

ATTITUDES OF ELEMENTARY SCHOOL
PRINCIPALS TO EDUCATIONAL INNOVATION
IN RELATION TO THEIR BELIEF SYSTEMS AND
OTHER PERSONAL CHARACTERISTICS

by

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ABSTRACT

This study analyzed the attitudes of elementary school principals to educational innovation in relation to their belief systems and other personal characteristics. A sample of 200 elementary school principals of schools comprising six or more classrooms was randomly selected from a population of 602 principals in the Province of British Columbia. The final sample consisted of 178 elementary school principals.

The data used in testing the hypotheses were derived from three instruments mailed to the subjects for completion: the Dogmatism Scale, an instrument developed by Rokeach and revised by Troldahl, which purports to measure the extent to which belief systems are open or closed, the Educational Innovation Attitude Scale, developed by Ramer, which purports to measure attitudes toward educational innovation, and a Personal Data Sheet designed to acquire personal data from the respondents. Statistical analysis was performed using product-moment correlations and multiple regression analysis with fifteen variables.

Three of the eight hypotheses were significant beyond the .05 level. Significant relationships were found between receptiveness to educational innovation and open-mindedness, age, and tenure of elementary school principals.

No significant relationships were found between receptiveness to educational innovation and years of experience, level of formal education, recency of formal education, level of income, and principal's origin of office.

Additional findings showed that inservice education and principals' perception of teachers' receptivity to educational innovation were significantly related to the principals' receptiveness to educational innovation. A stepwise multiple regression analysis showed the variables of open-mindedness and inservice education predicted receptiveness to innovation beyond the .01 level of significance. Other variables were not significantly related.

Examiners:

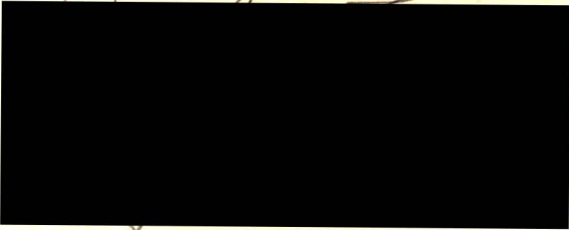


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CHAPTER I

INTRODUCTION

Canadian education has reached a new dimension of challenge. Social, economic, and technological changes now under way place a higher order of demand and stress upon our educational institutions than ever before. Several underlying reasons have been suggested for the climate of urgency in accelerating educational change to meet society's requirements. Among the more pressing of society's demands has been the training of a more intellectually sophisticated manpower able to function in a technological work environment. Added to this, is the tremendous growth in production of knowledge in our contemporary society, along with rapid increases in our technological capacity for handling and retrieving information. All of these effects cannot but have a powerful influence on both the content and the rate of change in education.

Suggested solutions for educational problems resulting from societal pressures can be found in new ideas encompassing many facets of school programs and operations. Interest in educational change is evidenced by the proliferation of articles, books, conferences, and studies relating how new ideas and programs can be moved more quickly into the classroom. This widespread interest in change appears to be having little direct effect on the schools, however. Unlike fields such as agriculture and medicine, education has adopted innovations very slowly and usually on a limited basis (Mort, 1964).

Public schools have refused to innovate for several reasons, one of which is lack of incentive to adopt new ways (Owens, 1970). While the profit motive may be a prime reason for the farmers to innovate, economics doesn't appear to be an incentive for the educator to innovate. Moreover, education appears to have a weak scientific knowledge base from which to generate and substantiate ideas which indicate a need for change. Another problem associated with educational change is the lack of change agents in education who can perform a role, for example, comparable to that of the county agent in agriculture. Owens (1970) points out that, generally, in the school situation, it is the administrator who must play the role of change agent--if there is to be one. Unfortunately, the school administrator has been concerned, largely, with keeping the organization running smoothly and not with changing it. If Owen's assumption that school administrators must become change agents is true, it would appear profitable, then, to study people in key roles and specifically their attitudes toward innovation.

Why this study is important

While recent studies have considered the importance of the school superintendent as the key figure in educational change, few have dealt with the function of the principal in the innovation process. The elementary school principal in his position of leadership at the school level may be considered one of the most important persons affecting educational change. He may influence the district superintendent, the community, the teachers, the budget, the school organization, the curriculum, and the hiring and assigning of personnel. His role

can place him in a key position to influence the acceptance or rejection of educational innovations. Demeter (1951) supports the view that principals are key figures in the innovation process. Where they are both aware of and sympathetic to an innovation, it tends to prosper. Where they are ignorant of its existence, or apathetic, if not hostile, it tends to remain outside the bloodstream of the school.

If, as is generally assumed in the literature, elementary school principals have influence as educational leaders in the schools, then their personal characteristics and attitudes toward change may possibly influence whether or not an innovation is accepted or rejected.

Statement of the Problem

The purpose of this study is to analyze the relationships between the belief systems and personal characteristics of elementary school principals, and their attitudes toward educational innovation.

Definitions of Terms

For the purposes of this study, the terms defined in this section have been used consistently throughout the study to convey the following meanings:

Elementary School Principal. The administrator of a school of six classrooms or larger.

Receptivity. The degree to which an idea is considered desirable or undesirable by the elementary school principal, as measured by the Educational Innovation Attitude Scale.

Innovation. A deliberate, novel, specific change thought to be

efficacious by the elementary school principal for accomplishing the goals of the school system.

Belief System. A construct representing beliefs, sets, expectations, or hypotheses, accepted by a person as true of the world in which he lives at a given time.

Disbelief System. A construct representing a finite series of subsystems, containing beliefs, sets, expectancies, rejected by a person at a given time.

Open-minded belief system. A construct characterized by a person evaluating and acting on information that is consistent with the structural situational requirements governed by his rational rather than irrational beliefs, as measured by Rokeach's Dogmatism Scale.

Closed-minded belief system. A construct characterized by a person not receiving, evaluating and acting on factual information contrary to his presently held beliefs, as measured by Rokeach's Dogmatism Scale.

Age. The chronological age of the elementary school principal at the time of data collection.

Experience. Total number of years as a teacher and as a principal. ✓

Formal Education. The level of education of the elementary school principal beyond British Columbia grade twelve. ✓

Recency of Formal Education. The number of years which have elapsed since the elementary school principal last received formal education.

Income. The elementary school principal's present annual salary.

Tenure of Office. The number of years in the present position as elementary school principal.

Origin of Office. The source of the elementary school principal i.e., whether he came to his present position from outside the school district or from within the school district.

Limitations and Delimitations of the Study

1. The study is restricted to a sample of elementary school principals of schools comprising six or more classrooms in the Province of British Columbia.
2. The study is concerned only with the self reported beliefs of elementary school principals toward educational innovation. It is not concerned with operative innovations. *causal*
3. The study is not concerned about the invention, development and promotion of the educational innovations used by the schools participating in this study.

Assumptions

1. The instruments were considered to possess a degree of validity and reliability suitable for the present study. A description of the instruments is provided later in the study.
2. It was assumed that the principals in the sample possessed the required knowledge to complete the questionnaire.
3. It was assumed that the sample drawn was representative of the population of principals working in similar schools in the province.

Importance of the Study

With the current interest in educational change, discontent with the slow pace by which schools are adopting new practices has been evidenced. Carlson (1965, p. 3) suggests that, "In spite of the current activity, it seems fair to say that there is quite widespread pessimism about the ability of public schools to make rapid and adequate adaptation to our fast changing times." If education is going to keep pace with change in other spheres of life, it is essential that we understand the factors affecting change in our schools.

According to Holdaway (1967), principals are important agents in the change process and should be constantly searching for areas where they can innovate, and should realize that they can, by their practices, influence decisions made by superintendents. Heller (1968) contends that the principal is employed to be an educational leader. The acceptance or rejection of an innovation is a leadership function, no matter whether the idea to change comes from the superintendent or from the teaching staff. Every superintendent contemplating the introduction of new educational practices into his schools needs guidelines as to what personality characteristics he should look for in selecting an innovative principal.

While other studies have dealt with school systems (Mort, 1964), this study focuses on the individual as the unit of analysis. Furthermore, unlike Carlson's (1965) work, which dealt with superintendents, the present study focuses on the elementary school principal as a potential innovator. It is hoped that an investigation of the per-

ceptions of educational innovations held by elementary school principals might serve as a basis for making useful suggestions and recommendations for (1) boards of school trustees in selecting an elementary school principal who is receptive to educational innovation; for (2) programs of educational administration in selecting and training future school administrators; and, for (3) public and private agencies planning the diffusion of innovations in the public schools.

CHAPTER II

REVIEW OF RELATED LITERATURE

The Personality Characteristic of Dogmatism

Several studies have been reported on the personality construct of dogmatism and its relationship to a person's perception and reception of new ideas. Rokeach (1960) has pointed to differences in behavior between people scoring at opposite ends of the open-closed belief continuum. "Open" individuals appear to differ from "closed" individuals in the way they think, perceive, remember, and feel. Studies show that the open-minded individual, as defined by a high score on the Dogmatism scale, is better able to receive--to "hear"--new ideas and information without much threat or discomfort. He tends to perceive ideas accurately, with a minimum of distortion, and to talk about them with some objectivity. Zaguna and Kelly (1966) in a study which related closed-mindedness to novel and complex ideas, found that high dogmatics are less accepting of novel experience than low dogmatics. Resistance to change has come to be a descriptive characteristic of closed-minded individuals. Closed-minded persons tend not to approach new experiences openly. They tend to become defensive, and report that they feel somewhat insecure--even threatened--in new situations. Pyron (1966), and Pyron and Lambert (1967) reported significant correlations ($P < .01$) between their measure of acceptance of change and dogmatism scores, supporting the expectation that the greater the closed-mindedness, the greater the rejection of change.

Open
vs.
closed
mind

New ideas, flexibility, examination of feelings and emotions in the challenges of life - all seem to come more readily to the persons classified as open-minded than they do to those classified as closed-minded.

