenomenon to all of the public sectors, and this applies particularly to educational administration. Even simple cost-effectiveness models are new and rare in educational policy. Within the last twelve years, social scientists have shown that they can make contributions to educational management. Now the administrators of schools must be convinced (Boardman and Horowitz, 1978).

Skills Needed by School Administrators, 1980-Present

Drucker (1974) indicated six basic things managers must be able to do in order to be effective. These items are important to today's administrator. A manager should be able to:

1. State what is our business.
2. Develop clear objectives and goals.
3. Prioritize.
4. Measure performance.
5. Develop feedback and self-control from results.

6. Perform an organizational audit of objectives and results.

James Lyons (1981) feels that beginning secondary principals must be able to do several things. He writes:

1. Organize and manage a school program which implements the school philosophy.
2. Plan and evaluate the institutional and curricular programs with the assistance of parents, teachers, and students.
3. Initiate long-range planning procedures involving parents, teachers, and staff.

The Lyons' article went on to state that preservice programs gave insufficient attention to important and critical areas such as program evaluation, program development, time management and communications. As indicated by the above information, management has a clear focus on what is needed, and it is up to school administrators to utilize this list in some way to fill in their own perceived needs (Lyons, 1981).

The role of the principal of the 1980's has an increased emphasis on management. The principal must organize so that his leadership will not be lost in the struggle. He no longer has the privilege of being just a leader, but instead has been forced into a management role. He must manage problems mandated by special education, federal requirements for school breakfasts, labor contracts, and bussing services, as well as due-process and affirmative action. The question, then, is: Can the principal be a manager and a leader? Only adaptable management skills can help the principal now (Johnson, 1981).

Many fields of learning can make contributions to the solutions of educational leadership problems. Business management can be one of the disciplines that can play an active role in the preparation of school

administrators (American Association of School Administrators, 1979). Areas in which management can help are the development of organizational ability, higher standards for interpersonal skills, and the ability to look ahead and synthesize new and responsible plans for the future (McIntosh and Maier, 1976). This process of enhancing leadership includes the development of more competencies in the areas of goal setting, planning, organizing, coordinating, communicating, directing, decision making, evaluating organizational goals, and working with people involved in such processes. Management science can offer more support to the school administrators in these areas (American Association of School Administrators, 1979).

The State of Maine has recently developed the Maine Principal Academy in cooperation with the University of Maine, College of Education. This two-week academy trains practicing administrators to be both effective leaders and able managers. The most positive note from the program was the presentation of practicing administrators who were actually using espoused theories, methods and philosophies echoed by management science (Donaldson, 1982).

Skills in human resources development have been important in the private sector for a long time. These are skills that are needed now by school managers (Deane, 1975). Administrators are expected to somehow convince teachers they should go beyond the contract specifications to help take care of the business of the school. This, again, supports the need to train leaders in the area of human resource development (Johnson, 1981).

Johnson (1981) asks, "Principals have been advised by management consultants to regroup and delegate in order to increase efficiency and accountability within a building, but do they have the competencies to do this?" By regrouping, the administrator will have to be conscious of organizational processes, including the development of knowledge of complex organizations, skills in organizational behavior, examining coordination and collaboration mechanisms, developing knowledge of different methods of stimulation and skills in recognition and use of different authority modes. Management training can add to school administration programs with respect to the above skills. Other skills that administrators may need in the future are conflict management skills, crisis management skills, and skills in negotiating classroom improvement with teachers (Deane, 1975).

Commonly used managerial and administrative dimensions include such skills as leadership, oral and written abilities, problem solving and organizing abilities. Programs in school administration can be strengthened even more if skills are reinforced and built upon by the management sciences (Moses, 1977).

The top administrator must be capable of using a variety of management styles, depending on the situation. When the situation calls for mild belt tightening, a participatory or democratic management style is appropriate in identifying ways of trimming costs. With serious decisions, consultive management is desirable, not only from the standpoint of management receiving helpful input, but also from a morale standpoint, as subordinates can better understand the rationale behind an unpleasant decision. Although administrators may want to avoid the

authoritarian approach, an absolute emergency may call for a decision without consultive action (McIntosh and Maier, 1976).

Principals must become effective leaders. Two important things principals can do that were found through research by Shoemaker (1981) were:

1. Develop assertive, achievement-oriented leadership.
2. Develop well-designed instructional objectives and evaluation systems.

Findings from research on effective schooling show that in high achieving schools, instructional objectives guide the programs, and testing and evaluation are given serious and deliberate attention (Shoemaker, 1981). Drucker (1974) refers to this as "management for performance."

The preceding literature supports the concept that if school administration programs are to be complete, they must allow the students in graduate school administration programs to be exposed to all management competency areas. One way to accomplish this is through the incorporation of management sciences into the current programs in school administration.

The Need for Management Sciences in Administration Programs

The changing school environment has created a need for more management skills for administrators. The administrator has become a social scientist, whose decision-making and problem-solving behavior can be more intelligently informed by theoretical insights than by procedural cookbooks. Management sciences can help to fulfill these needs for

varying theories (Farquhar and Martin, 1972). A change in view occurred in the mid-Seventies and the AASA report stated that the process of administration should be stressed with emphasis on the cognitive basis of management science and skill development through lab preparation (American Association of School Administrators, 1979).

Administrators need to learn to think through their own specific function, purpose and mission.

> What the service institution needs is not better people. They need people who do the management job systematically and who focus themselves and their institutions purposefully on performance and results (Drucker, 1974).

High priority should also be given to the ability to communicate, as well as to having an understanding and working knowledge of the uses of various forms of communication. These skills can also be built upon by management competency training (American Association of School Administrators, 1979). Other important skill development areas follow. Listed below are some of the skills and requirements deemed important by the NASSP's assessment center program (Jeswald, 1977):

1. Problem Analysis: Ability to seek out relevant data and analyze complex information to determine the important elements of a problem situation; searching for information with a purpose.
2. Judgemental Skills: Identifying educational needs and setting priorities; ability to reach a logical conclusion and make high quality decisions based on the available information; ability to critically evaluate written communications.
3. Organizational Ability: Ability to plan, schedule, and control the work of others; skill in using resources in an optimal fashion; ability to deal with a volume of paperwork and heavy demands on one's time.
4. Leadership Ability: Ability to recognize when a group requires direction; to get others involved in solving problems; to effectively interact with a group; to guide them to the accomplishment of tasks.

5. Sensitivity: Skill in resolving conflicts; ability to deal effectively with people concerning emotional issues; knowing what information to communicate and to whom.
6. Oral Communication Skills: Ability to make a clear oral presentation of ideas and facts.
7. Written Communication Skills: Ability to express ideas clearly in writing; to write appropriately for different audiences -- students, teachers, parents, and other administrators.

The changing operating situation for administrators requires different management skills and leadership styles. This is why the programs need to be expanded to include other disciplines, especially management sciences (McIntosh and Maier, 1976). Even non-educational organizations that are concerned with large groups of people, equipment, services and buildings recognize and accept the need for highly skilled managers. Education is no exception. Management skills have much to offer the expanding job of the school administrator (Barea, 1977).

What Future Administrators Will Need for Management Skills

Who will be the successful administrator? Havinghurst (1972) tells us, "Successful educational administrators are men and women of action, who lead the way to improve concentrated actions by people who participate in educational systems."

Education in the future will be able to regain its positive image if educational leadership is flexible and sensitive. The problems ahead require solutions that can come only with the finest type of group participation. Only a skillful leader can guide the public into this

kind of fine group participation. This accentuates the need for more diverse competency training of school administrators (Berg, 1977).

The literature indicated Havinghurst was right. We are heading towards an era where the administrator must be a social engineer if he is to use his power effectively for the improvement of education (Havinghurst, 1972). The way to become an effective leader in the Eighties seems to be through a program that develops all of the person's leadership skills (Tillman and Rencher, 1976).

Educational leaders of the future must be able to adapt to a multitude of situations. As the leaders exercise power, they must be concerned with the free flow of information and advice from subordinates and the environment in general. This can be, and is, difficult since it takes time and will, at times, result in conflict. It is necessary, though, to keep open channels of communication if the leader (administrator) is to maintain credibility with the group. School systems have recently become aware of the need for and skills required to handle this communication (Berg, 1977).

It seems that in the Eighties a need has developed for leadership that understands its own function. The leaders must have a desire for a knowledge of group dynamics; be academically and professionally honest; have a desire and readiness to cut through red tape; be understanding, patient, imaginative and innovative (Berg, 1977). Reality-oriented programs for administrators can provide the skills if they incorporate an interdisciplinary approach. Case studies, stimulation, management games and related materials should all be part of a complete program

used to direct learning towards the skills the literature has identified as needs (University Council for Educational Administration, 1973).

Leaders should recognize that continued education on their part is important if they are to pick up new competencies in management. The changing school environment and changing needs of administrators created the need for continual education to upgrade administrative skills. The AASA (1979) has recently stated, "Administrators should be specifically and technically prepared in the tools of research to deal with . . ." most of the points discussed in this review of literature. Preparation of educational administrators should, in the future, include an interdisciplinary approach to programs concerning theory and practice in organizational behavior. This has been a long-time concern in business management sciences (American Association of School Administrators, 1979).

In January, 1983, the New Hampshire State Department of Education started to address the problem of managing education. Their research yielded supportive information for management and educational leadership to be as one. It was stated there was a need for the development of educational improvement plans which combine sound principles of management with a working philosophy, a sense of purpose, clear expectations for students, periodic assessment of students' progress, an orderly atmosphere, productive time on task, and continued support. These concepts are consistent with research findings relative to effective schools and sound management practices (New Hampshire State Department of Education, 1983).

One of these new organizational studies is Theory Z. Within the field of business management there is continual research material being presented to show different ways of managing. William Ouchi's (1981) review of theory Z brought to the surface the importance of participatory management in the private sector. This management style could also be relevant in the management of schools. Ouchi lists "Z" organizations as contrasted to American organizations:

Z Organizations	American Organizations
Lifetime employment	Short-term employment
Slow evaluation & promotion	Rapid evaluation & promotion
Non-specialized career paths	Specialized career paths
Implicit control mechanisms	Explicit control mechanisms
Collective decision making	Individual decision making
Collective responsibility	Individual responsibility
Wholistic concern	Segmented concern

The future seems clear. In-service education of administrators in techniques of operations research and business management will enable administrators to have a better understanding of social science research. Future training of superintendents should be improved. Few schools furnish training that provides exposure to competencies for all of the skills needed by future educational leaders. Future educational managers should be trained in a way similar to managers in the private sector. It would seem important for educational managers to get some training from business schools. At a minimum, there should be more cooperation between these schools and schools of education through the possible creation of a special joint program (Boardman and Horowitz, 1978). The possibility also exists to design and implement a program to meet leadership demands in multiple organizations (University Council for Educational Administration, 1973).

Summary

The literature indicates a need for the administrator to change a great deal because of changes in the environment and society. We have seen the need for the expansion-oriented administrator of the Fifties when population growth dictated school growth. The expansion administrators had to change or be replaced as the Sixties brought about an atmosphere of unrest. Quickly administrators had to become crisis managers. Just as these skills were being developed in the Sixties, the Seventies brought on a different problem. Student populations were stabilizing or declining. There was very little growth in any school district. Out of this decline, fiscal policy became very important. The administrator had to become skilled in dealing with restraints, fiscal needs, and people skills (McIntosh and Maier, 1976).

During the late Seventies and early Eighties we have seen an era of decline again. The demands on administrators have not been simple, clear-cut, or defined. The job of the administrator has become situational. Administrators have found that they must adapt their leadership ability and style to different situations. The skills needed are varied. It seems certain, as reflected throughout the literature, that management skills are a vital part of creating this situational flexibility.

Throughout the literature we have seen a need to move from managing personnel as a cost center and a problem to the leadership of people. The principal's success seems incumbent upon a constant updating and renewal of personal knowledge. "Many principals just survive; those who

enjoy true success continue to train themselves to the point that their management and administrative ability is evident to all" (Johnson, 1981).

From this historical review the researcher has listed below the ten management skills areas which the literature has indicated are most important to future manager/leaders:

1. Communication skills
2. Decision-making skills
3. Budget management
4. Motivational skills
5. Planning principles
6. Organizational structuring skills
7. Conflict management skills
8. Creative management skills
9. Change principles
10. Control process skills

From these skills, specific competencies that developed the skills were researched and used in the construction of the field survey.

It appears that successful leaders will be those who can, through their learned leadership competencies, adapt their behaviors to meet the demands of the environment at a particular moment a problem arises (Berg, 1977). Looking at the literature, we can see the need for the development of management competencies in school administration.

CHAPTER 3

PROCEDURES

Introduction

Evidence was found in the review of literature that the role of the public school administrator has constantly changed and expanded. The purpose of this study was to report current perceptions of selected administrators from Montana on the need to have certain management competencies included in training prospective school administrators. The data provided information that:

1. Determined if school administrators in Montana felt there was a need to acquire competencies in management theories, principles and systems through administrative training programs.

2. Determined if there was any significant difference in the needs of superintendents, elementary principals and secondary principals relating to stated management competencies.

3. Compared the suggested competencies with the existing curriculum for preparing school administrators at Montana State University.

4. Suggested how these competencies not addressed in the existing curriculum could be addressed through the upper division management courses at Montana State University.

A needs assessment instrument was sent to selected superintendents, elementary principals and secondary principals. The instrument was

designed to elicit responses as to whether certain competencies would be valuable in the development of management skills for the school administrator. The competencies (theories, principles and systems) acted as variables in the study. The researcher has carefully developed, through the literature review, the ten categories listed as management skills. The product was, therefore, a composite list from management and school administration texts, journals and research materials.

Specific areas of investigation dealt with the following questions:

1. Which business management theories, principles and systems, expressed as needs, would be of most value to the practicing administrator?

2. Should a minimum number of upper division management courses offered through the College of Business at Montana State University be required in the School Administration Program at Montana State University?

3. How important is it to deliver the perceived competency needs to prospective superintendents, elementary principals and secondary principals?

This chapter discusses those procedures that were essential to the collection of the data. The chapter is presented and explained within the following sections: (a) population description and sampling procedure, (b) categories for investigation, (c) method of data collection, (d) development of instrument validity and reliability, (e) method of organizing data, (f) statistical hypothesis, (g) analysis of data, (h) precautions taken for accuracy, and (i) summary.

Population Description and Sampling Procedure

The population used for this study consisted of all superintendents, elementary principals (K-6), and secondary principals (7-12) in the State of Montana, which totaled 512. The 1982-83 population list came from the Office of Public Instruction, Helena, Montana. Randomly arranged stratified listings were prepared. The three strata were superintendents, elementary principals, and secondary principals. The N's for each group were figured once the list was received by the researcher. A chart showing the population in each strata appears in Table 4 of Appendix C.

A sample size of 150 was determined to be sufficiently large enough to represent the population distribution accurately (Cochran, 1977). The population for each strata was not equal. A proportionally stratified sample was calculated (Leedy, 1980). The results appear in Appendix C. The difference in the calculated figures for each strata were not markedly different enough to warrant proportional stratification (Ferguson, 1976; Leedy, 1980).

Some difficulties were encountered in choosing the samples. In Montana many districts have administrators who serve dual roles, i.e., superintendents/elementary principal. The problems that were encountered in the sampling procedure are shown in Table 4 of Appendix C. The researcher finally used 50 for each strata, totaling 150 in the sample population.

The stratified listings were numbered in order to facilitate the selection (sampling) process. Using a table of random numbers, and

starting at an appropriately selected random spot on the table, the samples were picked (Leedy, 1980). The corresponding numbers from the table, picked in order, determined which person in the list became part of the sample.

The population was picked because of the location and direct impact that it could have on the Educational Administration Program at Montana State University. Each of the persons in the sample was assigned a response code for later identification during the mailing process (Leedy, 1980).

Categories for Investigation

All superintendents, elementary principals and secondary principals who were identified for the purpose of this study received identical questionnaires.

The questionnaires were divided into ten categories. As indicated earlier, the categories were developed by the researcher after an extensive review of the literature. These skills categories were assumed to encompass all of the areas of management that are important to school administrators. The categories that were included are as follows:

1. Decision Making
2. Communication Principles
3. Budgetary Management Systems
4. Motivation Theory
5. Planning Principles
6. Change Principles
7. Conflict Management Principles

8. Creative Management Principles
9. Control Process Principles
10. Organizational Structuring Principles

Within these major topic areas was included a total of 28 items which had been chosen by the researcher, based upon the findings in the literature. The items chosen for investigation included competencies found in the literature by the researcher to have significance in the development of needed management skills for the school administrator (Drucker, Stone, Thompson and Morphet, 1974).