Results from these and other studies seem to support Rokeach's (1960, p. 63) basic proposition: "Closed-minded individuals are less willing than open-minded individuals to learn new beliefs and to change old ones." In a study on dogmatism, learning and resistance to change, Ehrlich and Lee (1969) found support for Rokeach's central proposition when they discovered that the cognitive system of closed-minded persons is highly resistant to change.

In light of these studies, it is possible that dogmatism (extent of open- or closed-mindedness) is related to the perception of innovations by elementary school principals.

Lippitt (1958) found that, to a greater extent than in most other fields of endeavor, significant changes in educational practice imply and require changes in the attitudes, skills, and values of teachers and principals in order for change to be successful.

Personal Characteristics of Innovators

Although the personal characteristics of elementary school principals as innovators are described more fully in Chapter III, for the sake of clarity some background from the literature on general characteristics of innovators is provided at this point.

According to Rogers (1963, pp. 58-59), innovators have six major characteristics:

1. Innovators are generally young.
2. Innovators have relatively high social status in terms of amount of education, prestige ratings, and income.
3. Impersonal and cosmopolite sources of information are important to innovators.
4. Innovators are cosmopolite.
5. Innovators exert opinion leadership.
6. Innovators are likely to be viewed as deviants by their peers and by themselves.

Owens (1970, p. 159) concluded that,

"Innovators are young and venturesome, like risks and are viewed as successful in their communities. They are members of cliques and groups where they meet and talk with other innovators; they have cosmopolitan tendencies and travel frequently, getting to know many people outside their own local reference groups. They attend out-of-town meetings and read widely, including cosmopolitan press and journals."

Generally, school principals, by contrast, have not been particularly → young and tenure in service has often been important when seeking promotion according to Owen (1970). In addition, Bridges (1965) reports that, "The principal tends to be upwardly mobile; even if he does not have immediate expectations of moving up in the hierarchy, he generally identifies with the values, beliefs, and expectations held by his superiors in the organization." One would expect that the principal's immediate superior's support and reinforcement would be the greatest influence on his behavior. And yet, in a recent study

on the innovativeness of principals, Seger (1966) found that innovative principals tended to have more recent university educational experience, to be less mentally rigid, to be less dogmatic, tended to perceive that innovation is not desired by central administration, to feel that teachers and students are the most accurate and important assessors of their work, and to perceive themselves as more innovative than non-innovative.

While the literature appears to be inconclusive, a trend indicates that the principal as educational leader at the school level, is emerging as a key person in bringing about program change. } ✓

Role of the Elementary School Principal in Program Change

There is some conflict in the literature concerning the importance of the principal in the innovative process. Some writers consider the superintendent to be the key figure in educational change. (Carlson, 1965; Ramer, 1968; Griffiths, 1964). Several writers agree, however, that the authority and influence of the principal have an impact on innovation in the schools that parallel those of the superintendent in the school district. Indeed, Seger (1967) suggests that principals should see themselves as important agents in the change process, be constantly searching for areas where they can innovate, and realize that they can, by their practices, influence innovation decisions made by superintendents.

Robinson (1969) states that a revised concept of the principalship is needed now and in the future to meet the needs of dynamic leadership in schools. In order that the principal's leadership function can be ✓

performed adequately in schools, there should be careful selection of school principals who are receptive to innovative ideas in education. This is necessary because the school must not be thought of as a static organization, but rather as an organization in a constant state of flux responding to emergent needs. Principals should be willing to attempt innovations to meet these emergent needs. Principals should be selected, therefore, partly on the basis of their projected ability to be innovative.

Culbertson (1963, p. 250) comments:

Is the implementation of educational change so dependent upon administrative and supervisory teams that individual administrators do not stand out as innovators? Does the position of the principalship within the organizational hierarchy prevent the principal from assuming an aggressive role in change? Could it be that in helping others make educational changes, the principal is just as ingenious as those who make the changes?

On the other hand, Griffiths (1963) described a simulated administrative situation in which 232 elementary principals, selected from throughout the United States, were allowed for five days to consider changes in policy, duties and personnel which they would make if they were principal of an imaginary "Whitman School". Although given the opportunity, they innovated infrequently during that time. Furthermore, no significant relationship was discovered between the "change score" and age, experience, or education. Griffiths (1963, p. 283) concluded that, "The results of this study indicate that the elementary school principal seldom introduces a new idea into the school system," and that: "an understanding of the reason for the absence of strong,

personal direction rests with his place in the hierarchy of the organization--he is at least three steps from the top even in a small school district." As Holdaway (1966) points out, however, some objection can possibly be taken to the external validity of such a study, particularly when the extreme artificiality of the situation is considered. Not all of the ideas for change in a school have to originate with the principal, however. Ingram (1962) suggested that in a well-run school there will be just as many, if not more, good ideas for improvement coming from individual staff members or from the staff as a unit as from administrators. The principal can operate as a "change agent" just as effectively, if not more effectively, when ideas originate from some source outside of administration.

Ziolkowski (1965, p. 1) comments that, "As a change agent within the school the principal may induce a climate which will enable the staff to accept, and even to initiate change." Miklos (1965) supports this view and feels that principals must strive to develop climates which foster a readiness for change and the desire to adapt to changing conditions.

Chesler, Schmuck and Lippitt (1963) conducted a study in which they reported that the principal can directly stimulate inventiveness by either suggesting or openly supporting new ideas. According to reports from teachers in this study, the behavior and attitude of the principal are crucial variables affecting change in the classroom.

The adoption of innovations is noted by Downey (1961, p. 135) to be one of the characteristics of a "statesmanlike school leader" who

"...will, indeed, see to it that new ideas find their way into his school," and "in effect he will become his own 'change agent'".

Crossfield (1968) proposes that the principal of the future will be the chief agent of change in the school. According to Crossfield, the principal will be a social worker, a citizenship director, a mass media expert, and a director of finance. The principal will be the person who sets the emotional tone of the school, and the community leader who pulls together agencies of a given area for educational improvement. Brickell (1961) summarized the importance of the role of the administrator in the change process by pointing out that unless he gives an innovation his attention, and actively promotes its use, it will not come into being.

Summary

It is apparent that the many pressures designed to create change in the public schools will continue and probably increase. There are numerous agencies, public and private, capable of inventing and disseminating educational innovations. The success of these new ideas is dependent upon adoption and use by the schools. The elementary school principal may be considered one of the most influential persons in the innovation process. An examination of his personal characteristics and his role in program change indicates the potential influence of the position in determining the success of an innovation. Recent studies (Holdaway, 1966; Marion, 1966; Seger, 1966) establish the significance of his role as a change-agent.

CHAPTER III

THEORETICAL FRAMEWORK

Rationale and Hypotheses

The unique characteristics of an individual's personality can form a basis for difference in the way an individual perceives a given event. Rokeach (1960, p. 72) has operationally defined one personality characteristic as a person's level of open or closed-mindedness, empirically defined by the Dogmatism Scale score. This Scale purports to measure "...the extent to which a person can receive stimulus information on its own merits unencumbered by irrelevant factors coming from within himself or from the outside."

Kemp (1965) found that individuals vary from relatively open to relatively closed belief systems. In addition to persons with open belief systems, there are individuals with relatively closed minds in responsible administrative positions and their ability and efficiency may seldom be questioned. Kemp indicates that they may distort the situation to satisfy their cognitive and emotional needs.

Vacchiano, Strauss, and Schiffman (1968) in studying dogmatic subjects found, regarding their conservatism, that dogmatic subjects are confident in what they have been taught to believe, accept the tried and true despite inconsistencies, and are cautious and compromising in regard to new ideas, generally going along with tradition.

Croft (1965) documented differences in perceptual ability between principals classified as open and closed-minded. Open-mindedness was

significantly related to perceptual accuracy in a positive direction, but Croft questioned if open-mindedness was related to innovation and reduction of resistance to change.

A major question in the present investigation is whether a principal, characterized as open-minded, perceives educational innovation as more desirable than a principal who is closed-minded. It was assumed that the success of educational innovations is related to the elementary school principal's acceptance of such innovations. The elementary school principal's belief system may be related to his perceptions of an innovation as being desirable or undesirable. It was hypothesized that:

H₁ Receptiveness to educational innovation by elementary school principals is positively correlated with open-mindedness.

In the field of education, Holdaway (1966) and Seger (1966) found that age is significantly related to the adoption of innovations. They found that younger principals tended to be more innovative than older principals in the school system. Rogers (1963, p. 65) concluded that "...since the young are less likely to be conditioned by traditional practices within the established culture, there are theoretical grounds for expecting them to be more innovative." Because age appears to be an important characteristic in the rate of adoption of an innovation, it was hypothesized that:

H₂ Receptiveness to educational innovation by elementary school principals is negatively correlated with age.

In his study of elementary school principals, Holdaway (1966) found that innovative schools tended to have principals with less experience both as teachers and as principals. He found a negative correlation, significant at the .05 level, between a principal's length of experience as a teacher and principal and the extent of his innovativeness. On this basis it was assumed that the length of experience of the elementary school principal is related to his perception of educational innovation as desirable or undesirable, that is, the more experience the principal has the less receptive he will be to innovation. It was, therefore, hypothesized that:

H₃ Receptiveness to educational innovation by elementary school principals is negatively correlated with experience.

Contrary to what he expected, Marion (1966), in a study of the innovativeness of elementary school principals, found no direct relationship between the amount of formal education of the principal and innovation. Marion's study, however, indicated a negative relationship between the recency of the principal's formal education and his receptivity to innovation. That is, the fewer the years that have elapsed since formal training was received, the more receptive elementary principals are to innovation. While inconclusive, Marion's study supports the contention that recency of formal education is a better predictor of the innovativeness of principals than is the amount of formal education. Holdaway (1966) reported a negative correlation between the recency of a principal's formal education and innovativeness

but it was not large enough to be significant. The correlation was strong enough to indicate a trend however, and would appear to support Marion's findings.

Because no direct relationship has been found between the amount of formal education of the elementary school principal and his receptivity to innovation, it was hypothesized that:

H₄ There is no significant relationship between receptiveness to educational innovation by elementary school principals and amount of formal education.

On the basis of Marion's and Holdaway's findings indicating a negative relationship between the recency of the elementary school principal's formal education and his receptivity to innovation, it was hypothesized that:

H₅ Receptiveness to educational innovation by elementary school principals is negatively correlated with recency of formal education.

According to Rogers (1963), innovators have relatively high social status in terms of prestige ratings and income. Mason and Gross (1955) have reported that salary alone accounted for 79 per cent of the variance in prestige among school superintendents in a large sample they studied. Holdaway (1966), on the other hand, found that the salary of the elementary school principal was not significantly related to innovativeness ($r = 0.083$). Because these studies are inconclusive in relating level of income to a person's receptivity to innovation, it was hypothesized that:

H₆ There is no significant relationship between receptiveness to educational innovation by elementary school principals and level of income.

Griffiths (1964) indicated a relationship between an administrator's tenure in office and his willingness to accept change. Griffiths suggests that the longer an administrator stays in a position, the less likely he is to introduce change. Carlson (1965) found innovators to have shorter tenure in their positions than non-innovators. It would seem, therefore, that the length of service of an elementary school principal in his present position relates to his perception of educational innovation as desirable or undesirable and it was hypothesized that:

H₇ Receptiveness to educational innovation by elementary school principals correlates negatively with the length of service in present positions.

Griffiths (1964, p. 433) suggested that, "Change in an organization is more probable if the successor to the chief administrator is from outside the organization, than if he is from inside the organization." Carlson's (1965) findings support Griffith's assumption that superintendents coming from outside the school system are quicker to adopt new practices than those appointed from within the system. Ramer's (1968) findings, however, do not support Carlson's. Ramer found no significant relationship between receptiveness to educational innovation and the superintendent's origin of office. The findings reported on the chief superintendent's origin of office and his

receptiveness to educational innovation, then, are inconclusive. On the basis of these findings it would appear worthwhile to investigate whether elementary school principals' origin of office is significantly related to their receptivity to innovativeness. That is, do principals hired from within a school district differ in their receptivity to innovations from those hired from outside the district? Because of the inconclusive data reported in the literature, it was hypothesized that:

- H₈ There is no significant relationship between receptiveness to educational innovation by elementary school principals and "origin of office".

Statement of Hypotheses

For convenience, a list of hypotheses follows:

- H₁ Receptiveness to educational innovation by elementary school principals is positively correlated with open-mindedness.
- H₂ Receptiveness to educational innovation by elementary school principals is negatively correlated with age.
- H₃ Receptiveness to educational innovation by elementary school principals is negatively correlated with experience.
- H₄ There is no significant relationship between receptiveness to educational innovation by elementary school principals and amount of formal education.
- H₅ Receptiveness to educational innovation by elementary school principals is negatively correlated with recency of formal education.

- H₆ There is no significant relationship between receptiveness to educational innovation by elementary school principals and level of income.
- H₇ Receptiveness to educational innovation by elementary school principals correlates negatively with the length of service in present positions.
- H₈ There is no significant relationship between receptiveness to educational innovation by elementary school principals and "origin of office".

CHAPTER IV

THE STUDY

Data were collected from elementary school principals of public schools in British Columbia. Methods and procedures relative to instruments utilized, data collection, selection of the sample, and the statistical procedures to be used, are presented and discussed in this chapter.

Variables

The variables consisting of open and closed-mindedness, age, experience, level of formal education, recency of formal education, level of income, tenure of office, origin of office, and receptivity to educational innovation are described in Chapter I. A further explanation is now offered concerning the measurement of open and closed-mindedness, and the reliability and validity of the Dogmatism Scale.

Rokeach Dogmatism Scale

Rokeach (1960) defined a given personality as an organization of beliefs or expectancies having a definable and measurable structure. The Dogmatism scale has been developed by Rokeach in an attempt to measure the extent to which belief systems are open or closed. The degree to which an individual's system is open or closed is the extent to which a person can receive stimulus information without direction, and evaluate and act on that information on its own merits unencumbered by irrelevant factors coming from within himself or from the outside.

Reliability. For the D Scale, Rokeach (1960) reported split-half reliability coefficients ranging from .68 to .93 for samples tested at Michigan State University and at Ohio State University. The number of cases ranged from 22 to 89. A reliability coefficient of .84 was obtained from an Ohio State University sample by a test-retest with five to six months between tests. Ehrlich (1961) reported a split-half reliability of .75 for a sample of 57 introductory psychology students and Kemp and Kohler (1965) reported a reliability coefficient of .92 for 200 grade eight and nine students when using the Rulon Formula.

Validity. Construct validity was established through use of the "Method-of-Known Groups". Graduate students in psychology selected friends and acquaintances whom the students believed to be low or high in dogmatism. They were given a brief written description of the defining characteristics of persons with open and closed systems (closed mind, uncritical acceptance of authority, rejection of those who disagree, and qualified acceptance of those who agree). The subjects were contacted and later administered the Dogmatism scale. The results, as determined by one-tailed t-tests, were significant at the 0.01 level (Rokeach, 1960, pp. 102-103)..

The construct of dogmatism is shown to be supported by validity data resulting from experimental-observational studies of individual behavior and group processes. Korn and Giddan (1964) investigated the degree of construct validity of the Dogmatism scale in a study which included an investigation of the relationship of the Scale to several scales comprising the California Psychological Inventory which includes

Flexibility, Tolerance, and Security. As the authors predicted, these three C.P.I. scales correlated negatively with Rokeach's definition of what the Dogmatism scale measures. The correlations indicate that the higher an individual scores on the Dogmatism scale, the lower he tends to score on the C.P.I. in terms of the constructs of tolerance, flexibility, and security.

The initial Scale comprising 89 items was revised four times covering various facets of the structure, formal content, and function of dogmatism. The aim of these revisions was to take advantage of continued refinements in theoretical formulations and to increase reliability. The final 40 item scale, Form E, was found to have odd-even corrected reliability ranging from .68 to .93. All items in Form E significantly differentiated between high and low dogmatism quartiles, as determined by item analysis.

Dogmatism Scale - Short-Form. The 40 items of the Dogmatism Scale, in Rokeach's (1960, p. 73) view, are seen as different facets of the same basic underlying trait, dogmatism. Therefore, to sum the items to gain an overall index is justifiable, except for its information loss. In a study designed to reduce the number of predictor variables in the Dogmatism scale, Punch (1969, p. 77) concluded that "...if to sum all 40 items is justifiable, it must surely be equally justifiable to sum various combinations of the 40." They are, after all, seen as different and equally important indicators of the same construct.

The instrument used in this study was the short-form of the Dogmatism scale developed by Troidahl and Powell (1965). Like Punch, Troidahl found that a much shorter form of the Dogmatism scale could

be used reliably in field studies. In a cross-validation study to determine how reliable the 20-item short-form would be, Troldahl correlated 227 respondents' dogmatism scores on the short-form with their scores on the complete 40-item scale. The predictiveness of the short-form was then checked with an independent quota-control sample of 84 adults. The correlation coefficient utilizing the original data was .95, while in the cross-validation study the coefficient realized was .94. According to these figures, the 20-item short-form is a good predictor of what one would obtain using the 40-item version.

When a shorter form of a measuring instrument is used, it is inevitable that its reliability will be lower than the longer form. However, in this particular instance, it was felt that the success of data collection would rely to a large extent on the brevity of the instruments used. To ensure sufficient data collection, then, the small decrease in reliability was considered justified. Troldahl (1965) found that the predicted split-half reliability for the 20-item scale was .79 as compared to the upper limit reliability of .84 using the original 40-item scale. Troldahl (1965, p. 214) concludes, "it would seem that the 20-item version could be used without much reluctance. Its reliability is at about the minimum desired by most researchers." (See Appendix A).

Scoring Procedure. The short-form of the Dogmatism scale contains twenty items which are answered on an agree-disagree continuum. The scoring range of each item is 1 to 7 with 4 omitted in order to force respondents toward agreement or disagreement. The range of the total

scale is from 20 to 140. A high score identifies a less dogmatic or more open-minded person.

Educational Innovation Attitude Scale

The receptiveness to educational innovation variable used in this study is measured with a scale that Ramer (1968) developed in a related study. This scale, the Educational Innovation Attitude Scale, claims to measure professed attitudes toward educational innovation. Ramer (1968, p. 34) assumed that educational innovation is perceived in varying degrees of desirability, and that it is possible to measure the degree of desirability. Ramer further assumed that an individual's attitude toward educational innovation could be placed on a continuum of receptiveness--ranging from low receptivity to high receptivity.

Ramer initially constructed 48 questions, worded negatively (see Appendix B), and covering four broad areas of educational innovation--curriculum (courses of instruction), physical (buildings and equipment), operational (operation of school plant), and personnel (professional and para-professional).

Validity. In a pilot study to establish validity of the instrument, judges selected from the Departments of Educational Administration at Syracuse University and the University of Rochester, submitted the names of six chief school administrators from their respective geographical areas--three judged to be innovators, and three judged to be non-innovators. A pilot scale was sent to each subject.

Ten of the administrators responded--five judged to be innovators and five judged to be non-innovators. A t-test was administered, and

Ramer (1968, p. 36) reports that twenty-one of the forty-eight questions discriminated significantly at the .05 level or higher. Twenty-one questions were found to be statistically significant, with fourteen questions discriminating at the .01 level or higher. The final scale consisted of twenty questions--the five most significant of each of the categories of educational innovation. (See Appendix C for the twenty questions comprising the final draft of the Educational Innovation Attitude Scale).

Reliability. Ramer (1968, p. 38) reports that the reliability of the Educational Innovation Attitude Scale was established by the test-retest method. The scale was administered to a graduate education class with 35 days between tests. The coefficient of test-retest stability computed from these scores was $r = .81$.

Scoring Procedure. The Educational Innovation Attitude Scale contains twenty items which are answered on an agree-disagree continuum. Responses are scored in terms of the method of summated ratings with weights of 1 through 7 assigned to the six response categories, and 4 excluded to force respondents toward agreement or disagreement. For each subject, a total score was obtained, based upon his responses to all of the statements. The range of the test is from 20 to 140. A high score identifies a person who is considered more receptive to educational innovation, while a low score identifies a person who is considered less receptive to educational innovation.