Method of Data Collection

The method of gathering data was a mailed survey. The method was chosen over other techniques of collection because it best fit the needs of the research. The survey was designed as a needs assessment instrument. This instrument represented a formal systematic attempt to determine and close the gaps between "what is" and "what should be" (Kaufman and English, 1979). The needs assessment collected the essential data that was used statistically to test the stated hypotheses (Leedy, 1980).

To provide controls on irrelevant and contaminating variables, the following precautions were taken:

1. The cover letter accompanying the instrument included a clear statement of confidentiality for respondents.
2. Names were used only from the O.P.I. listing.
3. Only course outlines from the School Administration Program at Montana State University and upper division courses from the Management

Program at Montana State University that were applicable to the problem were used to make comparisons and recommendations.

Development of Instrument Validity and Reliability

Of paramount importance to this study was the development of a valid and reliable instrument. Correct procedures were used to develop an instrument that met the validity and reliability requirements. The original format and instrument was developed by the researcher, using current literature on the topic.

A sample of ten administrators were asked to complete the instrument and critically evaluate it. This procedure helped to develop the face validity of the instrument (Sax, 1980). This test was followed up using the interview method. The researcher predeveloped a critical review questionnaire for the instrument. Then the instrument was given to the ten administrators to complete. Upon completion of the instrument, the researcher used a review questionnaire to go over the instrument and cover letter with the administrators.

Once the pilot test was completed, the researcher evaluated the results and critical reviews. Appropriate changes were made on the instrument and cover letter as a result of the pilot test.

To further develop face validity, three staff members from Montana State University were asked to review the cover letter and instrument. They were asked to comment on the accuracy and completeness of each section. The comments were evaluated and further changes in the instrument were made where necessary.

A sample of thirty administrators was drawn to be used in a test/retest method to test the reliability of the instrument (Sax, 1980). A period of four weeks between tests was used. When the respondents received the retest instrument, they were notified that the purpose of this repeated effort was to help determine the accuracy of the instrument and that their cooperation at that time would be deeply appreciated. A copy of the second cover letter and instrument appear in Appendix D.

The reliability coefficient was preset at .80. This indicates that only 80 percent of the variation is attributed to variations in the true score, the remaining 20 percent being attributable to error (Ferguson, 1976). Through the related literature, .80 was found to be a common standard. As seen in Table 5 of Appendix E, the reliability coefficients met or exceeded this preset standard (Robson, 1976; Fox, 1978; Goor, 1978).

The reliability calculations proved to be high enough in all but two of the 28 sections of the instrument. Those areas were rewritten for clarity and evaluated by the committee chairperson. Upon acceptance by the chairperson, the new items were inserted into the instrument and printed for the final mailing. The reliability figures for each section appear in Table 5 of Appendix E. The revised sections of the instrument are in Appendix F. Once the instrument's reliability was determined to be acceptable, it was sent out as soon as possible to the remaining 120 members of the sample population.

Course outlines for the School Administration Program at Montana State University and outlines for the upper division courses in

management from the College of Business at Montana State University were collected. These were used to make comparisons to the competencies to see if the needs were being met in the administration program or management program.

In similar studies, the percentage of questionnaires returned was set at 70 percent. This was the standard that was used by the researcher for the percent of questionnaires returned from the sample population (Robson, 1976; Fox, 1978; Goor, 1978). The researcher used a second mailing to bring the total response rate for this study to 74 percent. Of the 150 instruments that were sent out, 111 were returned. The strata breakdown for the sample population and the percent of return for each strata appear in Table 7 of Appendix G. A follow-up letter was also used to increase the response rate.

Method of Organizing Data

The data for this study were collected by a needs assessment instrument. The raw data and statistical data were organized so that information on each item was all together. How the data were displayed appears in Figure 1 on the following page (Ferguson, 1976).

The Null Hypotheses were tested statistically. The hypotheses were either accepted or rejected, depending on the statistical outcome. Lastly, the data were compared to the course outlines from the Educational Administration Program and Management Program at Montana State University to see where the significant results are being addressed.

I. Stated H_0

High	Medium	Low
50	48	13

Critical value at .05 level =
Calculated value =
Reject or Accept Null =

II. Stated H_0

	High	Medium	Low
S	22	11	8
EP	10	22	1
SP	18	15	4

Critical value at .05 level =
Calculated value =
Reject or Accept Null =

Figure 1. Samples of Data Displayed.

Statistical Hypotheses

Section I: Need for Competency

The following Null and Alternative Hypotheses were tested:

Ia. H_0 -- There is no preference by administrators in the degree of need for the competency on single-person decisions, listed within the Decision Making category.

H_1 -- There is a preference by administrators in the degree of need for the competency on single-person decisions, listed within the Decision Making category.

Ib. H_0 -- There is no preference by administrators in the degree of need for the competency on small group decision making, listed within the Decision Making category.

H_1 -- There is a preference by administrators in the degree of need for the competency on small group decision making, listed within the Decision Making category.

Ic. H_0 -- There is no preference by administrators in the degree of need for the competency on large group decision making, listed within the Decision Making category.

H_1 -- There is a preference by administrators in the degree of need for the competency on large group decision making, listed within the Decision Making category.

IIa. H_0 -- There is no preference by administrators in the degree of need for the competency on clarifying communications, listed within the Communications Principles category.

H_1 -- There is a preference by administrators in the degree of need for the competency on clarifying communications, listed within the Communications Principles category.

IIb. H_0 -- There is no preference by administrators in the degree of need for the competency on non-verbal vs. verbal communication, listed within the Communications Principles category.

H_1 -- There is a preference by administrators in the degree of need for the competency on non-verbal vs. verbal communication, listed within the Communications Principles category.

IIIa. H_0 -- There is no preference by administrators in the degree of need for the competency on planning-programming-budget system, listed within the Budget Management Systems category.

H_1 -- There is a preference by administrators in the degree of need for the competency on planning-programming-budget system, listed within the Budget Management Systems category.

IIIb. H_0 -- There is no preference by administrators in the degree of need for the competency on zero base budgeting, listed within the Budget Management Systems category.

H_1 -- There is a preference by administrators in the degree of need for the competency on zero base budgeting, listed within the Budget Management Systems category.

IVa. H_0 -- There is no preference by administrators in the degree of need for the competency on content theory, listed within the Motivation Theory category.

H_1 -- There is a preference by administrators in the degree of need for the competency on content theory, listed within the Motivation Theory category.

IVb. H_0 -- There is no preference by administrators in the degree of need for the competency on process theory, listed within the Motivation Theory category.

H_1 -- There is a preference by administrators in the degree of need for the competency on process theory, listed within the Motivation Theory category.

IVc. H_0 -- There is no preference by administrators in the degree of need for the competency on reinforcement, listed with the Motivation Theory category.

H_1 -- There is a preference by administrators in the degree of need for the competency on reinforcement, listed within the Motivation Theory category.

Va. H_0 -- There is no preference by administrators in the degree of need for the competency on goal planning, listed within the Planning Principles category.

H_1 -- There is a preference by administrators in the degree of need for the competency on goal planning, listed within the Planning Principles category.

Vb. H_0 -- There is no preference by administrators in the degree of need for the competency on single use plans, listed within the Planning Principles category.

H_1 -- There is a preference by administrators in the degree of need for the competency on single use plans, listed within the Planning Principles category.

Vc. H_0 -- There is no preference by administrators in the degree of need for the competency on standing plans, listed within the Planning Principles category.

H_1 -- There is a preference by administrators in the degree of need for the competency on standing plans, listed within the Planning Principles category.

VIa. H_0 -- There is no preference by administrators in the degree of need for the competency on coordination, listed within the Organizational Structure Theories category.

H_1 -- There is a preference by administrators in the degree of need for the competency on coordination, listed within the Organizational Structure Theories category.

VIb. H_0 -- There is no preference by administrators in the degree of need for the competency on span of management, listed within the Organizational Structure Theories category.

H_1 -- There is a preference by administrators in the degree of need for the competency on span of management, listed within the Organizational Structure Theories category.

VIIa. H_0 -- There is no preference by administrators in the degree of need for the competency on conflict management

principles, listed within the Conflict Management Principles category.

H_1 -- There is a preference by administrators in the degree of need for the competency on conflict management principles, listed within the Conflict Management Principles category.

VIIb. H_0 -- There is no preference by administrators in the degree of need for the competency on conflict reduction, listed within the Conflict Management Principles category.

H_1 -- There is a preference by administrators in the degree of need for the competency on conflict reduction, listed within the Conflict Management Principles category.

VIIc. H_0 -- There is no preference by administrators in the degree of need for the competency on conflict resolution, listed within the Conflict Management Principles category.

H_1 -- There is a preference by administrators in the degree of need for the competency on conflict resolution, listed within the Conflict Management Principles category.

VIIIa. H_0 -- There is no preference by administrators in the degree of need for the competency on brainstorming principles, listed within the Creativity Management Principles category.

H_1 -- There is a preference by administrators in the degree of need for the competency on brainstorming principles, listed within the Creativity Management Principles category.

VIIIb. H_0 -- There is no preference by administrators in the degree of need for the competency on synectics, listed within the Creativity Management Principles category.

H_1 -- There is a preference by administrators in the degree of need for the competency on synectics, listed within the Creativity Management Principles category.

VIIIc. H_0 -- There is no preference by administrators in the degree of need for the competency on group process for creative decision making, listed within the Creativity Management Principles category.

H_1 -- There is a preference by administrators in the degree of need for the competency on group process for creative decision making, listed within the Creativity Management Principles category.

IXa. H_0 -- There is no preference by administrators in the degree of need for competency on structural change, listed within the Change Principles category.

H_1 -- There is a preference by administrators in the degree of need for competency on structural change, listed within the Change Principles category.

IXb. H_0 -- There is no preference by administrators in the degree of need for competency on technology changes, listed within the Change Principles category.

H_1 -- There is a preference by administrators in the degree of need for competency on technology changes, listed within the Change Principles category.

IXc. H_0 -- There is no preference by administrators in the degree of need for competency on people change principles, listed within the Change Principles category.

H_1 -- There is a preference by administrators in the degree of need for competency on people change principles, listed within the Change Principles category.

Xa. H_0 -- There is no preference by administrators in the degree of need for competency on steering control principles, listed within the Control Process Principles category.

H_1 -- There is a preference by administrators in the degree of need for competency on steering control principles, listed within the Control Process Principles category.

Xb. H_0 -- There is no preference by administrators in the degree of need for competency on yes or no screening controls, listed within the Control Process Principles category.

H_1 -- There is a preference by administrators in the degree of need for competency on yes or no screening controls, listed within the Control Process Principles category.

Xc. H_0 -- There is no preference by administrators in the degree of need for the competency on post-action controls, listed within the Control Process Principles category.

H_1 -- There is a preference by administrators in the degree of need for the competency on post-action controls, listed within the Control Process Principles category.

XIa. H_0 -- There is no preference by administrators in the degree of need for the competency on energy management systems, listed within the Other Principles category.

H_1 -- There is a preference by administrators in the degree of need for the competency on energy management systems, listed within the Other Principles category.

Section II: Need for Competency by Administrative Groups

To determine the need for each competency item within each management skills category by administrative groups (superintendents, elementary principals and secondary principals) and to determine the differences among the groups of administrators, the following Null and Alternative Hypotheses were tested:

Ia. H_0 -- The degree of need for the competency on single-person decisions, within the Decision Making category, is independent of administrative position.

H_1 -- The degree of need for the competency on single-person decisions, within the Decision Making category, is dependent of administrative position.

Ib. H_0 -- The degree of need for the competency on small-group decisions, within the Decision Making category, is independent of administrative position.

H_1 -- The degree of need for the competency on small-group decisions, within the Decision Making category, is dependent of administrative position.

Ic. H_0 -- The degree of need for the competency on large-group decision making, within the Decision Making category, is independent of administrative position.

H_1 -- The degree of need for the competency on large-group decision making, within the Decision Making category, is dependent of administrative position.

IIa. H_0 -- The degree of need for the competency on clarifying your communications, within the Communications Principles category, is independent of administrative position.

H_1 -- The degree of need for the competency on clarifying your communications, within the Communications Principles category, is dependent of administrative position.

IIb. H_0 -- The degree of need for the competency on non-verbal communication vs. verbal communication, within the Communication Principles category, is independent of administrative position.

H_1 -- The degree of need for the competency on non-verbal communication vs. verbal communication, within the Communication Principles category, is dependent of administrative position.

IIIa. H_0 -- The degree of need for the competency on planning-programming-budgeting system, within the Budget Management Systems category, is independent of administrative position.

H_1 -- The degree of need for the competency on planning-programming-budgeting system, within the Budget Management Systems category, is dependent of administrative position.

IIIb. H_0 -- The degree of need for the competency on zero base budgeting, within the Budget Management Systems category, is independent of administrative position.

H_1 -- The degree of need for the competency on zero base budgeting, within the Budget Management Systems category, is dependent of administrative position.

IVa. H_0 -- The degree of need for the competency on content theory, within the Motivation Theory category, is independent of administrative position.

H_1 -- The degree of need for the competency on content theory, within the Motivation Theory category, is dependent of administrative position.

IVb. H_0 -- The degree of need for the competency on process theory, within the Motivation Theory category, is independent of administrative position.

H_1 -- The degree of need for the competency on process theory, within the Motivation Theory category, is dependent of administrative position.

IVc. H_0 -- The degree of need for the competency on reinforcement, within the Motivation Theory category, is independent of administrative position.

H_1 -- The degree of need for the competency on reinforcement, within the Motivation Theory category, is dependent of administrative position.

Va. H_0 -- The degree of need for the competency on goal planning, within the Planning Principles category, is independent of administrative position.

H_1 -- The degree of need for the competency on goal planning, within the Planning Principles category, is dependent of administrative position.

Vb. H_0 -- The degree of need for the competency on single-use plans, within the Planning Principles category, is independent of administrative position.

H_1 -- The degree of need for the competency on single-use plans, within the Planning Principles category, is dependent of administrative position.

Vc. H_0 -- The degree of need for the competency on standing plans, within the Planning Principles category, is independent of administrative position.

H_1 -- The degree of need for the competency on standing plans, within the Planning Principles category, is dependent of administrative position.

VIa. H_0 -- The degree of need for the competency on coordination, within the Organizational Structure Theories category, is independent of administrative position.

H_1 -- The degree of need for the competency on coordination, within the Organizational Structure Theories category, is dependent of administrative position.

VIb. H_0 -- The degree of need for the competency on span of management, within the Organizational Structure Theories category, is independent of administrative position.

H_1 -- The degree of need for the competency on span of management, within the Organizational Structure Theories category, is dependent of administrative position.

VIIa. H_0 -- The degree of need for the competency on conflict simulation, within the Conflict Management Principles category, is independent of administrative position.

H_1 -- The degree of need for the competency on conflict simulation, within the Conflict Management Principles category, is dependent of administrative position.

VIIb. H_0 -- The degree of need for the competency on conflict reduction, within the Conflict Management Principles category, is independent of administrative position.

H_1 -- The degree of need for the competency on conflict reduction, within the Conflict Management Principles category, is dependent of administrative position.

VIIc. H_0 -- The degree of need for the competency on conflict resolution, within the Conflict Management Principles category, is independent of administrative position.

H_1 -- The degree of need for the competency on conflict resolution, within the Conflict Management Principles category, is dependent of administrative position.

VIIIa. H_0 -- The degree of need for the competency on brainstorming principles, within the Creativity Management Principles category, is independent of administrative position.

H_1 -- The degree of need for the competency on brainstorming principles, within the Creativity Management Principles category, is dependent of administrative position.

VIIIb. H_0 -- The degree of need for the competency on synectics, within the Creativity Management Principles category, is independent of administrative position.

H_1 -- The degree of need for the competency on synectics, within the Creativity Management Principles category, is dependent of administrative position.

VIIIc. H_0 -- The degree of need for the competency on group process for creative decision making, within the Creativity Management Principles category, is independent of administrative position.

H_1 -- The degree of need for the competency on group process for creative decision making, within the Creativity Management Principles category, is dependent of administrative position.

IXa. H_0 -- The degree of need for the competency on structural change, within the Change Principles category, is independent of administrative position.

H_1 -- The degree of need for the competency on structural change, within the Change Principles category, is dependent of administrative position.