Personal Data

A personal data questionnaire was designed to acquire biographical

information from the respondents. The data questionnaire included age, salary, total number of years of experience, length of time as a principal, origin of position, subject certification, level of formal education, and recency of formal education (see Appendix D).

Selection of Subjects and Sampling Procedure

The subjects for this study consisted of 200 elementary school principals, randomly selected, from a population of 602 elementary school principals. The study was restricted to principals of schools comprising six or more elementary classrooms in the province of British Columbia.

Collection of Data

A letter explaining the study (see Appendix E) was sent to the selected elementary school principals along with copies of the Dogmatism scale - Short Form, the Educational Innovation Attitude Scale, the personal data questionnaire, and a self-addressed, stamped envelope. Mail-back returns were received from 75.5 per cent of the initial respondents. This accounted for 151 of a total of 200 questionnaires. Ten days later, a followup letter was sent to those subjects who had not returned the questionnaire, along with an extra copy and self-addressed envelope (see Appendix F). An additional 37 principals responded to the second request and this brought the total number of questionnaires received to 188, or a return of 94 per cent.

Data Analysis

The data were coded to assure anonymity of the subjects taking part in the study.

The hypotheses were tested by comparing each of the Pearson Product-Moment Correlations with the values required for statistical significance at the .05 level.

Multiple regression analysis was used to determine which of the variables best predict receptivity to innovation. A second purpose for the use of this technique was an attempt to account for the greatest amount of variance in the criterion variable--receptivity to educational innovation.

CHAPTER V

RESULTS, DISCUSSION AND CONCLUSIONS

This chapter contains data descriptive of the population used in this study, findings derived from the testing of hypotheses which were presented in Chapter III, additional findings relating to the study, and general conclusions.

Descriptive Data

Of the 188 questionnaires returned, ten were discarded because of insufficient information or because they were incorrectly completed. This left a total of 178 questionnaires, or 89 per cent of the original 200 to be analyzed.

The descriptive data were obtained from the Scales and Personal Data Sheets completed by the respondents. Six of the respondents were female. ✓

Table 1 indicates that the scores on the Educational Innovation Attitude Scale ranged from 61 to 134 with a mean of 104.88.

TABLE 1

FREQUENCY DISTRIBUTION OF EDUCATIONAL INNOVATION ATTITUDE SCALE SCORES

Category	Score	Frequency	Per cent
1	51 - 60	0	0.0
2	61 - 70	2	1.1
3	71 - 80	6	3.3
4	81 - 90	11	6.2
5	91 - 100	35	19.7
6	101 - 110	61	34.3
7	111 - 120	54	30.3
8	121 - 130	8	4.5
9	131 - 140	<u>1</u>	<u>0.6</u>
	TOTAL	178	100.0
<hr/>			
	MEAN	104.88	
	S.D.	11.93	
<hr/>			

Respondents' scores on the Dogmatism Scale ranged from 58 to 134 with a mean of 103.82. (See Table 2).

TABLE 2

FREQUENCY DISTRIBUTION OF DOGMATISM SCALE SCORES

Category	Score	Frequency	Per cent
1	51 - 60	1	0.6
2	61 - 70	0	0.0
3	71 - 80	7	3.9
4	81 - 90	16	9.0
5	91 - 100	44	24.7
6	101 - 110	56	31.4
7	111 - 120	40	22.5
8	121 - 130	13	7.3
9	131 - 140	<u>1</u>	<u>0.6</u>
	TOTAL	178	100.0
<hr/>			
	MEAN	103.82	
	S.D.	12.41	

Ages ranged from 26 to 65 years and were distributed in an approximately normal manner. The mean age of the elementary school principals participating in this study was 41.25 years. The data in Table 3 show that 65.1 per cent of the elementary principals were between 26 and 45 years of age.

TABLE 3
 FREQUENCY DISTRIBUTION OF AGES OF PRINCIPALS

Category	Age	Frequency	Per cent
1	26 - 30	13	7.3
2	31 - 35	31	17.4
3	36 - 40	36	20.2
4	41 - 45	36	20.2
5	46 - 50	14	7.9
6	51 - 55	21	11.8
7	56 - 60	18	10.1
8	61 - 65	<u>9</u>	<u>5.1</u>
	TOTAL	178	100.0
	MEAN	41.25	
	S.D.	9.61	

Almost one-fifth of the elementary school principals in this study have less than ten years of teaching and administrative experience. Sixty per cent of them have less than a total of twenty years experience (see Table 4). The number of years of experience ranged from 5 to 44. The mean number of years of teaching and administrative experience was 17.40 years.

TABLE 4

FREQUENCY DISTRIBUTION OF NUMBER OF YEARS OF TOTAL EXPERIENCE
(TEACHING AND ADMINISTRATION) OF PRINCIPALS

Category	Years of Experience	Frequency	Per cent
1	5 - 9	33	18.5
2	10 - 14	34	19.1
3	15 - 19	39	21.9
4	20 - 24	29	16.3
5	25 - 29	15	8.4
6	30 - 34	12	6.7
7	35 - 39	11	6.3
8	40 - 44	<u>5</u>	<u>2.8</u>
	TOTAL	178	100.0
	MEAN	17.40	
	S.D.	11.82	

Less than half of the elementary school principals have formal education beyond the bachelor's degree. It can be noted in Table 5 that 57 principals or approximately one-third of the sample either have master's degrees or are presently enrolled in a graduate study program. On the other hand, only 15 principals have less than a bachelor's degree.

TABLE 5

FREQUENCY DISTRIBUTION OF FORMAL EDUCATION LEVEL OF PRINCIPALS

Category	Educational Level	Frequency	Per cent
1	Less than a bachelor's degree	15	8.4
2	One bachelor's degree	81	45.5
3	Two bachelor's degrees	23	12.9
4	Graduate study beyond bach. degree	30	16.9
5	Master's degree	27	15.2
6	Grad. study beyond a master's degree	<u>2</u>	<u>1.1</u>
	TOTAL	178	100.0

Table 6 shows that more than one-fifth of the elementary school principals in the study received formal education within the past year. Seventy per cent of the principals have studied formally during the past five years. The length of time since formal education was undertaken ranged from 6 months to 36 years. The mean time which had elapsed since formal education was 5.32 years.

TABLE 6

FREQUENCY DISTRIBUTION OF REGENCY OF FORMAL EDUCATION OF PRINCIPALS

Category	No. of Years Since Formal Education	Frequency	Per cent
1	0 - 1	40	22.5
2	2 - 3	49	27.5
3	4 - 5	37	20.8
4	6 - 7	15	8.4
5	8 - 9	9	5.1
6	10 - 11	9	5.1
7	12 - 13	4	2.2
8	14 - 15	7	3.9
9	16 and over	<u>8</u>	<u>4.5</u>
	TOTAL	178	100.0
MEAN 5.32			
S.D. 4.20			

Salaries of the principals in the study ranged from \$10,000 to \$19,000. The mean salary was \$14,804. Table 7 shows that 52.9 per cent of the principals in the study earned more than \$15,000. Twenty-one principals earned between \$18,000 and \$19,000.

TABLE 7

FREQUENCY DISTRIBUTION OF ANNUAL SALARIES OF PRINCIPALS

Category	Range	Frequency	Per cent
1	\$10,000 - 10,999	5	2.8
2	11,000 - 11,999	8	4.5
3	12,000 - 12,999	16	8.9
4	13,000 - 13,999	25	14.0
5	14,000 - 14,999	30	16.9
6	15,000 - 15,999	25	14.0
7	16,000 - 16,999	34	19.2
8	17,000 - 17,999	14	7.9
9	18,000 - 18,999	<u>21</u>	<u>11.8</u>
	TOTAL	178	100.0
<hr/>			
	MEAN	\$14,804	
	S.D.	2,744	

The information in Table 8 indicates that more than three-quarters of the elementary school principals in British Columbia have been in their present positions six years or less. The range for the group is from one to 34 years. The mean number of years spent in present positions by principals is 4.57 years. Only 19 principals have been in their present positions more than ten years.

TABLE 8
 FREQUENCY DISTRIBUTION OF NUMBER OF YEARS IN PRESENT
 POSITION AS ELEMENTARY SCHOOL PRINCIPAL

Category	Years	Frequency	Per cent
1	1 - 2	48	27.0
2	3 - 4	62	34.8
3	5 - 6	25	14.1
4	7 - 8	15	8.4
5	9 - 10	9	5.1
6	11 - 12	2	1.1
7	13 - 14	2	1.1
8	15 - 16	10	5.6
9	17 and over	<u>5</u>	<u>2.8</u>
	TOTAL	178	100.0
MEAN 4.57			
S.D. 4.45			

Table 9 represents the size of schools in the sample. The smallest school contained 6 classrooms while the largest school had 34 classrooms. The mean number of classrooms was 14.70. The data included in Table 9 indicate that well over four-fifths of elementary schools in British Columbia have 20 or fewer classrooms while 2.8 per cent of the schools have more than 25 classrooms.

TABLE 9

FREQUENCY DISTRIBUTION OF SIZE OF SCHOOLS BY NUMBER OF CLASSROOMS

Category	Number of Classrooms	Frequency	Per cent
1	6 - 10	52	29.2
2	11 - 15	49	27.5
3	16 - 20	51	28.7
4	21 - 25	21	11.8
5	26 - 30	2	1.1
6	31 - 35	<u>3</u>	<u>1.7</u>
	TOTAL	178	100.0
	MEAN	14.70	
	S.D.	10.73	

Analysis of the responses of elementary principals with respect to their formal education subject specialty indicated that history/geography was by far the most frequent field of study (Table 10).