IXb. H_0 -- The degree of need for the competency on technology changes, within the Change Principles category, is independent of administrative position.

H_1 -- The degree of need for the competency on technology changes, within the Change Principles category, is dependent of administrative position.

IXc. H_0 -- The degree of need for the competency on people change principles, within the Change Principles category, is independent of administrative position.

H_1 -- The degree of need for the competency on people change principles, within the Change Principles category, is dependent of administrative position.

Xa. H_0 -- The degree of need for the competency on steering control principles, within the Control Process Principles category, is independent of administrative position.

H_1 -- The degree of need for the competency on steering control principles, within the Control Process principles category, is dependent of administrative position.

Xb. H_0 -- The degree of need for the competency on yes or no screening controls, within the Control Process Principles category, is independent of administrative position.

H_1 -- The degree of need for the competency on yes or no screening controls, within the Control Process Principles category, is dependent of administrative position.

Xc. H_0 -- The degree of need for the competency on post-action controls, within the Control Process Principles category, is independent of administrative position.

H_1 -- The degree of need for the competency on post-action controls, within the Control Process Principles category, is dependent of administrative position.

XIa. H_0 -- The degree of need for the competency on energy management systems, within the Other Principles category, is independent of administrative position.

H_1 -- The degree of need for the competency on energy management systems, within the Other Principles category, is dependent of administrative position.

Section III: Need for Competency in Graduate Program by Administrative Group

To determine the need for each competency item to be included within the graduate administrative program, the following Null and Alternative Hypotheses were tested. This information was separated into administrative groups. The differences among the groups of administrators were observed to determine how they felt about having each of the competencies in a graduate program.

Ia. H_0 -- The degree of need for the competency on single-person decisions, within the Decision Making category, to be

included in a Graduate Administration Program is independent of administrative position.

H_1 -- The degree of need for the competency on single-person decisions, within the Decision Making category, to be included in a Graduate Administration Program is dependent of administrative position.

Ib. H_0 -- The degree of need for the competency on small-group decision making, within the Decision Making category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on small-group decision making, within the Decision Making category, to be included in a Graduate School Administrative Program is dependent of administrative position.

Ic. H_0 -- The degree of need for the competency on large-group decision making, within the Decision Making category, to be included in a Graduate School Administrative Program, is independent of administrative position.

H_1 -- The degree of need for the competency on large-group decision making, within the Decision Making category, to be included in a Graduate School Administrative Program, is dependent of administrative position.

IIa. H_0 -- The degree of need for the competency on clarifying your communications, within the Communication Principles category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on clarifying your communications, within the Communication Principles category, to be included in a Graduate School Administrative Program, is dependent of administrative position.

IIb. H_0 -- The degree of need for the competency on non-verbal communication vs. verbal communication, within the Communication Principles category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on non-verbal communication vs. verbal communication, within the Communication Principles category, to be included in a Graduate School Administrative Program is dependent of administrative position.

IIIa. H_0 -- The degree of need for the competency on planning-programming-budgeting system, within the Budget Management Systems category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on planning-programming-budgeting system, within the Budget Management Systems category, to be included in a Graduate School Administrative Program is dependent of administrative position.

IIIb. H_0 -- The degree of need for the competency on zero base budgeting, within the Budget Management Systems category,

to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on zero base budgeting, within the Budget Management Systems category, to be included in a Graduate School Administrative Program is dependent of administrative position.

IVa. H_0 -- The degree of need for the competency on content theory, within the Motivation Theory category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on content theory, within the Motivation Theory category, to be included in a Graduate School Administrative Program is dependent of administrative position.

IVb. H_0 -- The degree of need for the competency on process theory, within the Motivation Theory category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on process theory, within the Motivation Theory category, to be included in a Graduate School Administrative Program is dependent of administrative position.

IVc. H_0 -- The degree of need for the competency on reinforcement, within the Motivation Theory category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on reinforcement, within the Motivation Theory category, to be included in a Graduate School Administrative Program is dependent of administrative position.

Va. H_0 -- The degree of need for the competency on goal planning, within the Planning Principles category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on goal planning, within the Planning Principles category, to be included in a Graduate School Administrative Program is dependent of administrative position.

Vb. H_0 -- The degree of need for the competency on single-use plans, within the Planning Principles category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on single-use plans, within the Planning Principles category, to be included in a Graduate School Administrative Program is dependent of administrative position.

Vc. H_0 -- The degree of need for the competency on standing plans, within the Planning Principles category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on standing plans, within the Planning Principles category, to be included

in a Graduate School Administrative Program is dependent of administrative position.

VIa. H_0 -- The degree of need for the competency on coordination, within the Organizational Structure Theories category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on coordination, within the Organizational Structure Theories category, to be included in a Graduate School Administrative Program is dependent of administrative position.

VIb. H_0 -- The degree of need for the competency on span of management, within the Organizational Structure Theories category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on span of management, within the Organizational Structure Theories category, to be included in a Graduate School Administrative Program is dependent of administrative position.

VIIa. H_0 -- The degree of need for the competency on conflict stimulation, within the Conflict Management Principles category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on conflict stimulation, within the Conflict Management Principles

category, to be included in a Graduate School Administrative Program is independent of administrative position.

VIIb. H_0 -- The degree of need for the competency on conflict reduction, within the Conflict Management Principles category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on conflict reduction, within the Conflict Management Principles category, to be included in a Graduate School Administrative Program is dependent of administrative position.

VIIc. H_0 -- The degree of need for the competency on conflict resolution, within the Conflict Management Principles category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on conflict resolution, within the Conflict Management Principles category, to be included in a Graduate School Administrative Program is dependent of administrative position.

VIIIa. H_0 -- The degree of need for the competency on brainstorming principles, within the Creativity Management Principles category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on brainstorming principles, within the Creativity Management Principles

category, to be included in a Graduate School Administrative Program is dependent of administrative position.

VIIIb. H_0 -- The degree of need for the competency on synectics, within the Creativity Management Principles category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on synectics, within the Creativity Management Principles category, to be included in a Graduate School Administrative Program is dependent of administrative position.

VIIIc. H_0 -- The degree of need for the competency on group process for creative decision making, within the Creativity Management Principles category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on group process for creative decision making, within the Creativity Management Principles category, to be included in a Graduate School Administrative Program is dependent of administrative position.

IXa. H_0 -- The degree of need for the competency on structural change, within the Creativity Management Principles category, to be included in a Graduate School Administration Program is independent of administrative position.

H_1 -- The degree of need for the competency on structural change, within the Creativity Management principles

category, to be included in a Graduate School Administration Program is dependent of administrative position.

IXb. H_0 -- The degree of need for the competency on technology changes, within the Creativity Management Principles category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on technology changes, within the Creativity Management Principles category, to be included in a Graduate School Administrative Program is dependent of administrative position.

IXc. H_0 -- The degree of need for the competency on people change principles, within the Creativity Management Principles category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on people change principles, within the Creativity Management Principles category, to be included in a Graduate School Administrative Program is dependent of administrative position.

Xa. H_0 -- The degree of need for the competency on steering control principles, within the Control Process Principles category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on steering control principles, within the Control Process Principles category, to be included in a Graduate School Administrative Program is dependent of administrative position.

Xb. H_0 -- The degree of need for the competency on yes or no screening controls, within the Control Process Principles category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on yes or no screening controls, within the Control Process Principles category, to be included in a Graduate School Administrative Program is dependent of administrative position.

Xc. H_0 -- The degree of need for the competency on post-action controls, within the Control Process Principles category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on post-action controls, within the Control Process Principles category, to be included in a Graduate School Administrative Program is dependent of administrative position.

XIa. H_0 -- The degree of need for the competency on energy management systems, within the Other Principles category, to be included in a Graduate School Administrative Program is independent of administrative position.

H_1 -- The degree of need for the competency on energy management systems, within the Other Principles category, to be included in a Graduate School Administrative Program is dependent of administrative position.

The demographic data are presented descriptively in Table 8 of Appendix H. This information includes averages for:

1. Number of years teaching experience.
2. Number of years administrative experience.
3. Present degree held (masters, specialist, doctorate).

Analysis of Data

When data is assigned to categories in a well-defined manner, there is nominal scaling. This study compared categories among themselves and contrasted how samples differ in terms of assignment into categories. For this reason, Chi Square was chosen as the most appropriate statistical test for the purpose of this study (Ferguson, 1976). The data were first tested by the Chi Square Goodness of Fit Test. Each of the Null Hypotheses was tested from Section I of the Statistical Hypotheses. A one-by-three matrix was formed for each competency item within each of the management skills categories. The three boxes represent each of the three degrees of need for that item (competency). The degree of need was designated by High, Medium or Low. Analysis by using the Chi Square determined whether to retain or reject the Null Hypothesis in each case.

The data were also tested by the Chi Square Test of Independence. A three-by-three matrix was used for this test. The three administrative groups (superintendents, elementary principals and secondary principals)

represented one side of the matrix. The degree of need once again represented the other side of the matrix. All 28 items from Section II of the Statistical Hypotheses section were analyzed for significance. The Null Hypothesis in each case was retained or rejected (Ferguson, 1976).

The data on the need for the competency within the School Administration Program at Montana State University were also tested using the Chi Square Test of Independence. The matrix was three-by-three. It was important to separate the needs into the administrative groups. The needs by the different administrators were different in some cases. The programs for the three administrative groups are different and some concern had to be shown in the analysis. After testing, the Null Hypothesis was retained or rejected.

The level of significance used to test the Null Hypotheses in this study was .05. If we speak of a factor as being statistically significant at the .05 level, we are stating that we are allowing a certain narrow margin of variance, which the researcher deems to be natural and a result of pure chance.

> Any variation within this statistically permissible band is not considered to be important enough to claim our attention. Whatever exceeds these limits, however, is considered to be the result of some determinative factor other than that of natural fortuitousness, and so the influence is considered to be a significant one (Leedy, 1980).

This level of significance was chosen because of its narrow band of variance, and it was the one most researchers use (Tuckman, 1972). The literature also indicated that in similar studies the .05 level of significance has also been used (Robson, 1976; Fox, 1978; Goor, 1978).

The level of significance (.05) helped to avoid a Type-I error (rejecting a true null)(Ferguson, 1976). The sample size of 150 administrators helped to avoid a Type-II error since the population was homogeneous (all school administrators).

The course summaries from both the Educational Administration Program and the upper division management courses from the College of Business at Montana State University were visually compared to the significant results of the study. This was done to see if areas could be identified where competencies had been addressed, or if the competencies were lacking in the Educational Administration Program. This information will be presented in Chapter 4.

As a last step in the study, the researcher wrote a monograph relating the findings of this topic. The monograph was submitted to the Graduate Committee for review.

Precautions for Accuracy

The data generated by the study were analyzed by the computer system at Montana State University. The calculations were also hand-checked. This procedure helped to assure the accuracy of statistical outcomes.

Summary

The purpose of this study was to determine if school administrators in Montana expressed a need to be exposed to management skill competencies (theories, principles and systems). The study also served to collect data on the differences in these needs for the competency items

among administrative groups (superintendents, elementary principals and secondary principals). The data also generated information on the need for the competency items to be taught during a graduate program in school administration.

The sample population and the strata for that sample were determined using appropriate methods. A sample of 150 administrators (50 superintendents, 50 elementary principals and 50 secondary principals) from across Montana were sent a Management Competency Development Questionnaire. A cover letter explaining the purpose of the questionnaire accompanied the instrument.

The method of data collection determined to be most appropriate for the study was a needs assessment. The information used in the instrument was collected by the researcher through the review of related literature. Major skills categories in management were determined. Competencies (theories, principles and systems) that would help develop these skills were listed below appropriate categories. A total of 28 competencies were developed.

The development of the questionnaire and the cover letter was a very important step in the study. The instrument was field tested for its validity and reliability before being used in the study. The face validity was developed through the review of literature, the review of the instrument and cover letter by the ten administrators, and the review by three instructors at Montana State University. A test/retest situation was used to test the reliability. Appropriate levels of reliability were reached during the field test.

Null and Alternative Hypotheses were developed for the three major sections of the study. These sections were:

1. The need for the competency by administrators.

2. The need for the competency by administrative groups (superintendents, elementary principals and secondary principals).

3. The need for the competency to be included in a graduate program in school administration (as determined by the three separate administrative groups).

The data were analyzed using Chi Square. This statistic was found to be the best suited to yield the type of information that was needed. The level of significance was preset at the .05 level. Precautions were taken for accuracy by utilizing the computer system at Montana State University to calculate the Chi Square figures.

CHAPTER 4

ANALYSIS OF DATA

Introduction

This chapter presents the analysis of data gathered in the study. The specific data are delineated in Tables 9 through 36, which appear in Appendix J. These tables are divided into four major sections. Section I, the degree of need (high, medium, low) for each competency, was tested using Chi Square (a one-by-three matrix). Twenty-eight Null Hypotheses were tested in Section I. Section II, the difference in need (high, medium, low) for the competency among administrative groups (superintendent, elementary principal, secondary principal) was tested using Chi Square (a three-by-three matrix). Twenty-eight Null Hypotheses were tested in Section II. Section III, the difference among administrative groups (superintendent, elementary principal, secondary principal) in the need (high, medium, low) for the competency to be included in a Graduate School Educational Administrative Program, was tested using a Chi Square three-by-three matrix. Twenty-eight Null Hypotheses were tested in Section III.

Course descriptions from the present Educational Administration Program and the upper division business management courses appear in Appendix I. Table 1 (page 85) presents a summary of rejected and retained hypotheses from this study. With the aid of the course descriptions

and the significant results from Section I of the tables in Appendix J, the researcher was able to develop Table 2 (page 88), which shows in which courses significant competencies were addressed.

The Null Hypothesis from each section (I, II, III) for the same item number are stated in the same table. An explanation of why the data supports the retention or rejection of the Null Hypothesis is included in the summaries in this chapter. Included in each summary are references to percentage results taken from the raw data in the tables. This was done for ease of interpretation. The tables included the raw data, the level of significance, critical value of Chi Square, the calculated value of Chi Square, and whether (according to the data) the hypothesis was retained or rejected.

In Sections II and III of the tables, certain three-by-three matrices were collapsed to a two-by-three matrix. In this case, 2 = the degree of need and 3 = the administrative groups (superintendent, elementary principal, secondary principal). This procedure was used to provide the most accuracy in reporting outcomes. Any raw data appearing in each column that was less than or equal to three was collapsed (Ferguson, 1976).

The tables that were collapsed were marked with an asterisk. The tables that showed a significant result at the .05 level (rejecting the Null Hypotheses) were marked with two asterisks. The following abbreviations were used in reporting the data: H = high, M = medium, L = low; S = superintendent, EP = elementary principal, SP = secondary principal; GSAP = Graduate School Administration Program. A summary follows the table for each competency item.

Discussion

The data on the need to be exposed to theories on single-person decisions are shown in Table 9 of Appendix J. There was a significant preference by administrators in the need to be exposed to theories on single-person decisions. The need was not low. The Null Hypothesis in Section I, Ia, was rejected. Over 45 percent of the administrators identified the competency as having a high need and over 43 percent of the administrators identified the competency as being a medium need. There was also a significant preference in the need to be exposed to theories on single-person decisions among administrative groups. Superintendents showed a high need, elementary principals showed a medium need, and secondary principals did not show a low need. The Null Hypothesis in Section II, Ia, was rejected. There was no significant difference in the degree of need for theories on single-person decisions to be included in a GSAP among administrative groups. The need was not low in all the administrative groups. The Null Hypothesis in Section III, Ia, was retained. There was no significant preference in the degree of need among administrative groups to include competencies on single-person decision making in a GSAP.

The data on the need to be exposed to theories on small-group decision making are shown in Table 10 of Appendix J. There was a significant preference by administrators to be exposed to theories on small-group decision making. The need was not low. The Null Hypothesis in Section I, Ib, was rejected. Over 54 percent of the administrators identified the competency as having a high need and over 38 percent of

the administrators identified the competency as having a medium need. There were no significant findings in Sections II and II for item Ib. There was no significant difference in the degree of need among administrative groups to be exposed to competencies on small-group decision making. There was no significant difference in the degree of need among administrative groups to be exposed to competencies on small-group decision making within a GSAP.

The data on the need to be exposed to theories on large-group decision making are shown in Table 11 of Appendix J. There was a significant preference by administrators to be exposed to theories on large-group decision making. The need was medium. The Null Hypothesis in Section I, Ic was rejected. Over 32 percent of the administrators identified the competency as having a high need, over 45 percent of the administrators identified the competence as having a medium need, and over 21 percent of the administrators identified the competency as having a low need. There were no significant findings in Section II and III for item Ic. There was no significant difference among administrative groups in the need to be exposed to theories on large-group decision making. There was no significant difference among administrative groups on the need to be exposed to theories on large-group decision making within a GSAP.

The data on the need for communication clarification are shown in Table 12 of Appendix J. There was a significant preference by administrators in the degree of need for competencies on clarifying communications. The preference was high. The Null Hypothesis was rejected. Over 68 percent of the administrators identified the competency as having a

high need and over 26 percent of the administrators identified the competency as having a medium need. The Null Hypotheses in Sections II and III for item IIa were retained. There was no significant difference in the degree of need among administrative groups to be exposed to competencies on clarifying communications. There was no significant difference among administrative groups to be exposed to competencies on clarifying communications within a GSAP.

The data on verbal versus non-verbal communication are shown in Table 13 of Appendix J. There was a significant preference by administrators to be exposed to competencies on verbal versus non-verbal communications. The need was medium. Therefore, the Null Hypothesis in Section, IIb was rejected. Over 31 percent of the administrators identified the competency as having a high need and over 55 percent of the administrators identified the competency as having a medium need. There were no significant differences among administrative groups for Sections II and III in H_0 of IIb; therefore, the Null Hypotheses were retained. There was no significant difference among administrative groups to be exposed to competencies on verbal versus non-verbal communications included in a GSAP.

The data on programming budgeting systems are shown in Table 14 of Appendix J. There was a significant preference by administrators to be exposed to the competency on planning programming budgeting systems. The preference was not low. Therefore, the Null Hypothesis in Section I, IIIa, was rejected. Over 42 percent of the administrators identified the competency as having a high need and over 44 percent of the administrators as having a medium need to be exposed to the competency.

In Sections II and III there were no significant differences found in H_0 of IIIb among administrative groups. The Null Hypotheses for both sections were retained. There was no significant difference among administrative groups to be exposed to competencies on planning-programming-budgeting systems. There was no significant difference among administrative groups to be exposed to planning-programming-budgeting systems in a GSAP.

The data on the need for exposure to zero-based budgeting are shown in Table 15 of Appendix J. There was a significant preference by administrators to be exposed to competencies on zero-based budgeting. The preference was medium. Therefore, the Null Hypothesis IIIb for Section I was rejected. Over 34 percent of the administrators identified the competency as having a high need and over 51 percent identified the competency as having a medium need. The Null Hypotheses IIIb for Sections II and III were retained because no significant differences were found among administrative groups. There was no significant difference among administrative groups in the need to be exposed to competencies on zero-based budgeting. There was no significant difference among administrative groups in the need to be exposed to zero-based budgeting in a GSAP.

The data on the need for content theory are shown in Table 16 of Appendix J. There was a significant preference by administrators to be exposed to content theories on motivation. The preference was not low. Therefore, in Section I, IVa, the Null Hypothesis was rejected. The Null Hypotheses IIIb for Sections II and III were retained because no significant differences were found among administrative groups. There

was no significant difference among administrative groups to be exposed to competencies on content theories on motivation. There was no significant difference among administrative groups to be exposed to content theories on motivation within a GSAP.

The data on the need for process theory are shown in Table 17 of Appendix J. There was a significant preference by administrators to be exposed to process theory. The preference was not low. Therefore, in Section I the Null Hypothesis IVb was rejected. Over 38 percent of the administrators identified the competency as having a high need. Over 47 percent of the administrators identified the competency as having a medium need. In Section II, IVb, the Null Hypothesis was retained. There was no significant difference among administrative groups to be exposed to the theory. The Null Hypothesis of Section III, IVb, was rejected. There were significant differences among administrative groups in the need to be exposed to process theory in a graduate program. The elementary and secondary principals in the sample responded to the need to have the competency in a GSAP, with 39 percent stating a high need and 52 percent indicating a medium need. The superintendents identified the need in a GSAP as 19 percent high, 45 percent medium and 33 percent low.

The data on the need for reinforcement theory are shown in Table 18 of Appendix J. There was a significant preference by administrators to be exposed to competencies on reinforcement listed in the motivation theory category. The preference was medium. In Section I, the Null Hypothesis IVc was rejected. Over 59 percent of the administrators identified the competency as having a medium need. In Sections II and

III, the Null Hypotheses were retained. There was no significant difference among administrative groups to be exposed to the reinforcement category or to have the category included in a GSAP.

The data on the need for competencies on goal planning are shown in Table 19 of Appendix J. There was a significant preference by administrators to be exposed to competencies on goal planning within the planning principles category. The preference was high. In Section I, the Null Hypothesis Va was rejected. Over 72 percent of the administrators identified the competency as having a high need and 27 percent identified it as a medium need. In Section II, there was no significant difference found in the degree of need for competencies on goal planning among administrative groups. Therefore, within Section II, the Null Hypothesis Va was retained. In Section III, the Null hypothesis was rejected. The superintendents and secondary principals showed a higher preference to have goal planning included in a GSAP than the elementary principals.

The data on single-use plans competencies are shown in Table 20 of Appendix J. There was a significant preference by administrators to be exposed to single-use plans. The need was medium. In Section I, the Null Hypothesis Vb was rejected. Over 56 percent of the administrators identified the competency as having a medium need. In Sections II and III, the Null Hypotheses were retained. There was no significant difference in the degree of need for exposure to single-use plans among administrative groups. There also was no difference in the degree of need for the competency on single-use plans to be included in a GSAP among administrative groups.

The data on the need for standing plans competencies are shown in Table 21 of Appendix J. There was a significant preference by administrators to be exposed to standing plans competencies. The need was medium to high. In Section I, the Null Hypothesis Vc was rejected. Over 54 percent of the administrators identified the competency as having a medium need and over 29 percent identified the competency as having a high need. In Sections II and III, the Null Hypotheses were retained. There was no significant difference in the degree of need for exposure to standing plan competencies among administrative groups. There was also no difference in the degree of need for the competency on standing plans to be included in a GSAP among administrative groups.

The data on coordination competencies are shown in Table 22 of Appendix J. There was a significant preference by administrators to be exposed to competencies on coordination. The need was high. In Section I, the Null Hypothesis VIa was rejected. Over 57 percent of the administrators identified the competency as having a high need and over 32 percent identified the competency as having a medium need. In Sections II and III, the Null Hypotheses were retained. There was no significant difference in the degree of need to be exposed to competencies on coordination among administrative groups. There was also no difference in the degree of need for the competency on coordination to be included in a GSAP among administrative groups.

The data on the need to be exposed to competencies on span of management are shown in Table 23 of Appendix J. There was no preference shown in Section I to be exposed to the competency on span of management. The Null Hypothesis VIb was therefore retained. As shown, the

need did not show a significant preference. The administrators identified the need to be exposed to the competency as 37 percent high, 39 percent medium, and 22 percent low. The result, therefore, shows no clear direction. In Section II, the Null Hypothesis VIb was rejected. There was a difference among administrative groups. The superintendents and elementary principals felt there was not a low need for exposure to the competency on span of management. The secondary principals felt there was a medium need. In Section III, the Null Hypothesis VIb was retained. There was no difference in the degree of need for the competency on span of management to be included in a GSAP.

The data on conflict management principles are shown in Table 24 of Appendix J. There was a significant preference by administrators to be exposed to competencies on conflict management. The need was medium. In Section I, the Null Hypothesis VII, Ia, was rejected. Over 23 percent of the administrators identified the competency as having a high need, over 47 percent of the administrators identified the competency as having a medium need, and over 28 percent identified the competency as having a low need. In Sections II and III, the respective Null Hypotheses were retained. In Section II, there was no difference in the need to be exposed to conflict management principles among administrative groups. In Section III, there was no difference among administrative groups in the need to have conflict management principles included in a GSAP.

The data on conflict reduction are shown in Table 25 of Appendix J. There was a significant preference by administrators in the need to be exposed to competencies on conflict reduction. The need was not low. The

Null Hypothesis VIIb in Section I was therefore rejected. Over 41 percent of the administrators identified the competency as having a high need and over 46 percent identified the competency as having a medium need. There was not a significant difference in need to be exposed to conflict reduction competencies among administrative groups. The Null Hypothesis VIIb in Section II was therefore retained. There was a significant difference among administrative groups in the need to have the competency on conflict reduction included in a GSAP. Over 39 percent of the superintendents and secondary principals identified the need to have the competency in a GSAP as high, and 50 percent identified the need as medium. The elementary principals identified this need as 45 percent high, 24 percent medium, and 30 percent low. Therefore, in Section III, the Null Hypothesis VIIb was rejected.

The data on the need to be exposed to competencies on conflict resolution principles are shown in Table 26 of Appendix J. There was a significant preference by administrators in the need to be exposed to competencies on conflict resolution. The need was not low. The Null Hypothesis VIIc in Section I was rejected. Over 54 percent of the administrators identified the competency as having a high need and over 39 percent of the administrators identified the competency as having a medium need. The Null Hypotheses VIIc in Sections II and III were both retained. There was no significant difference among administrative groups in the need to be exposed to competencies on conflict resolutions principles to be included in a GSAP.

The data on the need to be exposed to principles on brainstorming are shown in Table 27 of Appendix J. There was a significant preference

by administrators in the need to be exposed to competencies on brainstorming. The need was medium. The Null Hypothesis VIIIa in Section I was rejected. Over 45 percent of the administrators identified the competency as having a medium need. The remainder of the administrators identified the need for the competency as having a 28 percent high need and a 26 percent low need. The Null Hypotheses VIIIa in Sections II and III were retained. There was no significant difference among administrative groups in the degree of need to be exposed to brainstorming principles and there was no significant difference among administrative groups in the degree of need for brainstorming principles to be included in a GSAP.

The data on the need to be exposed to competencies on synectics are shown in Table 28 of Appendix J. There was a significant preference by administrators in the need to be exposed to competencies on synectics. The need was not high. Therefore, the Null Hypothesis VIIIb in Section I was rejected. Over 46 percent of the administrators identified the competency as having a medium need and over 33 percent identified the need as low. The Null Hypothesis VIIIb in Sections II and III were both retained. There was no significant difference among administrative groups to be exposed to competencies on synectics and there was no significant difference among administrative groups for the competency on synectics to be included in a GSAP.

The data on competency needs on group process for creative decision making are shown in Table 29 of Appendix J. There was a significant preference by administrators in the need to be exposed to competencies on group process for creative decision making. The need was not low.

In Section I, the Null Hypothesis VIIIc was rejected. Over 33 percent of the administrators identified the competency as having a high need and over 49 percent of the administrators identified the competency as having a medium need. The Null Hypotheses VIIIc in Sections II and III were retained. There was no significant difference in the degree of need among administrative groups to be exposed to competencies on group process for creative decision making and there was no significant difference in the degree of need among administrative groups to be exposed to competencies on group process for creative decision making within a GSAP.

The data on the need for competency on structural change are shown in Table 30 of Appendix J. There was a significant preference by administrators in the need to be exposed to competencies on structural change. The need was medium. In Section I, the Null Hypothesis IXa was rejected. Over 28 percent of the administrators identified the competency as having a high need and over 51 percent identified the competency as having a medium need. The Null Hypothesis IXa in Section II was retained. There was no significant difference among administrative groups in the need to be exposed to competencies on structural change. The Null Hypothesis IXa in Section III was rejected. There was a significant difference among administrative groups in the need for competencies on structural change to be included in a GSAP. The superintendents and elementary principals identified the need to have the competency included in a GSAP as 31 percent high, 56 percent medium, and 12 percent low. The secondary principals showed a similar percentage at each level (29 percent high, 32 percent medium, and 37 percent low). The

elementary principals and superintendents showed a greater tendency towards the medium to high need.

The data on the need for competency on technological change are shown in Table 31 of Appendix J. There was a significant preference by administrators in the need to be exposed to competencies on technological changes. The need was medium. The Null Hypothesis IXb in Section I was rejected. Over 53 percent of the administrators identified the competency as having a medium need. The percent of need at the high and low ends were approximately the same (22 and 24 percent, respectively). The Null Hypotheses IXb for Sections II and III were retained. There was no significant difference among administrative groups in the need to be exposed to competencies on technological changes and there was no significant need for the competency on technological change to be included in a GSAP.

The data on the need for competency in people-change principles are shown in Table 32 of Appendix J. There was a significant preference by administrators in the need to be exposed to competencies on people change principles. The need was not low. The Null Hypothesis IXc in Section I was rejected. Over 37 percent of the administrators identified the competency as having a high need and over 52 percent of the administrators identified the competency as having a medium need. The Null Hypotheses IXc in Sections II and III were retained. There was no significant difference among administrative groups in the degree of need to be exposed to competencies on people change principles and there was no significant difference among administrative groups in the degree of need for people change principles to be included in a GSAP.

The data on the degree of need for competency on steering control principles are shown in Table 33 of Appendix J. There was a significant preference by administrators in the need to be exposed to steering control principles. The need was not low. The Null Hypothesis Xa in Section I was rejected. Over 36 percent of the administrators identified the competency as having a high need and over 54 percent identified the competency as having a medium need. The Null Hypotheses Xa in Sections II and III were retained. There was no significant difference among administrative groups in the need to be exposed to steering control principles. There was no significant difference among administrative groups in the need to have the steering control principles included in a GSAP.

The data on the need for competency on yes/no screening controls are shown in Table 34 of Appendix J. There was a significant preference by administrators in the need to be exposed to competencies on yes/no screening control principles. The need was medium. The Null Hypothesis Xb in Section I was rejected. Over 62 percent of the administrators identified the competency as having a medium need. Over 25 percent of the administrators identified the need as low. The Null Hypotheses Xb in Sections II and III were both retained. There was no significant difference among administrative groups in the need to be exposed to competencies on yes/no screening controls. There was no significant difference among administrative groups in the need to have the yes/no screening control principles included in a GSAP.

The data on the need to be exposed to competencies on post-action controls are shown in Table 35 of Appendix J. There was a significant

preference by administrators in the need to be exposed to competencies on post-action controls. The need was medium. The Null Hypothesis Xc for Section I was rejected. Over 33 percent of the administrators identified the competency as having a high need. Over 54 percent identified the competency as having a medium need. The Null Hypotheses Xc for Sections II and III were both retained. There was no significant difference among administrative groups in the need to be exposed to competencies on post-action controls. There was no significant difference among administrators in the degree of need for the competency to be included in a GSAP.

The data on the need to be exposed to competencies on energy management systems are shown in Table 36 of Appendix J. There was a significant preference by administrators in the need to be exposed to energy management systems within the other principles category. The need was not low. The Null Hypothesis XIa in Section I was rejected. Over 32 percent of the administrators identified the competency as having a high need and over 45 percent identified the competency as having a medium need. The Null Hypotheses XIa for Sections II and III were retained. There was no significant difference among administrative groups in the need to be exposed to energy management systems. There was no difference among administrative groups in the need to have energy management systems included in a GSAP.

Table 1 represents a summary of rejected and retained hypotheses. Within the table, RJ represents rejected and RT represents retained. For ease of listing and comprehension, the following categories are included in this table:

1. The specific competency which was addressed with the hypothesis.
2. The hypothesis (null) number.
3. Whether the Null Hypothesis was rejected or accepted according to the section number under which the hypothesis was listed.
   a. Section I -- Degree of need.
   b. Section II -- Preference in the degree of need with administrative groups.
   c. Section III -- Preference in the need in graduate programs by administrative groups.

Table 1. Results of Tested Hypotheses.

	Competency	Null Hypothesis Number	Rejected/ Retained Sections		
			I[a]	II[b]	III[c]
1.	Theories on Single-Person Decisions	H_0Ia	RJ[d]	RJ	RT[e]
2.	Theories on Small-Group Decisions	H_0Ib	RJ	RT	RT
3.	Theories on Large-Group Decisions	H_0Ic	RJ	RT	RT
4.	Clarifying Communications	H_0IIa	RJ	RT	RT
5.	Non-Verbal vs. Verbal	H_0IIb	RJ	RT	RT
6.	Programming-Budgeting System	H_0IIIa	RJ	RT	RT
7.	Zero-Based Budgeting	H_0IIIb	RJ	RT	RT
8.	Content Theory	H_0IVa	RJ	RT	RT
9.	Process Theory	H_0IVb	RJ	RT	RJ
10.	Reinforcement Theory	H_0IVc	RJ	RT	RT
11.	Goal Planning	H_0Va	RJ	RT	RJ

Table 1--continued.