TABLE 10

FREQUENCY DISTRIBUTION OF SUBJECT SPECIALTIES OF PRINCIPALS

Subject Specialty	Frequency	Per cent
Art	3	1.7
Commerce	2	1.1
Economics	2	1.1
Education	9	5.5
English	37	20.8
Foreign Language	1	0.5
History and/or Geography	82	45.9
Industrial Education	2	1.1
Mathematics	22	12.4
Physical Education	2	1.1
Sciences	<u>16</u>	<u>8.8</u>
TOTAL	178	100.0

Over 40 per cent of the elementary principals in the study took part in five or more inservice education activities. That is, they reported attendance at conferences or visitations to other schools during the past year to listen to, discuss, or observe educational practices (Table 11). The mean number of conferences attended or schools visited was 6.26 with a range from 0 to 30.

TABLE 11
INSERVICE EDUCATION OF PRINCIPALS

Category	Number	Frequency	Per cent
1	0 - 1	8	4.5
2	2 - 3	38	21.5
3	4 - 5	57	31.8
4	6 - 7	37	20.8
5	8 - 9	14	7.9
6	10 - 11	8	4.5
7	12 - 13	5	2.8
8	14 - 15	3	1.7
9	16 and over	<u>8</u>	<u>4.5</u>
		TOTAL	178
			100.0
	MEAN	6.26	
	S.D.	3.49	

Table 12 shows that almost half (48.9 per cent) of the elementary school principals in the study perceived their district superintendent's receptivity to educational innovation as "high" or "very high". Only 12 principals rated their district superintendents' receptivity to educational innovation as "below average" or "low". None of the principals gave their district superintendents a "very low" rating on this variable.

TABLE 12

PRINCIPALS' RATINGS OF DISTRICT SUPERINTENDENTS' RECEPTIVITY
TO EDUCATIONAL INNOVATION

Category	Rating	Frequency	Per cent
1	Very low	0	0.0
2	Low	4	2.2
3	Below average	8	4.5
4	Average	46	25.9
5	Above Average	33	18.5
6	High	54	30.4
7	Very High	<u>33</u>	<u>18.5</u>
	TOTAL	178	100.0 ⁶⁷

Eighty-seven (48.9 per cent) elementary school principals in the study also rated their school boards' receptivity to educational innovation as "high" or "very high" (Table 13). Twelve principals also perceived their school boards' receptivity to innovation as being "below average", "low", or "very low".

TABLE 13
 PRINCIPALS' RATINGS OF SCHOOL BOARDS' RECEPTIVITY TO
 EDUCATIONAL INNOVATION

Category	Rating	Frequency	Per cent
1	Very low	2	1.1
2	Low	1	0.5
3	Below average	9	5.1
4	Average	32	18.0
5	Above Average	47	26.4
6	High	62	34.8
7	Very High	<u>25</u>	<u>14.1</u>
	TOTAL	178	100.0

Table 14 shows that almost three-quarters (73.3 per cent) of the elementary school principals in the study rated their teachers' receptivity to educational innovation as "above average", "high", or "very high". Three principals perceived their teaching staffs' receptivity to innovation as being "below average" and only one principal rated his staff as "low" on this variable.

TABLE 14
 PRINCIPALS' RATINGS OF TEACHERS' RECEPTIVITY TO
 EDUCATIONAL INNOVATION

Category	Rating	Frequency	Per cent
1	Very low	0	0.0
2	Low	1	0.5
3	Below average	3	1.7
4	Average	43	24.5
5	Above average	64	35.7
6	High	52	29.2
7	Very high	<u>15</u>	<u>8.4</u>
	TOTAL	178	100.0 ⁷²

Analysis of the Data Related to the Hypotheses

The hypotheses were tested by comparing each of the Pearson Product-Moment Correlations with the values required for statistical significance. The hypotheses were considered supported when correlation coefficients equalled or exceeded the .05 level of confidence ($r = \pm .148$). The intercorrelations of the variables are presented in Table 15.

TABLE 15

INTERCORRELATION MATRIX: (N = 178)

	1	2	3	4	5	6	7	8
1. Receptivity toward educational innovation	1.000	.384**	-.136 [†]	-.112	.113	-.102	.115	-.280**
2. Open-mindedness		1.000	.014	.032	.181*	.032	.115	-.185*
3. Age			1.000	.858**	.176*	.529**	.456**	.398**
4. Number of years of experience				1.000	.203**	.488**	.518**	.448**
5. Amount of formal education					1.000	.100	.537**	-.080
6. Recency of formal education						1.000	.390**	.157*
7. Level of income							1.000	.083
8. Length of time in present position								1.000
9. Origin of office								
10. Size of school Number of classrooms								
11. Subject specialty								
12. Inservice education								
13. Perception of district Supt. receptivity to innovation								
14. Perception of school boards' receptivity to innovation								
15. Perception of teaching staffs' receptivity to innovation								

* Significant at .05 level of confidence = $\pm .148$ ** Significant at .01 level of confidence = $\pm .193$ [†] Significant at .05 level of confidence (one-tailed test)

TABLE 15 (cont'd)
 INTERCORRELATION MATRIX: (N = 178)

	9	10	11	12	13	14	15
1. Receptivity toward educational innovation	.042	.077	-.011	.268**	.007	-.012	.240**
2. Open-mindedness	-.068	.065	.024	.081	.025	.142	.247**
3. Age	-.143	.372**	-.074	-.107	.109	-.068	-.150*
4. Number of years of experience	-.117	.439**	-.042	-.074	.110	-.120	-.104
5. Amount of formal education	-.125	.197**	-.163*	.109	-.036	.065	.092
6. Recency of formal education	-.090	.206**	-.078	-.164*	-.017	-.065	.006
7. Level of income	-.140	.585**	-.104	.020	.097	.109	.141
8. Length of time in present position	-.037	.182*	-.069	-.157*	-.076	-.120	-.125
9. Origin of office	1.000	-.042	.009	.122	-.027	-.008	-.022
10. Size of school Number of classrooms		1.000	-.085	.130	.106	.061	.040
11. Subject specialty			1.000	-.004	.085	-.031	.052
12. Inservice education				1.000	-.056	.049	.047
13. Perception of district Supt. receptivity to innovation					1.000	.490**	.082
14. Perception of school boards' receptivity to innovation						1.000	.253**
15. Perception of teaching staffs' receptivity to innovation							1.000

* Significant at .05 level of confidence = $\pm .148$

** Significant at .01 level of confidence = $\pm .193$

† Significant at .05 level of confidence (one-tailed test)

Certain information about Table 15 should be kept in mind as the reader considers the findings. It should be noted that a high score on the Educational Innovation Attitude Scale indicates high receptivity towards educational innovation. Therefore, the variable was labeled "receptivity to educational innovation".

The label "open-mindedness" is a result of the method developed for scoring the Dogmatism Scale. A high score on the Dogmatism Scale indicates an open-minded belief system.

Although the distributions of some of the variables were not normal, namely, size of schools, years of experience, tenure, level of formal education and recency of formal education, the correlation technique seemed to be applicable in light of a comment by Hays (1963, p. 510), that it is not necessary to make any assumptions about the form of the distribution of variables in order to employ correlation and regression statistics.

Two of the variables were dichotomous: origin of office and subject specialty. The data concerning these variables were coded. The variable "subject specialty" was coded so that an elementary school principal with an academic background in the sciences received a score of one, and one with a background in the humanities was assigned a score of two. An appointment as principal from outside the district was scored as one for "origin of office", while an appointment from within the district was scored as two. Seventy-seven per cent of the elementary school principals in British Columbia were promoted to their present positions from within the district. In other words, less than

one-quarter of the principals were appointed to their positions from outside the district.

Multiple regression analysis was used to determine which of the variables could best predict receptivity to innovation, and also account for the greatest amount of variance in the receptivity to educational innovation variable.

The intercorrelation matrix (Table 15) shows that five of the variables have a correlation with receptivity to educational innovation that are significant. They are, in order of the degree of correlation: open-mindedness, length of time in present position, inservice education, perception of teaching staffs' receptivity to innovation, and age.

Hypothesis one, which states that receptivity to educational innovation by elementary school principals will be significantly correlated with open-mindedness, was supported by this study. The correlation coefficient of .384 is significant beyond the .01 level of confidence. Elementary school principals who express relatively high receptivity towards educational innovation tend to have open-minded belief systems.

Hypothesis two, which states that there will be a significant negative relationship between receptiveness to educational innovation and age of the elementary school principal, was supported. Using a one-tailed test, a negative correlation of .136 is significant beyond the .05 level of confidence. As predicted, the younger elementary school principals tended to be more receptive to educational innovation

than their older counterparts.

Hypothesis three, which states that there will be a significant negative relationship between receptiveness to educational innovation and experience of the elementary school principal, was not supported by this study. A negative correlation of .112 is below the .148 needed at the .05 level of significance.

Null hypothesis four, stating there is no significant relationship between receptiveness to educational innovation and amount of formal education, cannot be rejected. A positive correlation of .113 is below the .148 needed at the .05 level of confidence. This indicates that there is no reason to believe that there is a direct relationship between an elementary school principal's level of formal education and his receptiveness to educational innovation.

Hypothesis five, which states that there will be a significant negative correlation between receptiveness to educational innovation and the elementary school principal's recency of formal education, was not supported by this study. A negative correlation of .102 is below the .148 required. Principals, therefore, who have had their formal training more recently appear to be no more receptive to educational innovation than those who received their training less recently.

Null hypothesis six, stating there is no significant relationship between receptiveness to educational innovation and level of income of the elementary school principal, cannot be rejected. A correlation of .115 is below the .148 needed at the .05 level of significance. This finding suggests that there is no reason to believe that there

is a direct relationship between an elementary school principal's salary and his receptivity to educational innovation.

Hypothesis seven, which states that there will be a significant negative correlation between receptiveness to educational innovation and the elementary school principal's tenure of office, was supported. The negative correlation of .280 is significant beyond the .01 level of confidence. As predicted, this finding indicates that, generally, the fewer years elementary school principals have been in their present positions, the more receptive they are to educational innovation.

Null hypothesis eight, stating there is no significant relationship between receptiveness to educational innovation and origin of office, cannot be rejected. A positive correlation of .042 is below the value required for significance. This indicates that there is no reason to suspect that there is any appreciable difference in receptiveness to educational innovation between those who were appointed to their positions from within their school districts, and those who were appointed to their positions from outside their present school districts.