Competency	Null Hypothesis Number	Rejected/ Retained Sections		
		I[a]	II[b]	III[c]
12. Single-Use Plans	H_0Vb	RJ	RT	RT
13. Standing Plans	H_0Vc	RJ	RT	RT
14. Coordination	H_0VIa	RJ	RT	RT
15. Span of Management	H_0VIb	RJ	RJ	RT
16. Conflict Management	H_0VIIa	RJ	RT	RT
17. Conflict Reduction	H_0VIIb	RJ	RT	RJ
18. Conflict Resolution	H_0VIIc	RJ	RT	RT
19. Brainstorming	H_0VIIIa	RJ	RT	RT
20. Synectics	H_0VIIIb	RJ	RT	RT
21. Creative Decision Making	H_0VIIIc	RJ	RT	RT
22. Structural Change	H_0IXa	RJ	RT	RJ
23. Technological Change	H_0IXb	RJ	RT	RT
24. People Change	H_0IXc	RJ	RT	RT
25. Steering Controls	H_0Xa	RJ	RT	RT
26. Yes/No Screening	H_0Xb	RJ	RT	RT
27. Post-Action Controls	H_0Xc	RJ	RT	RT
28. Energy Management	H_0XIa	RJ	RT	RT

[a]I = Degree of need
[b]II = Differences in group
[c]III = Differences in need for GSAP
[d]RJ = Rejected
[e]RT = Retained

It is important to note that course descriptions were taken from the Montana State University course catalogue (Appendix I). An attempt to collect more comprehensive outlines for courses was made. It was determined there was no consistent method of relating more specific data for each course. In some cases, outlines were not available. In others, a course syllabus was on file. The syllabus that was the most consistent format appeared to be the course descriptions as they appeared in the catalogue. This provided general indicators of what topics were addressed in the courses in Business Management and School Administration. It should, therefore, be noted that the use of the course descriptions may have affected the validity of the final data.

Table 2 includes the following information:

1. The category competencies from the instrument.
2. The relative degree of need for each competency as indicated by the research data.
3. The graduate administration or upper division business management courses in competencies are addressed according to the course summaries.

The information in Table 2 provides the data that indicate where competency needs are being met within the two graduate programs.

Table 2. Significant Results from the Survey.

Category/Statement	Degree of Need (H M L)	Department/Course Number[a]
I. Decision Making		
a. Theories on single-person decisions	HM	BUMG -- 301, 320, 421 EDAD -- 508, 520 DEFD -- ---
b. Theories on small-group decision making (2-30 people)	HM	BUMG -- 301, 320, 421 EDAD -- 508, 520 EDFD -- ---
c. Theories on large-group decision making (30 or more people)	HM	BUMG -- 301, 320, 421 EDAD -- 500, 520 EDFD -- ---
II. Communication Principles		
a. Clarifying your communications	H	BUMG -- 301, 320, 362, 421 EDAD -- 525 EDFD -- ---
b. Non-verbal communication vs. verbal communication	M	BUMG -- 320, 322, 421 EDAD -- 525 EDFD -- ---
III. Budget Management Systems		
a. Planning-programming-budgeting system	HM	BUMG -- 320 EDAD -- 540, 546 EDFD -- ---
b. Zero-based budgeting	HM	BUMG -- 320 EDAD -- 540, 542 EDFD -- ---
IV. Motivation Theory		
a. Content Theory: Stresses the importance of drives or needs within individuals as motives for action	HM	BUMG -- 301, 320, 322 EDAD -- --- EDFD -- ---

Table 2--continued.

Category/Statement	Degree of Need (H M L)	Department/Course Number[a]
IV. Motivation Theory--cont'd.		
b. Process Theory: Emphasizes how and by what goals individuals are motivated	HM	BUMG -- 301, 320, 322 EDAD -- --- EDFD -- ---
c. Reinforcement: Forms in how the consequences of an individual's actions in the past affect his/her behavior in the future	M	BUMG -- 301, 320, 322 EDAD -- --- EDFD -- ---
V. Planning Principles		
a. Goal Planning: Providing a basic sense of direction for the organization	H	BUMG -- 320, 421 EDAD -- 541 EDFD -- ---
b. Single-Use Plans: Used to carry out causes of action that probably will not be repeated in the same form in the future	M	BUMG -- 320, 421 EDAD -- --- EDFD -- ---
c. Standing Plans: Used when an organizational activity occurs repeatedly because they enable a single decision or set of decisions to guide these repeated actions	M	BUMG -- 320, 421 EDAD -- --- EDFD -- ---
VI. Organizational Structure Theories		
a. Coordination: The process of integrating the activities and objectives of the separate units of an organization in order to efficiently achieve organizational goals	H	BUMG -- 320, 332, 421 EDAD -- 508, 520 EDFD -- ---

Table 2--continued.

Category/Statement	Degree of Need (H M L)	Department/Course Number[a]
VI. Organizational Structure Theories--cont'd.		
b. Span of Management: Controlling the number of subordinates that report directly to you and other supervisory personnel	HM	BUMG -- 320, 332, 421 EDAD -- --- EDFD -- ---
VII. Conflict Management Principles		
a. Conflict Stimulation: Includes bringing outsiders into the organization, encouraging competition, restructuring the organization, and redistributing power among the organization work groups	M	BUMG -- 320, 322 EDAD -- --- EDFD -- ---
b. Conflict Reduction: Includes integrative problem-solving methods	HM	BUGM -- 320, 322 EDAD -- --- EDFD -- ---
VIII. Creative Management Principles		
a. Brainstorming Principles	M	BUMG -- 320 EDAD -- 508 EDFD -- ---
b. Synectics: Developing one radically new idea	ML	BUMG -- 320 EDAD -- --- EDFD -- ---
c. Group Process for Creative Decision Making: When there is no apparent agreed upon method for solving a problem	M	BUMG -- 320, 422 EDAD -- 508, 520, 522 EDFD -- ---

Table 2--continued.

Category/Statement	Degree of Need (H M L)	Department/Course Number[a]
IX. Change Principles		
a. Structural Change: Rearranging the internal system	M	BUMG -- 301, 320, 322 EDAD -- --- EDFD -- 536
b. Technology Changes	M	BUMG -- 320, 322 EDAD -- --- EDFD -- ---
c. People-Change Principles: Involving the changing of the selection, training relationship, attitudes or roles of organizational members	HM	BUMG -- 320, 322 EDAD -- -- EDFD -- 536
X. Control Process Principles		
a. Steering Control Principles: How to determine if goals are being reached	M	BUMG -- 320 EDAD -- --- EDFD -- ---
b. Yes/No Screening Controls: Go/no-go decisions at predetermined points of operation	M	BUMG -- 320 EDAD -- --- EDFD -- ---
c. Post-Action Controls: Measuring the results of an activity from completed actions	M	BUMG -- 320, 421 EDAD -- --- EDFD -- ---
XI. Other Principles		
a. Energy Management Systems	--	N/A

[a]The course description addresses the competencies.

Table 2 condenses all of the data so that conclusions can be drawn in Chapter 5. The table indicates that descriptions of business management courses address 27 of the 28 competencies within the content of at least one course. Administration course descriptions do not address 15 of the 28 competencies listed. The EDFD courses (planned change) only address two of the competencies listed.

Summary

This chapter has presented the data in three major sections. A fourth section provided information and tables that summarized the data to be used to draw conclusions. Each of the 28 competencies was tested for:

1. The degree of need for the competency (high, medium, low).
2. The difference in the degree of need among administrative groups (superintendent, elementary principal, secondary principal).
3. The difference in the degree of need among administrative groups to include the competency in a Graduate School Administrative Program.

As a result, 84 hypotheses were tested using Chi Square. Each competency was then rated as having a high, medium or low need as a result of the computed data. The data for each competency were presented in table form. Appropriate Null Hypotheses were rejected or retained. A summary of the data followed each tested competency. Summaries were especially valuable in clarifying differences among administrative groups (superintendent, elementary principal, secondary principal) in

the need for competency or the need for competency to be included in the Graduate School Administrative Program.

Section IV provided a concise look at the data in Table 2. The table was a result of putting together data from three areas: (a) the 28 competencies; (b) the degree of need as computed in this chapter (high, medium, low); and (c) the department and course ID number to which the competency is addressed according to the course descriptions. This table was valuable in drawing the conclusions presented in Chapter 5, which presents a comprehensive summary of the study, conclusions and recommendations for further study.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The first section of this chapter presents a summary of this study. The second section presents the significant conclusions drawn from the study. The last section presents the recommendations for adjustments in the School Administration Program to help meet the needs of school administrators.

Summary of the Study

This study provided information that:

1. Determined if school administrators in Montana felt there was a need to acquire competencies in management theories, principles, and systems through administrative training programs.

2. Determined if there was any significant difference in the needs of superintendents, elementary principals, and secondary principals, relating to stated management competencies.

3. Compared the suggested competencies with the existing curriculum for preparing school administrators at Montana State University.

4. Suggested how these management competencies not taught in the existing curriculum could be addressed through the management curriculum in the School of Business at Montana State University.

Society has continued to move at a fast pace. This pace has affected school systems. It has caused administrators to constantly monitor

changes and act accordingly. The action/reaction mechanism in administering schools has demonstrated the need for administrators to become better managers. Management, therefore, has been shaped by the task to be performed (Drucker, 1974).

It was found in the review of literature that there were, and still are, changing demands on the administrator. The role of the administrator has evolved into one of a manager/leader. This can be accomplished through the development of management skills in administrators (Johnson, 1981). Direct involvement in business management programs can help administrators to develop the needed skills to be more effective in decision making, planning and evaluating organizational goals (American Association of School Administrators, 1979).

Current literature emphasizes the point that effective schools evolve from effective leaders. Effective leaders are those who train themselves to manage situations using the right methods. A constant updating and renewal of personal knowledge is important to the principal if he is to be a successful leader/manager (Johnson, 1981). It appears that successful leaders are those who can, through learned leadership competencies, adapt their behaviors to meet the demands of the environment at that particular moment (Berg, 1977).

A needs assessment instrument was developed and sent to selected school administrators in Montana. The instrument was designed to elicit responses as to whether certain competencies would be valuable to school administrators. Null and Alternative Hypotheses were developed for each competency. Each of the 28 competencies was tested for:

1. The degree of need for the competency (high, medium, low).

2. The difference in the degree of need among administrative groups (superintendent, elementary principal, secondary principal).

3. The difference in the degree of need among administrative groups to include the competency in a Graduate School Administrative Program.

Conclusions

The data provided in Chapter 4 support the following conclusions. The conclusions are separated into three sections: Section I -- preferences shown in the degree of need among administrative groups for exposure to the competencies; Section II -- deficiencies in the current administration program according to the data; and Section III -- business management courses that facilitate the development of the perceived competency needs.

Section I: Preferences within Administrative Groups

1. Superintendents and secondary principals showed a high preference to develop competency in the area of single-person decision making (Hypothesis Section II, Ia, H_1).

2. Elementary and secondary principals showed a high to medium preference to develop competency in the area of process theory (Hypothesis Section II, IVb, H_1).

3. Superintendents and secondary principals showed a high preference to develop competency in the area of goal planning (Hypothesis Section II, Va, H_1).

4. Elementary principals showed a high preference to develop competency in the area of conflict resolution (Hypothesis Section II, VIIc, H_1).

5. Elementary principals showed a high preference to develop competency in the area of conflict resolution (Hypothesis Section II, VIIc, H_1).

6. Superintendents and elementary principals showed a high to medium preference to develop competency in the area of structural change (Hypothesis Section II, IXa, H_1).

Section II: Deficiencies in the Current School Administration Program

1. High preference competencies related to deficiencies in the current School Administration Program included:

a. The current School Administration Program does not provide enough competency development in the area of communication, specifically in clarifying communications (Hypothesis Section I, IIa, H_1).

b. The current School Administration Program does not provide enough competency development in the area of goal planning (Hypothesis Section I, Va, H_1).

c. The current School Administration Program does not provide enough competency development in the area of organizational coordination (Hypothesis Section I, VIa, H_1).

2. High to medium preference competencies related to deficiencies in the current School Administration Program included:

a. The current School Administration Program does not provide enough competency development in the area of decision making skills (Hypothesis Section I, I[a,b,c], H_1).

b. Competency material on content and process theory are not addressed in the current School Administration Program (Hypothesis Section I, IV[a,b], H_1).

c. Competencies on the span of management techniques are not addressed in the current School Administration Program (Hypothesis Section I, VIb, H_1).

d. Competencies on conflict reduction and conflict resolution are not addressed within the current School Administration Program (Hypothesis Section I, VIIb, H_1).

e. People-change principles were rated as having a high to medium need. This competency is addressed through the EDFD Planned Change course (Hypothesis Section I, IXc, H_1).

Section III: Business Management Courses That Provided Competency Development Needs

As shown in Table 1, the upper division management courses provide competency development material in the areas considered to have a high or high to medium need. Those courses are:

1. Survey of Management
2. Introduction to Management
3. Personnel Management
4. Organizational Behavior
5. Management Information Systems
6. Organizational Theory for Business

Recommendations for Action

The researcher offers the following recommendations to the College of Education at Montana State University. One of these two recommendations should be initiated in order to meet the perceived needs of the school administrators.

1. The College of Education should review this data and adjust its current School Administration Program to meet the needs indicated.

-or-

2. The College of Education should review the data and require in a Masters or Doctoral Program in School Administration that the courses listed in Table 3, below, be taken. These courses are offered through the College of Business at Montana State University. The courses will help administrators to develop the needed competencies indicated.

Table 3. Suggested Courses to Be Included in Masters or Doctoral Program in School Administration to Develop Needed Competencies.

Courses by Number	Competencies to Be Developed
BUMG 301	1. Clarifying Communications
BUMG 320	2. Goal Planning
BUMG 321	3. Organizational Structure
BUMG 322	4. Decision Making
BUMG 331	5. Motivational Theory
BUMG 421	6. Span of Management
	7. Conflict Management
	8. Change Principles

It is the feeling of this researcher than an administrative program that encompasses a core of business management courses will produce administrators who are better able to handle the wider variety of duties and situations now frequently found in the school setting. As a graduate student, the researcher went through such a program. Now as a practicing administrator, the researcher recognizes the following positive outcomes of such a program:

1. Incorporating the core BUMG program into the Administration Program gave the researcher a clear view of what an organization is and how it interacts within and outside of its environment.

2. Much of the administration information was supplemented and complemented by the BUMG coursework.

3. The variety of teachers and teaching techniques within the core program added to the credibility of the information for the researcher.

4. A greater sense of realism was developed in the BUMG classes.

Recommendations for Further Study

It was found in this study that the degree of need to develop certain competencies was different among administration groups (superintendent, elementary principal, secondary principal). The following six competencies were found to have significant differences in the degree of need among administrative groups:

1. Single-person decision making (Table 9)
2. Process theory (Table 17)
3. Goal planning (Table 19)
4. Span of management (Table 23)

5. Conflict reduction (Table 25)

6. Structural change (Table 30)

Why superintendents, secondary principals and elementary principals may differ in the need to be exposed to certain competencies is a topic that should be explored in a further study. Answering these questions could lead to further adjustments in the current School Administration Program.

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LITERATURE CITED

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APPENDICES

APPENDIX A

SAMPLE COVER LETTER

Dear :

In an effort to design more appropriate preparatory programs and serve the needs of administrators, the Department of Educational Services at MSU and I are seeking answers to the following questions. Do public school administrators in Montana feel there is a need to be exposed formally to management competencies? Should these competencies be added to the present administrative programs at MSU?

Through previous research we have identified needed management skills. It is our hypothesis that exposure to management competencies will aid in the development of individual management skills and style. The competencies will be presented in the form of theories, principles and systems.

Would you please take a few moments and address several important issues? Specifically, we are concerned with the broad areas of management theories, principles and systems that are important to you as an administrator. Your assistance will help to provide a foundation for the development of needed management skills in the School Administrative Program.

The results of this study may directly affect the curriculum in all phases of administration programs at MSU. The instrument itself has been prepared for ease of completion. Your responses will be held in strict confidence.

It is extremely important that you return the completed instrument as soon as possible using the return envelope supplied. The results will be quickly tabulated. Results will be shared with all respondents.

Through your efforts we can look forward to the development of a more effective educational administrative program at MSU. Thank you for your help in this endeavor.

Sincerely,

Paul F. Ezen
Graduate Student

Dr. Leroy Casagranda
Committee Chairman

Dr. Eric Strohmeyer
Department Chairman

APPENDIX B

INSTRUMENT

MANAGEMENT COMPETENCIES

DEVELOPMENT QUESTIONNAIRE

GENERAL INFORMATION:

1.	Number of years teaching experience	1._____
2.	Number of years administrative experience	2._____
3.	Present degree held (master, doctorate).	3._____
4.	Present position (superintendent, elementary principal, secondary principal, other). Check only one.	4. S__ EP____ SP_____ Other_____

EXPLANATION: The subtopics in each category are theories, principles, or systems that aid in the development of management skills. These items are presented as areas of competency. Please read the following instructions and rate the need for each competency and the need in the graduate program.

INSTRUCTIONS (A): Please rate the degree of need for the expanded or improved training opportunities for the following management compentecies.

For each of the competencies listed below, enter a check in one of the three columns under COMPETENCY NEEDS.

INSTRUCTIONS (B): Please rate the need for these competencies to be included in a graduate level program.

For each of the competencies listed below, enter a check in one of the three columns under NEED IN GRADUATE PROGRAM.

COMPETENCY NEEDS (Check One)			COMPETENCY AREAS (Theories, Principles and Systems)	NEED IN GRADUATE PROGRAM (Check One)		
HIGH	MODERATE	LOW		HIGH	MODERATE	LOW
			I. DECISION MAKING			
			a. Theories on single person decisions			
			b. Theories on small group decision making (2-30 people)			
			c. Theories on large group decision making (30 people or more)			

HIGH	MODERATE	LOW		HIGH	MODERATE	LOW

II. COMMUNICATION PRINCIPLES

			a. Clarifying your communications.			
			b. Non-verbal communication vs. verbal communication.			

III. BUDGET MANAGEMENT SYSTEMS

			a. The Planning-Programming-Budgeting System (PPBS). A budgeting system designed to: (1) evaluate the organization's programs and outcomes; (2) develop alternatives to achieving program objectives; (3) incorporate the best alternatives into your budgetary plan.			
			b. Zero Base Budgeting (ZBB). A budgeting system which attempts to base resource allocations on current rather than historical needs.			

IV. MOTIVATION THEORY

			a. Content theory: stresses the importance of drives or needs within the individual as motives for individual action.			
			b. Process theory: emphasizes how and by what goals individuals are motivated.			

HIGH	MODERATE	LOW		HIGH	MODERATE	HIGH
			c. Reinforcement (or learning theories): focus on how the consequences of an individual's action in the past affect his/her behavior in the future.			

V. PLANNING PRINCIPLES

			a. Goal planning: providing a basic sense of direction for the organization's activities.			
			b. Single-use plans: used to carry out courses of action that probably will not be repeated in the same form in the future.			
			c. Standing plans: used whenever an organizational activity occurs repeatedly because they enable a single decision or set of decisions to guide these repeated actions.			

VI. ORGANIZATIONAL STRUCTURE THEORIES

			a. Coordination: the process of integrating the activities and objectives of the separate units of an organization in order to efficiently achieve organizational goals.			
			b. Span of management: controlling the number of subordinates that report directly to you and other supervisory personnel.			

HIGH	MODERATE	LOW		HIGH	MODERATE	LOW

VII. CONFLICT MANAGEMENT PRINCIPLES

			A. Conflict stimulation: includes bringing outsiders into the organization, encouraging competition, restructuring the organization, and redistributing power among the organization work groups.			
			b. Conflict reduction: includes establishing superordinate goals and uniting the conflicting groups to meet a common thread.			
			c. Conflict resolution: involves integrative problem solving methods.			

VIII. CREATIVITY MANAGEMENT PRINCIPLES

			a. Brainstorming principles (individual or group).			
			b. Synectics: developing one radically new idea.			
			c. Group process for creative decision making: when there is no apparent agreed upon method for solving a problem.			

HIGH	MODERATE	LOW	IX. CHANGE PRINCIPLES	HIGH	MODERATE	LOW
			a. Structural change: rearranging its internal system. Example: lines of communication, work flow, or mangerial hierarchy.			
			b. Technology changes: altering its equipment, research techniques or production methods.			
			c. People change principles: involving the changing of the selection, training relationship, attitudes or roles of organizational members.			

			X. CONTROL PROCESS PRINCIPLES			
			a. Steering control principles: how to determine if goals are being reached. These principles would include identifying and correcting mistakes before a certain sequence in obtaining that goal is completed.			
			b. Yes or no screening controls: Go - no go decisions at predetermined points of an operation. Procedures must be approved or specific conditions met before operation may continue.			

HIGH	MODERATE	LOW		HIGH	MODERATE	LOW
			c. Post action controls: measuring the results of an activity from completed actions.			

XI. OTHERS

			a. Energy management systems.			
			b. Others_____ _____ _____ _____			

When completed, please mail this form back using the return envelope supplied.

THANK YOU FOR YOUR HELP.

Sincerely,

Paul Ezen

APPENDIX C

POPULATION AND SAMPLE BREAKDOWN BY STRATA

Table 4. Population and Strata Breakdown Used to Arrive at the Sample of 150.

Strata	Population	Percent of Total Population	Sample Size Calculated
1. Superintendents	165	32%	48
2. Elementary Principals (K-6) (Includes Super/SP)	195	38%	57[a]
3. Secondary Principals (7-12) (Includes Super/EP)	152	30%	45[b]
Total:	512	100%	150 (Sample)

[a]Four of the 57 elementary principals picked in the sample were also superintendents (S/EP).

[b]None of the 45 secondary principals were superintendents (S/EP).

Note: Therefore, the readjusted samples were:

Superintendents -- 52
Elementary Principals -- 53
Secondary Principals -- 45

The difference (variance) in strata sample size was not significant (Ferguson, 1976). Proportional stratification was not used. Sample sizes for the three strata were therefore set at 50.

APPENDIX D

SECOND COVER LETTER AND INSTRUMENT USED FOR RELIABILITY FIELD TEST

Dear :

IMPORTANT NOTE!

Though approximately six weeks ago you received from us this same questionnaire, we ask your help again. Our goal is to prove the instrument to be yielding reliable information by comparing the results of this instrument to your first. We have designed this test/retest using your assistance. If the reliability is high enough, your input will be used in the final test results.

It is extremely important that you return the completed instrument as soon as possible using the return envelope supplied. Through your efforts we will make sure this instrument is a reliable one, and we can look forward to the development of a more effective educational administrative program at MSU.

Thank you for your help in this endeavor.

Sincerely,

Paul F. Ezen
Graduate Student

Dr. Leroy Casagranda
Committee Chairman

Dr. Eric Strohmeyer
Department Chairman

MANAGEMENT COMPETENCIES

DEVELOPMENT QUESTIONNAIRE

GENERAL INFORMATION:

1. Number of years teaching experience
2. Number of years administrative experience
3. Present degree held (Master, Doctorate).
4. Present position (Superintendent, Elementary Principal, Secondary Principal, Other). Check only one.

1. _____
2. _____
3. _____
4. S ___ EP _____
SP _____
Other _____

EXPLANATION: The subtopics in each category are theories, principles, or systems that aid in the development of management skills. These items are presented as areas of competency. Please read the following instructions and rate the need for each competency and the need in the graduate program.

INSTRUCTIONS (A): Please rate the degree of need for the expanded or improved training opportunities for the following management competencies.

For each of the competencies listed below, enter a check in one of the three columns under COMPETENCY NEEDS.

INSTRUCTIONS (B): Please rate the need for these competencies to be included in a graduate level program.

For each of the competencies listed below, enter a check in one of the three columns under NEED IN GRADUATE PROGRAM.

COMPETENCY NEEDS (Check One)			COMPETENCY AREAS (Theories, Principles and Systems)	NEED IN GRADUATE PROGRAM (Check One)		
HIGH	MODERATE	LOW		HIGH	MODERATE	LOW
			I. DECISION MAKING			
			a. Theories on single person decisions			
			b. Theories on small group decision making (2-30 people)			
			c. Theories on large group decision making (30 people or more)			

HIGH	MODERATE	LOW		HIGH	MODERATE	LOW

II. COMMUNICATION PRINCIPLES

			a. Clarifying your communications.			
			b. Non-verbal communication vs. verbal communication.			

III. BUDGET MANAGEMENT SYSTEMS

			a. The Planning-Programming-Budgeting Systems (PPBS).			
			b. Zero Base Budgeting Systems (ZBB).			

IV. MOTIVATION THEORY

			a. Content theory: stresses the importance of drives or needs within the individual as motives for individual action.			
			b. Process theory: emphasizes how and by what goals individuals are motivated.			
			c. Reinforcement (or learning theories): focus on how the consequences of an individual's action in the past affect his/her behavior in the future.			

HIGH	MODERATE	LOW		HIGH	MODERATE	LOW
			V. PLANNING PRINCIPLES			
			a. Goal planning: providing a basic sense of direction for the organization's activities.			
			b. Single-use plans: used to carry out courses of action that probably will not be repeated in the same form in the future.			
			c. Standing plans: used whenever an organizational activity occurs repeatedly because they enable a single decision or set of decisions to guide these repeated actions.			
			VI. ORGANIZATIONAL STRUCTURE THEORIES			
			a. Coordination: the process of integrating the activities and objectives of the separate units of an organization in order to efficiently achieve organizational goals.			
			b. Span of management: controlling the number of subordinates that report directly to you and other supervisory personnel.			

HIGH	MODERATE	LOW		HIGH	MODERATE	LOW

VII. CONFLICT MANAGEMENT PRINCIPLES

			A. Conflict stimulation: includes bringout outsiders into the organization, encouraging competition, restructuring the organization, and redistributing power among the organization work groups.			
			b. Conflict reduction: includes establishing superordinate goals and uniting the conflicting groups to meet a common thread.			
			c. Conflict resolution: involves intergrative problem solving methods.			

VIII. CREATIVITY MANAGEMENT PRINCIPLES

			a. Brainstorming principles (individual or group).			
			b. Synectics: developing one radically new idea.			
			c. Group process for creative decision making: when there is no apparent agreed upon method for solving a problem.			

HIGH	MODERATE	LOW		HIGH	MODERATE	LOW

IX. CHANGE PRINCIPLES

			a. Structural change: rearranging its internal system. Example: Lines of communication, work flow, or mangerial hierarchy.			
			b. Technology changes: means altering its equipment, research techniques or production methods.			
			c. People change principles: involving the changing of the selection, training relationship, attitudes or roles of organizational members.			

X. CONTROL PROCESS PRINCIPLES

			a. Steering control principles: to detect deviations from standard goals and to allow corrections to be made before a particular sequence of actions is completed.			
			b. Yes or no screening controls: when aspects of a procedure must be approved or specific conditions met before operations may continue.			
			c. Post action controls: measuring the results of an activity from completed actions.			

HIGH	MODERATE	LOW		HIGH	MODERATE	LOW

XI. OTHERS

			a. Energy management systems.			
			b. Others_____ _____ _____ _____			

When completed, please mail this form back using the return envelope supplied.

THANK YOU FOR YOUR HELP.

Sincerely,

Paul Ezen

APPENDIX E

RELIABILITY RESULTS FOR ORIGINAL INSTRUMENT

Table 5. Reliability Results for Original Instrument (N = 30, January/February 1983).

Competency Area (Theories, Principles and Systems)	Reliability Raw Score	Coefficient Percentage
I. Decision Making		
a. Theories on single-person decisions	.97	90%
b. Theories on small-group decision making (2-30 people)	.99	95%
c. Theories on large-group decision making (30 or more people)	.97	90%
II. Communication Principles		
a. Clarifying your communications	.98	90%
b. Non-verbal vs. verbal communication	1.00	99%
III. Budget Management Systems		
a. Planning-programming-budgeting systems (PPBS)	.50	(a)
b. Zero-based budgeting systems (ZBB)	.64	(a)
IV. Motivation Theory		
a. Content Theory: Stresses the importance of drives or needs within the individual as motives for individual action	1.00	99%
b. Process Theory: Emphasizes how and by what goals individuals are motivated	1.00	99%
c. Reinforcement (or Learning Theories): Focus on how the consequences of an individual's actions in the past affect his/her behavior in the future	.99	95%

Table 5--continued.

Competency Area (Theories, Principles and Systems)	Reliability Raw Score	Coefficient Percentage
V. Planning Principles		
a. Goal Planning: Providing a basic sense of direction for the organization's activities	.98	90%
b. Single-Use Plans: Used to carry out courses of action that probably will not be repeated in the same form in the future	.97	90%
c. Standing Plans: Used whenever an organizational activity occurs repeatedly because they enable a single decision to guide these repeated actions	1.00	99%
VI. Organizational Structure Theories		
a. Coordination: The process of integrating the activities and objectives of the separate units of an organization in order to efficiently achieve organizational goals	.99	95%
b. Span of Management: Controlling the number of subordinates that report directly to you and other supervisory personnel	.99	90%
VII. Conflict Management Principles		
a. Conflict Stimulation: Includes bringing outsiders into the organization, encouraging competition, restructuring the organization, and redistributing power among the organization work group	1.00	99%
b. Conflict Reduction: Includes establishing superordinate goals and uniting the conflicting groups to meet a common thread	.97	90%

Table 5--continued.

Competency Area (Theories, Principles and Systems)	Reliability Raw Score	Coefficient Percentage
VII. Conflict Management Principles--cont'd.		
c. Conflict Resolution: Involves integrative problem solving	1.00	99%
VIII. Creative Management Principles		
a. Brainstorming Principles (individual or group)	1.00	99%
b. Synectics: Developing one radically new idea	.98	90%
c. Group Process for Creative Decision Making: When there is no apparent agreed upon method for solving a problem	.97	90%
IX. Change Principles		
a. Structural Change: Rearranging the internal system. Examples: lines of communication, work flow, or managerial hierarchy	.99	95%
b. Technological Changes: Means altering the equipment, research techniques, or production methods	.98	95%
c. People-Change Principles: Involving the changing of the selection, training relationship, attitudes, or roles of organizational members	.99	95%
X. Control Process Principles		
a. Steering Control Principles: To detect deviations from standard goals and to allow corrections to be made before a particular sequence of actions is completed	.65	(a)

Table 5--continued.

Competency Area (Theories, Principles and Systems)	Reliability Raw Score	Coefficient Percentage
X. Control Process Principles--cont'd.		
b. Yes or No Screening Controls: When aspects of a procedure must be approved or specific conditions met before operations may continue	.78	(a)
c. Post-Action Controls: Measuring the results of an activity from complete action	.98	90%
XI. Other Principles		
a. Energy Management Systems	1.00	99%

[a]Not an acceptable reliability coefficient.

APPENDIX F

CHANGES IN THE INSTRUMENT

As a result of the reliability test, Table 6, below, shows the changes that were made in the original instrument.

Table 6. Changes in the Instrument.

Original Statement in Instrument	Changed Statement in Final Instrument
III. Budget Management Systems	III. Budget Management Systems
A. Planning-Programming Budgeting Systems (PPBS).	A. The Planning-Programming Budgeting Systems (PPBS). A budget in systems designated to: (1) evaluate the organization's programs and outcomes; (2) develop alternatives to achieving program objectives; (3) incorporate the best alternatives into budgetary plan.
B. Zero-Based Budgeting Systems (ZBS).	B. Zero-Based Budgeting (ZBB). A budgeting system which attempts to base resource allocations on current rather than historical needs.
X. Control Process Principles	X. Control Process Principles
A. Steering Control Principles: To detect deviations from standard goals and to allow corrections to be made before a particular sequence of actions is completed.	A. Steering Control Principles: How to determine if goals are being reached. These principles would include identifying and correcting mistakes before a certain sequence in obtaining that goal is completed.
B. Yes or No Screening Controls: When aspects of a procedure must be approved or specific conditions met before operations may continue.	B. Yes or No Screening Controls: Go/No-Go decision of predetermined points of an operation. Procedures must be approved or specific conditions met before the operation may continue.

APPENDIX G

TABLE OF PERCENT OF RETURN FROM SAMPLE

Table 7. Percent of Return from Sample.[a]

Administrative Group	Number Mailed	Number Returned	Percent Returned
Superintendent	50	41	82%
Elementary Principal	50	33	66%
Secondary Principal	50	37	74%
Totals	150	111	74%

[a]A dunning letter was sent out four weeks after the original mailing. The above percentages reflect the final totals.

APPENDIX H

DEMOGRAPHIC DATA FROM SAMPLE RETURNS

Table 8. Demographic Data.