Additional Findings

As shown in Table 15, other variables that were not found to be significantly related to receptiveness to educational innovation were: size of school, subject specialty, perception of receptivity of district superintendents to educational innovation, and perception of receptivity of school boards to educational innovation.

The matrix shows, also, several additional significant relationships among the variables. "Inservice education" of the elementary school principals is positively correlated with "receptivity to educational innovation". The correlation of .268 is significant beyond the .01 level of confidence. Elementary school principals who attend more conferences or visit more schools for the purpose of gaining information about educational practices tend to be more receptive to educational innovation, than those principals who attend conferences or visit schools less frequently.

"Receptivity to innovation by teachers" as perceived by elementary school principals is positively correlated with the principals' receptivity to educational innovation. The correlation of .240 is significant beyond the .01 level of confidence. This means that principals whose score indicates they are receptive to educational innovation also rated their teaching staffs as receptive to educational innovation.

In addition to correlating significantly with "receptivity toward educational innovation", "tenure" was found to have a significant negative correlation with "open-mindedness". The correlation of $-.185$ is significant at the .05 level of confidence. Elementary school principals who tend to be open-minded have been in their present positions less time than those who appear to be more closed-minded. The variable "open-mindedness" is positively correlated with the elementary school principals' perception of their "teachers' receptivity to innovation". The correlation of .247 is significant beyond the .01 level of confidence. Principals who tend to be open-

minded appear to perceive their teachers as more receptive to educational innovation.

Finally, elementary school principals who perceived their superintendents as receptive to educational innovation, also perceived their school boards as receptive to innovation. The positive correlation of .490 is significant beyond the .01 level of confidence.

A stepwise multiple regression analysis was applied to the fifteen predictor variables to determine which of them accounted for the greatest amount of variation in the criterion variable, "receptivity to educational innovation". Table 16 lists the five variables which are the most significant predictors of "receptivity to educational innovation" according to their order of entry in the regression analysis.

TABLE 16

RESULTS OF MULTIPLE REGRESSION ANALYSIS USING FOURTEEN
PREDICTOR VARIABLES WITH RECEPTIVITY TO INNOVATION AS
CRITERION VARIABLE (N = 178)

Order of Entry in Regression Analysis	Name of Variable	100R ²	Computed R
1	Open-mindedness	14.93	.386
2	Inservice education	20.64	.454
3	Length of time in present position	23.93	.489
4	Perception of teaching staffs' receptivity to educational innovation	25.60	.506
5	Perception of school boards' receptivity to educational innovation.	27.19	.521

These variables accounted for 27.19 per cent of the variance in the criterion variable, "receptivity to educational innovation". It can be noted that when "open-mindedness" and "inservice education" are both used as predictors the correlation is increased from .386 to .454. This is significant beyond the .01 probability level. Adding the other variables increases the correlation significantly in a statistical sense, but the additional amount of variance is relatively small.

Discussion and Conclusions

The findings and observations noted herewith apply only to the attitudes of the elementary school principals of schools comprising six classrooms or more in the province of British Columbia.

There is evidence to suggest that a significant and positive relationship does exist between receptiveness to educational innovation and open-mindedness. As expected, elementary school principals who had open-minded belief systems as defined by this study, indicated a positive attitude toward educational innovation. This suggests that elementary school principals with open-minded belief systems tend to view educational innovations on their merits without being influenced by irrelevant factors. A possible explanation for this relationship is that open-minded elementary school principals may have a more rational belief system and may be more flexible and secure in their attitude towards change, than those principals who tend to be closed-minded.

A significant relationship existed, using a one-tailed test, between receptiveness to educational innovation and age of the

elementary school principal. As expected, younger elementary school principals tended to be more receptive to educational innovation than their older counterparts. The data in Table 15 give possible reasons for this relationship. Younger elementary school principals have shorter tenure in their present positions, have fewer years of experience, and have received formal training more recently. This information suggests that they may be less influenced by the structure of the educational system, and therefore, more receptive to change than their older colleagues.

A significant relationship was found between receptiveness to educational innovation and the elementary school principal's tenure of office. As expected elementary school principals with shorter tenure tended to be more receptive to educational innovation. A possible explanation for this finding is that principals who have been in their present positions for a shorter period of time appear to be more open-minded and younger than principals who have longer tenure.

No significant relationship was found between receptiveness to educational innovation and experience of the elementary school principal. Contrary to expectations, principals with less experience were no more receptive to educational innovation than those with more years of experience. A possible explanation for this finding is that the relationship between experience and receptivity to change may be a much more complex matter than some educational administrators and writers have thought and perhaps it is the nature of the experience which should be taken into account. Another possibility, is that the

impact of experience on a principal's receptivity to innovation is likely to be quite different in school districts where there is a strong opposition against change contrasted with districts which strongly approve of innovative ideas and practices. It would seem there is a need for further investigation of the relationship of experience with the elementary school principal's receptivity to innovation.

No significant relationship was found between receptiveness to educational innovation and level of formal education of the elementary school principal. Principals with more formal education do not appear to be more receptive to educational innovation than those with less formal education. A possible explanation for this finding is that only fifteen principals had less than a bachelor's degree. It would appear that the difference between a bachelor's and a master's degree in terms of amount of formal education is not large enough to account for a difference in a principal's receptivity to educational innovation.

Contrary to expectations, no significant relationship was found between receptiveness to educational innovation and recency of the elementary school principal's formal education. Principals who have taken formal education more recently appear to be no more receptive to educational innovation than those who received formal education less recently. The majority of elementary school principals, however, have undertaken formal education studies recently. This is a result, perhaps, of the increase in competition for administrative positions. That is, as competition has increased for job opportunities in recent years, so has pressure increased, it seems, for educators to obtain

more formal education qualifications.

No significant relationship was found between receptiveness to educational innovation and level of income of the elementary school principal. The data in Table 15 offer possible reasons for lack of relationship between these two variables. Salary is significantly related to years of experience, amount of formal education and recency of formal education. This is understandable, since salaries in British Columbia are determined, basically, by a principal's formal education qualifications and experience.

No significant relationship was found between receptiveness to educational innovation and origin of office. There appeared to be no difference in the professed attitude toward educational innovation of those who became elementary school principals from within the school district, and those who came to their present positions from outside the district. A possible explanation for this finding might be that the data do not indicate the mobility of principals within the district before appointment to their present positions and it is possible that mobility within a district provides as much variety of experience as mobility between school districts. It would seem there is need for further investigation into the relationship between origin of office and the position of elementary school principal.

Additional Findings

In addition to examining statistical relationships of the eight hypotheses, other responses from the Personal Data Sheet were correlated with receptiveness to educational innovation.

It was found that elementary school principals expressing a favorable attitude toward educational innovation tended to have more inservice education than those who were less receptive to educational innovation. This finding has possible implications for school boards who wish to introduce innovations into their districts. Of possible value to them may be provision of opportunities for principals to attend conferences and to visit schools for the purpose of discussing educational practices with their colleagues.

Another finding was that elementary school principals who were more receptive to educational innovation also appear to rate their teaching staffs as more receptive. This finding is important in suggesting the direct influence the principal may exert by encouraging an atmosphere where the staff as a whole supports innovation.

Receptiveness to educational innovation was not significantly related to: size of school, subject specialty, perception of district superintendents' receptivity to educational innovation, and perception of school boards' receptivity to educational innovation.

A multiple regression analysis (Table 16) showed the combination of open-mindedness and inservice education to be significant beyond the .01 level. This finding suggests that school boards, interested in selecting an elementary school principal receptive to educational innovation, should possibly look for a person with an open-minded belief system and highly interested in professional development opportunities. This combination appears to be the best predictor of receptiveness to educational innovation.

Recommendations for Further Research

The following recommendations for further research are made:

1. This study found that elementary school principals with open-minded belief systems tended to be more receptive to educational innovation than principals with close-minded belief systems. Perhaps other personality constructs should be investigated for possible relationships with educational innovation.
2. This study was concerned with the attitudes of elementary school principals. It would be interesting to determine the extent of the relationship between professed attitudes toward educational innovation and operative innovations.
3. The personal characteristics of age and length of time in present position were found to be significantly related to receptiveness to educational innovation. It is recommended that other personal characteristics be studied for possible relationships. For example, to what extent do values of elementary school principals shape their attitudes toward educational innovation?
4. The differences found in the elementary school principals' attitudes toward educational innovation suggest possible further research. For example, do elementary school principals who are highly receptive to educational innovation exhibit distinct leadership styles?
5. While this study was concerned with elementary school principals, it would be interesting to know if similar relationships exist among secondary school principals.

6. Experience was not found to be significantly related to receptiveness to educational innovation. It is recommended, however, that this characteristic be studied further to determine what effect the variety or nature of the principal's experience has on his attitude to innovation.

Summary

This study analyzed the relationships between the belief systems and personal characteristics of one hundred and seventy-eight elementary school principals in British Columbia and their attitudes toward educational innovation.

The results of the study supported:

1. Hypothesis one, that elementary school principals with open-minded belief systems tend to be more receptive to educational innovation than principals with close-minded belief systems.
2. Hypothesis two, which suggests that elementary school principals who are younger tend to be more receptive to educational innovation than those who are older.
3. Hypothesis seven, which suggests that elementary principals who have been in their present positions fewer years are more receptive to educational innovation than principals who have longer tenure.

Hypotheses three, four, five, six and eight were not supported by this study. Possible explanations for the non-significance of these hypotheses were suggested.

✓ In conclusion, this study suggested some evidence to indicate

that the elementary school principal who is receptive to innovation tends to be relatively open-minded in his beliefs, young, and probably has been in his present position only a few years. He tends to be "professionally-oriented" having attended several conferences and visited a number of schools for the purpose of obtaining information about recent practices in education. Also, he tends to perceive his teachers as receptive to educational innovations.