I. Teaching and Administrative Years of Experience

Administrative Group	Number In Group	Average Years Teaching	Average Years Administration
Superintendent	41	7.63	14.17
Elementary Principal	33	8.84	10.00
Secondary principal	37	9.69	9.11

II. Degree Held

Administrative Group	Masters	Specialist	Doctorate
Superintendent	29	2	110
Elementary Principal	30	0	3
Secondary Principal	35	0	2
Totals	94	2	115

APPENDIX I

COURSE DESCRIPTIONS

COURSE DESCRIPTIONS

I. Educational Administration

A. School Administration I, EDAD 505

Administrative relationships at federal, state and local levels, and major responsibilities of school superintendent and board of education.

B. School Administration II, EDAD 508

School administration at post-master's level for experienced administrators. Includes a study of the theory, elements, structure of formal organizations; the decision making process; and the executive function, processes and responsibility. Examples are drawn from the general area of management, including school administration.

C. Elementary School Organization & Administration I, EDAD 510

Functions of the elementary school principalship in terms of organizing and administrating curricula, staff, students, buildings, and school services.

D. Elementary School Organization & Administration II, EDAD 511

Examination and evaluation of current practices, trends, research and problems concerning the role of an effective elementary school principal.

E. Secondary School Organization & Administration I, EDAD 520

Includes a study of the theory, elements, structure of formal organizations; the decision making process; and the executive function, processes and responsibility.

F. School Management & Facilities Planning, EDAD 521

Plant maintenance, custodial responsibilities, and processes in planning educational facilities to include both remodeling of old and building of new facilities for all grade levels.

G. Secondary School Organization & Administration II, EDAD 522

The course goes beyond a focus on technical skills, roles and tasks, to the systematic study of administrative behavior and educational decision-making through reviewing the school as an educational/ political system.

H. Community Relations in Education, EDAD 525

Principles, practices and content of public relations program in education; application of these principles and practices to specific problems of interest.

I. School Negotiations, EDAD 526

Designed for administrators who have responsibility for negotiating for the school board. Course will cover Montana's negotiation law, negotiation's strategies, duties of fact-finders and arbitrators, and responsibilities of the Board of Personnel Appeals.

J. Supervision of Instruction I, EDAD 530

Policies and procedures of improving instruction. Special attention is given supervision of beginning teachers. One of the basic courses of the required sequences in the program of training of principals, supervisors and school administration.

K. Supervision of Instruction II, EDAD 534

Supervision of instruction designed for the principal, superintendent or supervisor as administrative specialist. Emphasis on understanding the nature of learning and what to do to bring about more effective classroom learning in the general subject areas at different levels.

L. School Law I, EDAD 535

General school law and court decisions relative to schools. Special attention to school laws affecting management and administration of Montana schools.

M. School Law II, EDAD 536

In-depth analysis of law cases not covered in School Law I, with particular emphasis on the legal implications for Montana school administrators.

N. School Finance I, EDAD 540

National, state and local policies of collection, custody and expenditure of public school funds.

O. Advanced Management Systems in Education, EDAD 541

Focuses on systems and analysis, cost accounting, program planning, goal definition and goal assessment. For experienced administrators and graduate students.

P. School Finance II, EDAD 542

Focuses on developing solutions to the broad general financial policy questions facing public schools and how school finance can be adapted to the changes in education.

Q. Planning Change--Theory & Process, EDFD 536

An action-oriented study of the dynamics of planned change in the helping professions. Includes the process of change, roles in the change process, and the interdisciplinary research that supports change theory and practice.

II. Upper Division Business Management Courses

A. Survey of Management, BUMG 301

An overview of management concepts and models. Intended for non-business students. May not be substituted for Introduction to Management or a restricted elective. Topics include: the management functions of planning, organizing and controlling; leadership and motivation models; group processes and the informal organization; formal and informal communication flows in an organization; and basic decision-making models for executives. Cases highlighting organizational or interpersonal problems of profit, non-profit and governmental organizations will provide experimental learning opportunities.

B. Introduction to Management, BUMG 320

Design and control of organizations with emphasis on their impact on work groups and individual behavior. Interpersonal relations, communication, leadership, organizational structure, decision making and individual and group motivation.

C. Personnel Administration, BUMG 321

The functions and tools used in procurement, development, compensation, integration; and maintenance of manpower resources and their impact on the effective attainment of organizational goals. Case studies and guests reinforce the concepts.

D. Organizational Behavior, BUMG 322

Technology and job structure and job satisfaction, motivation theory and perception, group dynamics, conflict management, functions and roles of leadership, change theory and job enrichment, and intergroup communication.

E. Management Information Systems, BUMG 332

Overview of systems methodology as it applies to MIS interface considerations with the organization's EDP systems. Behavioral implications of the MIS effort.

F. Organizational Theory for Business, BUMG 421

Analysis of strategies for studying organizations. Behavioral research theory and business examples of organization structure, goal formation, human and social factors, communications, control, technology, decision making and organizational dynamics in the administrative process.

G. Business & Society, BUMG 422

The roles of business as an institution and the roles of individual business firms are examined in the broad context of our nation and society. The roles of business in causing and solving current problems. The course will take an analytical problem-solving approach rather than concentrating solely on problem identification.

H. Industrial Relations & the Collective Bargaining Process, BUMG 432

The evolution of collective bargaining as a process of conflict resolution. A behavioral look at management and labor in their efforts to resolve the problems of management practice and prerogatives versus labor rights and human needs. Implications of union tactics on the future of industrial productivity and the future of unions per se.

APPENDIX J

DATA RESPONSE TO THE HYPOTHESES

Table 9. Theories on Single-Person Decisions.

Section I:

H_0 Ia -- There is no preference by administrators in the degree of need (H,M,L) for the competency on single-person decisions, listed within the Decision Making category.

	H	M	L
Administrators in Sample	50	48	13

Critical value at .05 level = 5.99
Calculated value = 23.41**
Rejected the Null Hypothesis

Section II:

H_0 Ia -- The degree of need (H,M,L) for the competency on single-person decisions, within the Decision Making category, is independent of administrative position (S,EP,SP).

	H	M	L
S	22	11	8
EP	10	22	1
SP	18	15	4

Critical value at .05 level = 9.49
Calculated value = 13.46**
Rejected the Null Hypothesis

Section III:

H_0 Ia -- The degree of need (H,M,L) for the competency on single-person decisions, within the Decision Making category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	17	16	8
EP	10	21	2
SP	16	16	5

Critical value at .05 level = 9.49
Calculated value = 5.88
Retained the Null Hypothesis

Table 10. Theories on Small-Group Decisions.

Section I:

H_0 Ib -- There is no preference by administrators in the degree of need (H,M,L) for the competency on small-group decision making, listed within the Decision Making category.

	H	M	L
Administrators in Sample	61	43	7

Critical value at .05 level = 5.99
Calculated value = 40.86**
Rejected the Null Hypothesis

Section II:

H_0 Ib -- The degree of need (H,M,L) for the competency on small-group decision making, within the Decision Making category, is independent of administrative position (S,EP,SP).

	H	M	L
S	22	16	3
EP	19	10	4
SP	20	17	0

Critical value at .05 level = 9.49
Calculated value = 5.33
Retained the Null Hypothesis

Section III:

H_0 Ib -- The degree of need (H,M,L) for the competency on small-group decision making, within the Decision Making category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	22	15	4
EP	19	12	2
SP	18	18	1

Critical value at .05 level = 9.49
Calculated value = 2.70
Retained the Null Hypothesis

Table 11. Theories on Large-Group Decisions.

Section I:

H_0 Ic -- There is no preference by administrators in the degree of need (H,M,L) for the competency on large-group decision making, listed within the Decision Making category.

	H	M	L
Administrators in Sample	36	51	24

Critical value at .05 level = 5.99
Calculated value = 9.88**
Rejected the Null Hypothesis

Section II:

H_0 Ic -- The degree of need (H,M,L) for the competency on large-group decision making, within the Decision Making category, is independent of administrative position (S,EP,SP).

	H	M	L
S	14	16	11
EP	14	12	7
SP	8	23	6

Critical value at .05 level = 9.49
Calculated value = 6.607
Retained the Null Hypothesis

Section III:

H_0 Ic -- The degree of need (H,M,L) for the competency on large-group decision making, within the Decision Making category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	9	23	9
EP	11	16	6
SP	9	18	10

Critical value at .05 level = 9.49
Calculated value = 1.87
Retained the Null Hypothesis

Table 12. Clarifying Communications.

Section I:

H_0 IIa -- There is no preference by administrators in the degree of need (H,M,L) for the competency on clarifying communications, listed within the Communications Principles category.

	H	M	L
Administrators in Sample	76	29	6

Critical value at .05 level = 5.99
Calculated value = 68.81**
Rejected the Null Hypothesis

Section II:

H_0 IIa -- The degree of need (H,M,L) for the competency on clarifying communications, within the Communications Principles category, is independent of administrative position (S,EP,SP).

	H	M	L
S	31	10	0
EP	18	11	4
SP	27	8	2

Critical value at .05 level = 9.49
Calculated value = 7.30
Retained the Null Hypothesis

Section III:

H_0 IIa -- The degree of need (H,M,L) for the competency on clarifying communications, within the Communications Principles category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	30	9	2
EP	19	10	4
SP	28	9	0

*

	H	M
S	30	11
EP	19	14
SP	28	9

Critical value at .05 level = 5.99
Calculated value = 3.13
Retained the Null Hypothesis

Table 13. Non-Verbal vs. Verbal Communications.

Section I:

H_0 IIb -- There is no preference by administrators in the degree of need (H,M,L) for the competency on non-verbal vs. verbal communications, listed within the Communications Principles category.

	H	M	L
Administrators in Sample	35	62	13

Critical value at .05 level = 5.99
Calculated value = 33.95**
Rejected the Null Hypothesis

Section II:

H_0 IIb -- The degree of need (H,M,L) for the competency on non-verbal vs. verbal communications, within the Communications Principles category, is independent of administrative position (S,EP,SP).

	H	M	L
S	10	24	7
EP	13	18	2
SP	12	21	4

Critical value at .05 level = 9.49
Calculated value = 3.30
Retained the Null Hypothesis

Section III:

H_0 IIb -- The degree of need (H,M,L) for the competency on non-verbal vs. verbal communications, within the Communication Principles category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	12	20	9
EP	15	15	3
SP	10	23	4

Critical value at .05 level = 9.49
Calculated value = 5.78
Retained the Null Hypothesis

Table 14. Programming Budgeting System.

Section I:

H_0 IIIa -- There is no preference by administrators in the degree of need (H,M,L) for the competency on planning-programming-budgeting system, listed within the Budget Management System category.

	H	M	L
Administrators in Sample	47	49	15

Critical value at .05 level = 5.99
Calculated value = 19.67**
Rejected the Null Hypothesis

Section II:

H_0 IIIa -- The degree of need (H,M,L) for the competency on planning-programming-budgeting system, within the Budget Management Systems category, is independent of administrative position (S,EP,SP).

	H	M	L
S	19	15	7
EP	12	18	3
SP	16	16	5

Critical value at .05 level = 9.49
Calculated value = 2.65
Retained the Null Hypothesis

Section III:

H_0 IIIa -- The degree of need (H,M,L) for the competency on planning-programming-budgeting system, within the Budget Management Systems category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	18	15	8
EP	14	15	4
SP	18	13	6

Critical value at .05 level = 9.49
Calculated value = 1.34
Retained the Null Hypothesis

Table 15. The Need for Exposure to Zero-Based Budgeting.

Section I:

H_0 IIIb -- There is no preference by administrators in the degree of need (H,M,L) for the competency on zero-based budgeting, listed within the Budget Management System category.

	H	M	L
Administrators in Sample	38	57	16

Critical value at .05 level = 5.99
Calculated value = 22.75**
Rejected the Null Hypothesis

Section II:

H_0 IIIb -- The degree of need (H,M,L) for the competency on zero-based budgeting, within the Budget Management Systems category, is independent of administrative position (S,EP,SP).

	H	M	L
S	16	19	6
EP	9	18	6
SP	13	20	4

Critical value at .05 level = 9.49
Calculated value = 1.73
Retained the Null Hypothesis

Section III:

H_0 IIIb -- The degree of need (H,M,L) for the competency on zero-based budgeting, within the Budget Management Systems category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	15	21	5
EP	16	15	8
SP	17	16	4

Critical value at .05 level = 9.49
Calculated value = 3.91
Retained the Null Hypothesis

Table 16. The Need to Be Exposed to Content Theory.

Section I:

H_0 IVa -- There is no preference by administrators in the degree of need (H,M,L) for the competency on content theory, listed within the Motivation Theory category.

	H	M	L
Administrators in Sample	40	51	20

Critical value at .05 level = 5.99
Calculated value = 13.35**
Rejected the Null Hypothesis

Section II:

H_0 IVa -- The degree of need (H,M,L) for the competency on content theory, within the Motivation Theory category, is independent of administrative position (S,EP,SP).

	H	M	L
S	12	18	11
EP	10	14	4
SP	18	14	5

Critical value at .05 level = 9.49
Calculated value = 6.81
Retained the Null Hypothesis

Section III:

H_0 IVa -- The degree of need (H,M,L) for the competency on content theory, within the Motivation Theory category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	23	12	16
EP	12	17	4
SP	15	15	7

Critical value at .05 level = 9.49
Calculated value = 8.55
Retained the Null Hypothesis

Table 17. The Need to Be Exposed to Process Theory.

Section I:

H_0 IVb -- There is no preference by administrators in the degree of need (H,M,L) for the competency on process theory, listed within the Motivation Theory category.

	H	M	L
Administrators in Sample	43	53	15

Critical value at .05 level = 5.99
Calculated value = 20.97**
Rejected the Null Hypothesis

Section II:

H_0 IVb -- The degree of need (H,M,L) for the competency on process theory, within the Motivation Theory category, is independent of administrative position (S,EP,SP).

	H	M	L
S	16	16	9
EP	11	20	2
SP	16	17	4

Critical value at .05 level = 9.49
Calculated value = 5.98
Retained the Null Hypothesis

Section III:

H_0 IVb -- The degree of need (H,M,L) for the competency on process theory, within the Motivation Theory category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	8	19	14
EP	13	18	1
SP	14	18	5

Critical value at .05 level = 9.49
Calculated value = 13.93**
Rejected the Null Hypothesis

Table 18. The Need to Be Exposed to Reinforcement Theory.

Section I:

H_0 IVc -- There is no preference by administrators in the degree of need (H,M,L) for the competency on reinforcement theory, listed within the Motivation Theory category.

	H	M	L
Administrators in Sample	28	66	17

Critical value at .05 level = 5.99
Calculated value = 35.72**
Rejected the Null Hypothesis

Section II:

H_0 IVc -- The degree of need (H,M,L) for the competency on reinforcement theory, within the Motivation Theory category, is independent of administrative position (S,EP,SP).

	H	M	L
S	7	26	8
EP	9	19	5
SP	12	21	4

Critical value at .05 level = 9.49
Calculated value = 3.03
Retained the Null Hypothesis

Section III:

H_0 IVc -- The degree of need (H,M,L) for the competency on reinforcement theory, within the Motivation Theory category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	10	20	12
EP	6	20	7
SP	11	20	6

Critical value at .05 level = 9.49
Calculated value = 3.17
Retained the Null Hypothesis

Table 19. The Need for Goal Planning Competencies.

Section I:

H_0 Va -- There is no preference by administrators in the degree of need (H,M,L) for the competency on goal planning, listed within the Planning Principles category.

	H	M	L
Administrators in Sample	80	30	1

Critical value at .05 level = 5.99
Calculated value = 86.32**
Rejected the Null Hypothesis

Section II:

H_0 Va -- The degree of need (H,M,L) for the competency on goal planning, within the Planning Principles category, is independent of administrative position (S,EP,SP).

	H	M
S	35	6
EP	22	12
SP	23	13

Critical value at .05 level = 5.99
Calculated value = 5.72
Retained the Null Hypothesis

Section III:

H_0 Va -- The degree of need (H,M,L) for the competency on goal planning, within the Planning Principles category, to be included in a GSAP is independent of administrative position.

	H	M
S	33	8
EP	17	16
SP	23	14

Critical value at .05 level = 5.99
Calculated value = 7.14**
Rejected the Null Hypothesis

Table 20. The Need for Single-Use Plans Competencies.

Section I:

H_0 Vb -- There is no preference by administrators in the degree of need (H,M,L) for the competency on single-use plans, listed within the Planning Principles category.