REFERENCES

- Brickell, H.M. State organization for educational change: A case study and a proposal. In M. Miles (Ed.), Innovation in Education. New York: Teachers' College, Columbia University, 1964.
- Bridges, E.M. & Reynolds, L.B. Teacher receptivity to change. Administrator's Notebook, 1968, 16(6).
- Carlson, R.O. Adoption of Educational Innovations. Eugene, Oregon: Center for the Advanced Study of Educational Administration, University of Oregon, 1965.
- Chester, M., Schmuck, R. & Lippitt, R. The principal's role in facilitating innovation. Theory Into Practice, 1963, 2, 269-277.
- Croft, J.C. Dogmatism and perceptions of leader behavior. Educational Administration Quarterly, 1965, 61-71.
- Crossfield, R. The changing world of the principal as some Kansas principals see it. National Elementary Principal, 1968, 47, 12-13.
- Culbertson, J. Change in the schools. Theory Into Practice, 1963, 2, 249-251.
- Demeter, L.H. Accelerating the local use of improved educational practices in school systems. (Doctoral dissertation, Columbia University,) 1951.
- Downey, L.W. Statesmanship in education. In L. Downey (Ed.), The Skills of an Effective Principal. Edmonton, Alberta. The Policy Committee, Leadership Course for School Principals, 1961, 126-136.
- Ehrlich, H.J. Dogmatism and learning. Journal of Abnormal and Social Psychology, 1961, 62, 148-149.
- Ehrlich, H.J. & Lee, D. Dogmatism, learning, and resistance to change: A review and a new paradigm. Psychological Bulletin, 1969, 71(4), 249-260.
- Griffiths, D.E. Administrative theory and change in organizations. In M. Miles (Ed.), Innovation in Education. New York: Teachers' College, Columbia University, 1964.
- Griffiths, D.E. The elementary school principal and change in the school system. Theory Into Practice, 1963, 2, 278-284.
- Hays, W.L. Statistics for Psychologists. New York: Holt, Rinehart and Winston, 1963.

- Heller, M.P. The administrator and innovation. American School Board Journal, 1968, 155, 19.
- Holdaway, E.A. An analysis of some factors affecting innovation in elementary schools. (Master's thesis, University of Alberta), Edmonton, Alberta: University Microfilms, 1966.
- Holdaway, E.A. Change and the principal. Canadian Administrator, 1967, 6(4), 13-16.
- Ingram, E.J. Creating readiness in the staff. Organization: A Means to Improved Instruction, In L.W. Downey et al. (Ed.). Edmonton: The Policy Committee, Leadership Course for School Principals, 1962, 138-156.
- Kemp, C.G. Is an open mind necessary: Research evidence. In W.G. Hack et al. (Ed.). Educational Administration. Boston: Allyn and Bacon, 1965.
- Kemp, C.G. & Kohler, E.W. Suitability of the Rokeach Dogmatism Scale for high-school use. Journal of Experimental Education, 1965, 33, 383-385.
- Korn, H.A. & Giddan, N.S. Scoring methods and construct validity of the Dogmatism Scale. Educational and Psychological Measurement, 1964, 24, 867-874.
- Lippitt, R., Watson, J., & Westley, B. The dynamics of planned change. New York: Harcourt, Brace and World, 1958.
- Marion, G.B. A study of selected factors related to the innovativeness of elementary school principals. (Master's thesis, University of Alberta), Edmonton, Alberta: University Microfilms, 1966.
- Mason, W.S. & Gross, N. Intra-occupational prestige differentiation: the school superintendency. American Sociological Review, 1955, 20, 326-331.
- Miklos, E. The principal as educational leader. Manitoba Teacher, 1965, 44, 30-31.
- Miles, M.B. Innovation in education. New York: Teachers' College, Columbia University, 1964.
- Mort, P.R. Studies in educational innovation from the Institute of Administrative Research: an overview. In M. Miles (ed.), Innovation in Education. New York: Teachers' College, Columbia University, 1964.
- Owens, R.G. Organizational behavior in schools. Englewood Cliffs, New Jersey: Prentice-Hall, 1970.

- Punch, K.F. Reducing the number of predictor variables: Principal dogmatism and school organizational structure. Journal of Experimental Education, 1969, 38(2), 76-80.
- Pyron, B. Rejection of avant-garde art and the need for simple order. Journal of Psychology, 1966, 63, 159-178.
- Pyron, B. & Lambert, P. The generality of simplicity-complexity of social perception in a high school population. Journal of Psychology, 1967, 66, 265-273.
- Ramer, B. The relationship of belief systems and personal characteristics of chief school administrators and attitudes toward educational innovation. (Doctoral dissertation, University of New York) Ann Arbor, Mich.: University Microfilms, 1968. No. 29 (3-A).
- Robinson, N. Effective use of professional talent. British Columbia School Trustee, 1969, 25(1), 18-23.
- Rogers, E.M. What are innovators like? Theory Into Practice, 1963, 2(5), 252-256.
- Rokeach, M. The open and closed mind. New York: Basic Books, 1960.
- Seeger, J.E. Principals as innovators. In E. Miklos and H.E. Farquhar (Ed.), The Principal and Educational Change. Alberta Principals' Leadership Course. Edmonton: The University of Alberta, 1966.
- Troldahl, V. & Powell, S.I. A short-form dogmatism scale for use in field studies. Social Forces, 1965, 44, 211-215.
- Vauchiana, R.B., Strauss, P.S., & Schiffman, D.C. Personality correlates on dogmatism. Journal of Counseling and Clinical Psychology, 1968, 32, 83-85.
- Zaguna, S.V. & Kelly, M.A. The resistance of the closed mind to a novel and complex audio-visual experience. Journal of Social Psychology, 1966, 70, 123-131.
- Ziolkowski, E.H. Practices in the supervision of instruction. Canadian Administrator, 1965, 5, 1-4.

APPENDICES

APPENDIX A

DOGMATISM SCALE - SHORT FORM

Mark each statement in the left margin according to how much you agree or disagree with it. Please mark everyone. Write 1,2,3,5,6, or 7, depending on how you feel in each case. You will notice 4 has been omitted.

- | | |
|-------------------------|----------------------------|
| 1: I AGREE VERY MUCH | 5: I DISAGREE A LITTLE |
| 2: I AGREE ON THE WHOLE | 6: I DISAGREE ON THE WHOLE |
| 3: I AGREE A LITTLE | 7: I DISAGREE VERY MUCH |

- _____ 1. The United States and Russia have just about nothing in common.
- _____ 2. Man on his own is a helpless and miserable creature.
- _____ 3. It is better to be a dead hero than to be a live coward.
- _____ 4. The highest form of government is a democracy and the highest form of democracy is a government run by those who are most intelligent.
- _____ 5. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.
- _____ 6. Most people just don't give a "dam" for others.
- _____ 7. I'd like it if I could find someone who would tell me how to solve my personal problems.
- _____ 8. In a discussion I often find it necessary to repeat myself several times to make sure I am being understood.
- _____ 9. While I don't like to admit this even to myself, my secret ambition is to become a great man, like Einstein, or Beethoven, or Shakespeare.
- _____ 10. The main thing in life is for a person to want to do something important.
- _____ 11. It is only when a person devotes himself to an ideal or cause that life becomes meaningful.
- _____ 12. Of all the different philosophies which exist in this world there is probably only one which is correct.
- _____ 13. To compromise with our political opponents is dangerous because it usually leads to betrayal of our own side.

APPENDIX A (cont'd)

- _____ 14. There are two kinds of people in this world: those who are for the truth and those who are against the truth.
- _____ 15. My blood boils whenever a person stubbornly refuses to admit He's wrong.
- _____ 16. Most of the ideas which get printed nowadays aren't worth the paper they are printed on.
- _____ 17. In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.
- _____ 18. It is often desirable to reserve judgment about what's going on until one has had a chance to hear the opinions of those one respects.
- _____ 19. The present is all too often full of unhappiness. It is only the future that counts.
- _____ 20. Most people just don't know what's good for them.

APPENDIX B

EDUCATIONAL INNOVATION ATTITUDE SCALE
(Initial Form)

Write 1,2,3,5,6,7, depending on how you feel in each case. You will notice 4 has been omitted.

- | | |
|-------------------------|----------------------------|
| 1: I AGREE VERY MUCH | 5: I DISAGREE A LITTLE |
| 2: I AGREE ON THE WHOLE | 6: I DISAGREE ON THE WHOLE |
| 3: I AGREE A LITTLE | 7: I DISAGREE VERY MUCH |

- ___ 1: I would rather spend money for new books for the library than for teaching machines.
- ___ 2. I feel it is better to schedule courses by hand, than to have it done by a computer.
- ___ 3. Team Teaching causes too many problems.
- ___ 4. Half-day of school and a half-day of work arrangement (work-study) is a poor program, as there are still many dropouts.
- ___ 5. Although Modern Math is being instituted in many schools, I think the traditional approach of teaching Math is best.
- ___ 6. I feel the new flexible type of school building encourages disorganization and confusion.
- ___ 7. The Language Laboratory is not necessary to the teaching of a foreign language.
- ___ 8. I believe that Communism should not be taught in the schools.
- ___ 9. I believe teacher-aides are a luxury to give teachers more free periods.
- ___ 10. Allowing students to progress, academically, as fast as they are able is not a wise policy.
- ___ 11. Modular scheduling is too confusing for the students and the teachers.
- ___ 12. Reading specialists are not essential to a good school program.
- ___ 13. The junior high (7-8-9) has proved to be satisfactory, and no change in organizational pattern is necessary.
- ___ 14. I don't see the value of school psychologists.

APPENDIX B (cont'd)

- ___ 15. ✓ Even though Educational Television has some value, I feel it requires too many changes to install as part of the school program.
- ___ 16. There is no need for guidance-counselors in the elementary school, as the teacher knows the students and parents, and can handle their problems.
- ___ 17. ✓ Local public schools generally do not need the help of the Federal government.
- ___ 18. ✓ I believe that the elementary school is too early to start teaching a foreign language.
- ___ 19. ✓ Audio-visual materials are used by many teachers as an excuse "not to teach".
- ___ 20. ✓ I believe that little educational value is gained by the school system when teachers attend conferences.
- ___ 21. Guidance-counselors should teach a certain number of classes every week in order to remain knowledgeable about the problems involved in classroom teaching.
- ___ 22. Summer school should only be for those students who failed during the regular school year.
- ___ 23. Schools should not give psychological tests, because the results are too difficult to interpret.
- ___ 24. ✓ The numerical grade system is the best method of reporting achievement to the parents.
- ___ 25. In my opinion teachers who join a teacher's union are unprofessional.
- ___ 26. ✓ It is undemocratic to group students by ability, as it deprives them of learning to get along with all people.
- ___ 27. I feel the college-bound students should be given an edge over non-college bound students when figuring out the senior class rankings.
- ___ 28. ✓ I feel there is not much to be gained from classes held on Saturday, as the teachers and students need that time off.
- ___ 29. I believe that sabbatical leave is disruptive to the school system, and is of questionable value.

APPENDIX B (cont'd)

- ___ 30. I believe it is not the job of the school to teach about venereal disease.
- ___ 31. ✓ It is difficult to see the value of kindergarten, as it is mostly a play period.
- ___ 32. I feel the value of using data processing for report cards is questionable, as it gives up the personal touch between school and parent.
- ___ 33. I feel the Initial Teaching Alphabet must undergo much experimentation before I would consider installing it as part of the curriculum.
- ___ 34. Adult Education courses in the public schools are not necessary, as the people can receive these courses from various community colleges.
- ___ 35. ✓ The "Head Start" programs are unfair, as they exclude those students who are not culturally deprived.
- ___ 36. ✓ Although carpeting has some positive points in its favor, it doesn't belong in the schools.
- ___ 37. It is difficult for me to see how sex education can be taught in the public schools.
- ___ 38. The Advanced Placement Program should not be part of the school curriculum as it benefits a small number of students.
- ___ 39. The teaching of driver education is a "frill" and should not be taught during the school day.
- ___ 40. I feel there are many places a student can learn to swim, therefore, it is not necessary to have swimming taught in the school.
- ___ 41. I can't see any value in having Negro teachers on my staff.
- ___ 42. ✓ The neighborhood school concept is the very foundation that the public schools are based on, and should not be tampered with.
- ___ 43. I believe that Negro students should not be bused into suburban schools.
- ___ 44. Generally, women are not suited to be principals.
- ___ 45. ✓ I feel that teacher effectiveness is weakened by granting them tenure.

APPENDIX B (cont'd)

- ___ 46. Although it is a safety feature, I feel installing two-way radios in school buses is not worth the expense.
- ___ 47. It is improper for teachers to have direct salary negotiations with Boards of Education.
- ___ 48. The use of teaching machines undermines the importance of the classroom teacher.

APPENDIX C

EDUCATIONAL INNOVATION ATTITUDE SCALE

Write 1,2,3,5,6 or 7, depending on how you feel in each case. You will notice 4 has been omitted.

- | | |
|-------------------------|----------------------------|
| 1: I AGREE VERY MUCH | 5: I DISAGREE A LITTLE |
| 2: I AGREE ON THE WHOLE | 6: I DISAGREE ON THE WHOLE |
| 3: I AGREE A LITTLE | 7: I DISAGREE VERY MUCH |

- ___ 1. I would rather spend money for new books for the library than for teaching machines.
- ___ 2. Although Modern Math is being instituted in many schools, I think the traditional approach of teaching Math is best.
- ___ 3. The Language Laboratory is not necessary to the teaching of a foreign language.
- ___ 4. I believe the schools should not teach about Communism.
- ___ 5. Modular scheduling is too confusing for the students and the teachers.
- ___ 6. Reading specialists are not essential to a good school program.
- ___ 7. I feel the new flexible type of school building encourages disorganization and confusion.
- ___ 8. There is no need for guidance-counselors in the elementary school, as the teacher knows the students and parents, and can handle the problem.
- ___ 9. Local Public schools generally do not need the help of the Federal Government.
- ___ 10. I believe that the elementary school is too early to start teaching a foreign language.
- ___ 11. The letter grade system is the best method of reporting achievement to the parents.
- ___ 12. I feel the Initial Teaching Alphabet must undergo much more experimentation before I would consider installing it as part of the curriculum.
- ___ 13. I believe teacher-aides are a luxury to give teachers more free periods.

APPENDIX C (cont'd)

- 14. I feel the value of using data processing for report cards is questionable, as it gives up the personal touch between school and parent.
- 15. I don't see the value of school psychologists.
- 16. It is difficult for me to see how sex education can be taught in the public schools.
- 17. Allowing students to progress, academically, as fast as they are able is not a wise policy.
- 18. Generally, women are not suited to be principals.
- 19. I feel that teacher effectiveness is weakened by granting them tenure.
- 20. Although carpeting has some positive points in its favor, it doesn't belong in the schools.

APPENDIX D

PERSONAL DATA

Please check (✓) the appropriate answer or indicate the answer by the appropriate word(s).

1. Sex: Male _____
Female _____
2. Age to nearest birthday

21 - 25 _____	41 - 45 _____
26 - 30 _____	46 - 50 _____
31 - 35 _____	51 - 55 _____
36 - 40 _____	56 - 60 _____
	60 and over _____
3. Present salary: \$ _____
4. Present school enrolment _____
5. Number of classrooms _____
6. Total number of years of teaching and administrative experience to September, 1969 _____
7. How long have you been in your present position as principal? _____
8. For how many years have you been a principal? _____
9. Were you a teacher in this school district prior to becoming a principal? _____
10. Were you a teacher in this school immediately preceding your appointment as principal? _____ (If NO, what was your position? _____)
11. How many hours do you teach each week?

a. nil _____	f. 9 or 10 _____
b. 1 or 2 _____	g. 11 or 12 _____
c. 3 or 4 _____	h. 13 or 14 _____
d. 5 or 6 _____	i. 15 or 16 _____
e. 7 or 8 _____	j. more than 16 _____
12. Which subject are you most interested in teaching? _____
13. What was your major academic subject at university? _____
14. Level of university education:
 - a. less than a bachelor's degree _____
 - b. one bachelor's degree _____

APPENDIX D (cont'd)

14. c. two bachelor's degrees _____
 d. graduate study beyond a bachelor's degree _____
 e. master's degree _____
 f. graduate study beyond a master's degree _____
15. What was the most recent year in which you received formal education?
 (a) On a part-time basis, i.e. summer school or evening or correspondence courses, 19__
 (b) On a full-time or resident basis, 19__.
16. How many conferences or workshops have you attended in the past year?

17. ✓ How many schools have you visited in the past six months to observe new educational practices? _____
18. Please list the professional journals you subscribe to? _____

19. How do you rate the receptiveness of your District Superintendent to new ideas in education?
 a. very high _____ e. below average _____
 b. high _____ f. low _____
 c. above average _____ g. very low _____
 d. average _____
20. How do you rate the receptiveness of your Board of School Trustees to new ideas in education?
 a. very high _____ e. below average _____
 b. high _____ f. low _____
 c. above average _____ g. very low _____
 d. average _____
21. ✓ How do you rate the receptiveness of your teaching staff to new ideas in education?
 a. very high _____ e. below average _____
 b. high _____ f. low _____
 c. above average _____ g. very low _____
 d. average _____

APPENDIX E

COVERING LETTER

UNIVERSITY OF VICTORIA
VICTORIA, BRITISH COLUMBIA

Faculty of Education

Dear Colleague,

You are being asked, as one of a selected group of school administrators, to participate in a research project concerning the position of elementary school principal.

I am a principal on leave-of-absence doing graduate work at the University of Victoria. Although I am keenly aware of the many demands placed upon your time, I'm sure that you will agree that research is important for everyone concerned with the improvement of education, and, with this in mind, I solicit your aid.

Enclosed is a forty-item questionnaire, a personal data sheet, and a self-addressed, stamped envelope. Will you please complete the items at your earliest convenience? The questionnaire should take approximately twenty minutes. Although the envelopes are coded, the data will be programmed to guarantee you total anonymity.

Because of the relatively small sample selected for this study, it is essential to receive completed information from each respondent.

Your cooperation is greatly appreciated.

Yours very truly,

P.L. Punt.

Dr. H. Farquhar,
Faculty Advisor.

APPENDIX F

FOLLOW-UP LETTER

Faculty of Education,
University of Victoria,
Victoria, B.C., Canada.
March 5, 1970.

Dear Colleague:

In February a research instrument concerned with the opinions of elementary school principals was sent to you and certain other principals of British Columbia. To date an excellent response has been obtained, but several principals have not replied. It is desirable to get a complete response from all districts to which questionnaires were sent, thus making the study results as accurate as possible.

If you have not yet returned the questionnaire, it would assist the study greatly if you would do so as soon as possible. An extra copy is enclosed in case you did not receive the original one.

Thank you for your assistance.

Yours truly,

P.L. Punt.

Enclosure.

VITA

Surname: PUNT Given Names: PHILIP LAURENCE

Place of Birth: VICTORIA, B.C. Date of Birth: SEPTEMBER 22, 1935

Educational Institutions Attended, with Dates of Entering and Leaving:

<u>VICTORIA NORMAL SCHOOL</u>	<u>1955 to 1956</u>
<u>VICTORIA COLLEGE -- Part-time</u>	<u>1957 to 1959</u>
<u>VICTORIA COLLEGE</u>	<u>1960 to 1961</u>
<u>UNIVERSITY OF VICTORIA -- Part-time</u>	<u>1963 to 1968</u>
<u>UNIVERSITY OF VICTORIA</u>	<u>1969 to 1970</u>

Degrees, Diplomas, Etc., Awarded, with Dates and Names of Institutions:

<u>B. Ed. (4)</u>	<u>1961</u>	<u>University of British Columbia</u>
<u>_____</u>	<u>_____</u>	<u>_____</u>
<u>_____</u>	<u>_____</u>	<u>_____</u>
<u>_____</u>	<u>_____</u>	<u>_____</u>

Honors and Awards:

Publications:

Punt, P.L. Closing the credibility gap. B.C. Teacher, 1970, 49(4),
160-162.