	H	M	L
Administrators in Sample	19	63	29

Critical value at .05 level = 5.99
Calculated value = 28.76**
Rejected the Null Hypothesis

Section II:

H_0 Vb -- The degree of need (H,M,L) for the competency on single-use plans, within the Planning Principles category, is independent of administrative position (S,EP,SP).

	H	M	L
S	5	26	10
EP	8	19	6
SP	6	18	13

Critical value at .05 level = 9.49
Calculated value = 4.32
Retained the Null Hypothesis

Section III:

H_0 Vb -- The degree of need (H,M,L) for the competency on single-use plans, within the Planning Principles category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	4	24	13
EP	6	23	4
SP	7	16	14

Critical value at .05 level = 9.49
Calculated value = 7.97
Retained the Null Hypothesis

Table 21. The Need for Standing Plans Competencies.

Section I:

H_0 Vc -- There is no preference by administrators in the degree of need (H,M,L) for the competency on standing plans, listed within the Planning Principles category.

	H	M	L
Administrators in Sample	33	61	17

Critical value at .05 level = 5.99
Calculated value = 26.80**
Rejected the Null Hypothesis

Section II:

H_0 Vb -- The degree of need (H,M,L) for the competency on standing plans, within the Planning Principles category, is independent of administrative position (S,EP,SP).

	H	M	L
S	14	20	7
EP	9	19	5
SP	10	22	5

Critical value at .05 level = 9.49
Calculated value = 1.05
Retained the Null Hypothesis

Section III:

H_0 Vc -- The degree of need (H,M,L) for the competency on standing plans, within the Planning Principles category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	11	20	10
EP	6	23	4
SP	11	20	6

Critical value at .05 level = 9.49
Calculated value = 4.10
Retained the Null Hypothesis

Table 22. The Need for Competencies on Coordination.

Section I:

H_0 VIa -- There is no preference by administrators in the degree of need (H,M,L) for the competency on coordination, listed within the Organizational Structure Theories category.

	H	M	L
Administrators in Sample	64	36	11

Critical value at .05 level = 5.99
Calculated value = 38.00**
Rejected the Null Hypothesis

Section II:

H_0 VIa -- The degree of need (H,M,L) for the competency on coordination, within the Organizational Structure Theories category, is independent of administrative position (S,EP,SP).

	H	M	L
S	24	14	3
EP	17	11	3
SP	23	11	3

Critical value at .05 level = 9.49
Calculated value = 1.79
Retained the Null Hypothesis

Section III:

H_0 VIa -- The degree of need (H,M,L) for the competency on coordination, within the Organizational Structure Theories category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	21	17	3
EP	19	9	5
SP	23	12	2

Critical value at .05 level = 9.49
Calculated value = 3.59
Retained the Null Hypothesis

Table 23. The Need for Span of Management Competency.

Section I:

H_0 VIb -- There is no preference by administrators in the degree of need (H,M,L) for the competency on span of management, listed within the Organizational Structure Theories category.

	H	M	L
Administrators in Sample	42	44	25

Critical value at .05 level = 5.99
Calculated value = 5.89
Retained the Null Hypothesis

Section II:

H_0 VIb -- The degree of need (H,M,L) for the competency on span of management, within the Organizational Structure Theories category, is independent of administrative position (S,EP,SP).

	H	M	L
S	21	12	8
EP	15	10	9
SP	6	22	9

Critical value at .05 level = 9.49
Calculated value = 12.78
Rejected the Null Hypothesis

Section III:

H_0 VIb -- The degree of need (H,M,L) for the competency on span of management, within the Organizational Structure Theories category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	16	13	12
EP	13	10	10
SP	14	13	10

Critical value at .05 level = 9.49
Calculated value = 0.22
Retained the Null Hypothesis

Table 24. The Need for Conflict Stimulation Competencies.

Section I:

H_0 VIIa -- There is no preference by administrators in the degree of need (H,M,L) for the competency on conflict stimulation, listed within the Conflict Management Principles category.

	H	M	L
Administrators in Sample	26	53	32

Critical value at .05 level = 5.99
Calculated value = 10.86
Rejected the Null Hypothesis

Section II:

H_0 VIIa -- The degree of need (H,M,L) for the competency on conflict stimulation, within the Conflict Management Principles category, is independent of administrative position (S,EP,SP).

	H	M	L
S	11	22	8
EP	6	15	12
SP	9	16	12

Critical value at .05 level = 9.49
Calculated value = 3.15
Retained the Null Hypothesis

Section III:

H_0 VIIa -- The degree of need (H,M,L) for the competency on conflict stimulation within the Conflict Management Principles category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	11	22	8
EP	6	15	12
SP	9	16	12

Critical value at .05 level = 9.49
Calculated value = 3.15
Retained the Null Hypothesis

Table 25. The Need for Conflict Reduction Competencies.

Section I:

H_0 VIIb -- There is no preference by administrators in the degree of need (H,M,L) for the competency on conflict reduction listed within the Conflict Management Principles category.

	H	M	L
Administrators in Sample	46	52	13

Critical value at .05 level = 5.99
Calculated value = 23.85
Rejected the Null Hypothesis

Section II:

H_0 VIIb -- The degree of need (H,M,L) for the competency on conflict reduction, within the Conflict Management Principles category, is independent of administrative position (S,EP,SP).

	H	M	L
S	18	21	2
EP	15	11	7
SP	13	20	4

Critical value at .05 level = 9.49
Calculated value = 6.61
Retained the Null Hypothesis

Section III:

H_0 VIIb -- The degree of need (H,M,L) for the competency on conflict reduction within the Conflict Management Principles category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	17	19	5
EP	15	8	10
SP	14	20	3

Critical value at .05 level = 9.49
Calculated value = 10.10**
Rejected the Null Hypothesis

Table 26. The Need for Conflict Resolution Competencies.

Section I:

H_0 VIIc -- There is no preference by administrators in the degree of need (H,M,L) for the competency on conflict resolution listed within the Conflict Management Principles category.

	H	M	L
Administrators in Sample	60	44	17

Critical value at .05 level = 5.99
Calculated value = 39.94**
Rejected the Null Hypothesis

Section II:

H_0 VIIc -- The degree of need (H,M,L) for the competency on conflict resolution, within the Conflict Management Principles category, is independent of administrative position (S,EP,SP).

	H	M	L
S	21	19	1
EP	19	12	2
SP	20	13	4

Critical value at .05 level = 9.49
Calculated value = 3.04
Retained the Null Hypothesis

Section III:

H_0 VIIc -- The degree of need (H,M,L) for the competency on conflict resolution, within the Conflict Management Principles category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	21	16	4
EP	18	12	3
SP	19	13	5

Critical value at .05 level = 9.49
Calculated value = 0.51
Retained the Null Hypothesis

Table 27. The Need to Be Exposed to Brainstorming Principles.

Section I:

H_0 VIIIa -- There is no preference by administrators in the degree of need (H,M,L) for the competency on brainstorming principles, listed within the Creative Management Principles category.

	H	M	L
Administrators in Sample	32	50	29

Critical value at .05 level = 5.99
Calculated value = 6.97**
Rejected the Null Hypothesis

Section II:

H_0 VIIIa -- The degree of need (H,M,L) for the competency on brainstorming principles, within the Creative Management Principles category, is independent of administrative position (S,EP, SP).

	H	M	L
S	15	16	10
EP	10	14	9
SP	7	20	10

Critical value at .05 level = 9.49
Calculated value = 3.26
Retained the Null Hypothesis

Section III:

H_0 VIIIa -- The degree of need (H,M,L) for the competency on brainstorming principles, within the Creative Management Principles category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	13	18	10
EP	10	13	10
SP	12	12	13

Critical value at .05 level = 9.49
Calculated value = 1.45
Retained the Null Hypothesis

Table 28. The Need to Be Exposed to Competencies on Synectics.

Section I:

H_0 VIIIb -- There is no preference by administrators in the degree of need (H,M,L) for the competency on synectics listed within the Creative Management Principles category.

	H	M	L
Administrators in Sample	12	52	37

Critical value at .05 level = 5.99
Calculated value = 22.97**
Rejected the Null Hypothesis

Section II:

H_0 VIIIb -- The degree of need (H,M,L) for the competency on synectics, within the Creative Management Principles category, is independent of administrative position (S,EP,SP).

	H	M	L
S	6	18	7
EP	5	14	14
SP	1	20	16

Critical value at .05 level = 9.49
Calculated value = 7.63
Retained the Null Hypothesis

Section III:

H_0 VIIIb -- The degree of need (H,M,L) for the competency on synectics, within the Creative Management Principles category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	5	16	20
EP	5	19	9
SP	1	18	18

Critical value at .05 level = 9.49
Calculated value = 6.92
Retained the Null Hypothesis

Table 29. The Need for Competencies on Group Process for Creative Decision Making.

Section I:

H_0 VIIIc -- There is no preference by administrators in the degree of need (H,M,L) for the competency on group process for creative decision making listed within the Creative Management Principles category.

	H	M	L
Administrators in Sample	37	55	19

Critical value at .05 level = 5.99
Calculated value = 17.57**
Rejected the Null Hypothesis

Section II:

H_0 VIIIc -- The degree of need (H,M,L) for the competency on group process for creative decision making, within the Creative Management Principles category, is independent of administrative position (S,EP,SP).

	H	M	L
S	12	24	5
EP	13	11	5
SP	12	20	5

Critical value at .05 level = 9.49
Calculated value = 6.00
Retained the Null Hypothesis

Section III:

H_0 VIIIc -- The degree of need (H,M,L) for the competency on group process for creative decision making, within the Creative Management Principles category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	9	27	5
EP	15	11	7
SP	11	21	5

Critical value at .05 level = 9.49
Calculated value = 8.12
Retained the Null Hypothesis

Table 30. The Need for Competencies on Structural Change.

Section I:

H_0 IXa -- There is no preference by administrators in the degree of need (H,M,L) for the competency on structural change, listed within the Change Principles category.

	H	M	L
Administrators in Sample	32	57	22

Critical value at .05 level = 5.99
Calculated value = 17.57**
Rejected the Null Hypothesis

Section II:

H_0 IXa -- The degree of need (H,M,L) for the competency on structural change, within the Change Principles category, is independent of administrative position (S,EP,SP).

	H	M	L
S	17	18	16
EP	7	21	5
SP	8	18	11

Critical value at .05 level = 9.49
Calculated value = 7.24
Retained the Null Hypothesis

Section III:

H_0 IXa -- The degree of need (H,M,L) for the competency on structural change, within the Change Principles category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	16	21	4
EP	7	21	5
SP	11	12	14

Critical value at .05 level = 9.49
Calculated value = 13.59**
Rejected the Null Hypothesis

Table 31. The Need for Competencies on Technological Change.

Section I:

H_0 IXb -- There is no preference by administrators in the degree of need (H,M,L) for the competency on technological change, listed within the Change Principles category.

	H	M	L
Administrators in Sample	25	59	27

Critical value at .05 level = 5.99
Calculated value = 19.67
Rejected the Null Hypothesis

Section II:

H_0 IXb -- The degree of need (H,M,L) for the competency on technological change, within the Change Principles category, is independent of administrative position (S,EP,SP).

	H	M	L
S	12	22	7
EP	6	18	9
SP	7	19	11

Critical value at .05 level = 9.49
Calculated value = 2.80
Retained the Null Hypothesis

Section III:

H_0 IXb -- The degree of need (H,M,L) for the competency on technological change, within the Change Principles category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	12	21	8
EP	8	17	8
SP	8	17	12

Critical value at .05 level = 9.49
Calculated value = 1.92
Retained the Null Hypothesis

Table 32. The Need for Competencies on People-Change Principles.

Section I:

H_0 IXc -- There is no preference by administrators in the degree of need (H,M,L) for the competency on people-change principles, listed within the Change Principles category.

	H	M	L
Administrators in Sample	42	58	11

Critical value at .05 level = 5.99
Calculated value = 30.87**
Rejected the Null Hypothesis

Section II:

H_0 IXc -- The degree of need (H,M,L) for the competency on people-change principles, within the Change Principles category, is independent of administrative position (S,EP,SP).

	H	M	L
S	15	23	3
EP	15	13	5
SP	12	22	3

Critical value at .05 level = 9.49
Calculated value = 3.65
Retained the Null Hypothesis

Section III:

H_0 IXc -- The degree of need (H,M,L) for the competency on people-change principles, within the Change Principles category, to be included in a GSAP is independent of administrative position.

	H	M
S	18	23
EP	19	14

Critical value at .05 level = 5.99
Calculated value = 3.58
Retained the Null Hypothesis

Table 33. The Need for Competencies on Steering Control Principles.

Section I:

H_0 Xa -- There is no preference by administrators in the degree of need (H,M,L) for the competency on steering control principles, listed within the Control Process Principles category.

	H	M	L
Administrators in Sample	41	60	10

Critical value at .05 level = 5.99
Calculated value = 34.42**
Rejected the Null Hypothesis

Section II:

H_0 Xa -- The degree of need (H,M,L) for the competency on steering control principles, within the Control Process Principles category, is independent of administrative position (S,EP, SP).

	H	M	L
S	12	24	5
EP	15	17	1
SP	14	19	4

Critical value at .05 level = 9.49
Calculated value = 3.46
Retained the Null Hypothesis

Section III:

H_0 Xa -- The degree of need (H,M,L) for the competency on steering control principles, within the Control Process Principles category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	14	21	6
EP	17	13	3
SP	13	19	5

Critical value at .05 level = 9.49
Calculated value = 2.84
Retained the Null Hypothesis

Table 34. The Need for Competency on Yes/No Screening Controls.

Section I:

H_0 Xb -- There is no preference by administrators in the degree of need (H,M,L) for the competency on yes/no screening controls, listed within the Control Process Principles category.

	H	M	L
Administrators in Sample	14	69	28

Critical value at .05 level = 5.99
Calculated value = 44.16**
Rejected the Null Hypothesis

Section II:

H_0 Xb -- The degree of need (H,M,L) for the competency on yes/no screening controls, within the Control Process Principles category, is independent of administrative position (S,EP, SP).

	H	M	L
S	9	22	10
EP	3	21	9
SP	2	26	9

Critical value at .05 level = 9.49
Calculated value = 5.64
Retained the Null Hypothesis

Section III:

H_0 Xb -- The degree of need (H,M,L) for the competency on yes/no screening controls, within the Control Process Principles category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	7	25	9
EP	5	18	10
SP	3	25	9

Critical value at .05 level = 9.49
Calculated value = 2.26
Retained the Null Hypothesis

Table 35. The Need to Be Exposed to Competencies on Post-Action Controls.

Section I:

H_0 Xc -- There is no preference by administrators in the degree of need (H,M,L) for the competency on post-action controls, listed within the Control Process Principles category.

	H	M	L
Administrators in Sample	37	60	14

Critical value at .05 level = 5.99
Calculated value = 28.58**
Rejected the Null Hypothesis

Section II:

H_0 Xc -- The degree of need (H,M,L) for the competency on post-action controls, within the Control Process Principles category, is independent of administrative position (S,EP,SP).

	H	M	L
S	17	20	4
EP	10	19	4
SP	10	21	6

Critical value at .05 level = 9.49
Calculated value = 2.33
Retained the Null Hypothesis

Section III:

H_0 Xc -- The degree of need (H,M,L) for the competency on post-action controls, within the Control Process Principles category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	14	23	4
EP	9	22	2
SP	10	23	4

Critical value at .05 level = 9.49
Calculated value = 1.24
Retained the Null Hypothesis

Table 36. The Need to Be Exposed to Energy Management Systems.

Section I:

H_0 XIa -- There is no preference by administrators in the degree of need (H,M,L) for the competency on energy management systems, listed within the Other Principles category.

	H	M	L
Administrators in Sample	36	50	25

Critical value at .05 level = 5.99
Calculated value = 8.49**
Rejected the Null Hypothesis

Section II:

H_0 XIa -- The degree of need (H,M,L) for the competency on energy management systems, within the Other Principles category, is independent of administrative position (S,EP,SP).

	H	M	L
S	16	19	6
EP	8	15	10
SP	12	16	9

Critical value at .05 level = 9.49
Calculated value = 3.35
Retained the Null Hypothesis

Section III:

H_0 XIa -- The degree of need (H,M,L) for the competency on energy management systems, within the Other Principles category, to be included in a GSAP is independent of administrative position.

	H	M	L
S	16	17	8
EP	8	13	12
SP	7	21	9

Critical value at .05 level = 9.49
Calculated value = 6.53
Retained the Null Hypothesis

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