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A Study to Determine the Relationship between Learning Style, Leadership Style, and Leadership Effectiveness

Thomas J. Madden
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A STUDY TO DETERMINE THE RELATIONSHIP BETWEEN LEARNING STYLE,
LEADERSHIP STYLE, AND LEADER EFFECTIVENESS

by

Thomas John Madden

A Dissertation Submitted in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education in the Graduate School
of Loyola University of Chicago

May

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A STUDY TO DETERMINE THE RELATIONSHIP BETWEEN LEARNING STYLE, LEADERSHIP
STYLE, AND LEADER EFFECTIVENESS

ABSTRACT

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Statement of the problem

The purpose of this study was to determine whether a relationship exists between leadership style, learning style, and leader effectiveness.

Procedures and methodology

Data were collected from high school principals. Data which identified learning style were collected using Kolb's Learning Style Inventory. Data which identified leadership style and leader effectiveness were collected using Hersey and Blanchard's LEAD-Self.

Results

The study produced the following results:

1. Most high school principals are Style 2 leaders (sellers) with a sizable number being Style 3 leaders (participators).
2. More high school principals are convergers than any other learning style. The vast majority of these convergers had undergraduate majors which were not typical of convergers.
3. Style 3 leaders are more effective than Style 2 leaders among accommodators and convergers, but neither leadership style is more effective than the other among divergers and assimilators. Although no particular learning style is more effective than any other learning style among Style 3 leaders, there are significant differences between learning styles among Style 2 leaders.

Conclusions

The conclusions and recommendations of this study focus on the recruiting and selecting function which school districts perform in placing people in positions of leadership. School districts should conduct diagnoses to determine the learning and leadership characteristics of the leaders that are needed and will be needed in the future. Such diagnoses will increase the likelihood of avoiding the problems associated with improperly matching individuals and specific positions.

ACKNOWLEDGEMENTS

No major study is the result of one persons' efforts, but rather a synthesis of the contributions of many. Although these contributions are many, the contributions of a few key individuals merit special notice.

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VITA

The author, Thomas John Madden, is the son of John Madden and Frances Madden. He was born May 1, 1947, in Joliet, Illinois.

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CHAPTER I
STATEMENT OF THE PROBLEM

Introduction

A study of leadership often begins with a broad, yet typical definition of leadership. This broad definition can be narrowed by giving meaning to the terms "effective" and "professional." Effectiveness is often used to mean getting results. The term "professional" can be interpreted to mean acting in ways which are deliberate, consciously chosen and guided by frames of reference. These "frames of reference" can be represented by many of the management models that have been constructed by theorists over the years. This study attempted to determine whether there exists a relationship between professionalism and effectiveness. In other words, it attempted to determine whether leaders who use these management models or others like them tend to be more effective than leaders who do not think and act in these ways.

The literature indicated a relationship between the way people think and the way they learn. This study sought to determine whether there exists a relationship between a person's learning style and that person's leadership style. If it can be determined that learning style and leadership style are related, it could be possible to ensure better placement of leaders in specific situations requiring specific styles of learning and leadership. This implication represents one of many potential findings that could result from this study.

Purpose of the Study

The purpose of this study was to determine whether a relationship exists between thinking and acting as manifested through learning and leadership styles of high school principals.

Research Questions

Studies in leadership and learning styles reveal relationships which further our understanding of these two areas and their relationship with each other. These studies could be useful in identifying leaders and properly placing them in leadership positions. Learning style would seem to relate closely to a way of thinking while leadership style would relate closely to a way of acting. It seems reasonable to suspect, however, that a relationship exists between thinking and acting. This study sought to determine the existence and nature of such relationships. The specific goal of this study was to answer the following five research questions about high school principals:

1. Is there a relationship between learning style and leader effectiveness?
2. Is there a relationship between leadership style and learning style?
3. Is there a relationship between the variables of leader effectiveness, learning style and leadership style?

4. What leadership style, if any, is prevalent among high school principals?
5. What learning style, if any, is prevalent among high school principals?

Procedure

Chapter III will present a detailed account of the methodology of this study. However, a brief description of the procedures used is appropriate at this point. Data were collected from principals of public and private high schools from a sample of northern Illinois counties. These counties consisted of urban, suburban and rural communities with varying unemployment rates. The variety of socio-economic conditions helped to ensure that such conditions would not bias the results of the study. Data were collected which identified the learning style, leadership style, and adaptability rating of each principal. This adaptability rating was used throughout the study as a measure of leader effectiveness. This rating was based on the principal's ability to select the most appropriate responses to a set of given leadership situations. Other data were collected on such general factors as age, years of experience, number of assistants, and undergraduate major. These data provided the basis on which the research questions were investigated.

Limitations

By determining what kind of data was needed and from whom, certain constraints were placed on this study. These constraints provided the structure

which was needed in the study, but these constraints also placed limitations on the study. This study focused on principals of high schools located in northern Illinois. This focus limited the study in terms of the leadership position, the type of organization and the geographic location being investigated. These limitations prevent the findings from being generalized to elementary and middle school principals, to high school principals in other localities, to educational administrative positions other than the principalship, and to leadership positions outside the field of education. In addition, the leader effectiveness data which were collected presented the principal's perspective in choosing from among given alternatives for given situations. These data represented the principals' perspective, not the perspective of their superiors or subordinates. These data also focused on the ability to choose from among given alternatives, not the ability to respond appropriately in the absence of clear alternatives. The limitations of this study, as mentioned earlier, provided the necessary structure for this study. These limitations also created several opportunities for additional study which will be presented in Chapter V.

Consequential nature of the study

Some leaders act in deliberate, calculated ways while others act more intuitively. Is one type of leader more effective than the other? This observation and question provided the initial stimulus for this study. As leadership and leadership styles were investigated, questions emerged regarding the relationships which might exist between thinking and acting. These questions led to an analysis of learning styles and experiential

learning theory. These initial ponderings eventually took the form of the five research questions which provided the basis for this study.

This study contributed to the field of education in several ways. The study broadened the existing theoretical bases for the areas of leadership and learning styles. Data were contributed to these areas regarding prevalent style of learning and leadership among high school principals. Data were also contributed to these areas regarding relationships between learning styles, leadership styles, and leader effectiveness. These general contributions should assist those students of leadership and learning in attaining a broader and more comprehensive understanding of these two areas of study. The contributions of this study should also benefit those researchers seeking to design theoretical models which explain learning and leadership.

In addition to the contributions this study made to the theoretical bases of learning and leadership, it made contributions that practitioners can put to immediate use. These contributions focus primarily on the placement of individuals in positions of leadership. The results of this study can prove very beneficial in identifying potential leaders and screening a pool of candidates for specific positions. This sorting and selecting contribution of this study can increase the likelihood of proper matches between specific individuals and specific leadership positions.

CHAPTER II
REVIEW OF THE LITERATURE

Leadership has been studied and analyzed countless times from varied viewpoints. These studies and analyses have focused on traits, personal styles, ways of getting the job done or ways to insure job satisfaction, and many other items that attempt to predict, define, describe, or evaluate leadership. A review of the literature points only to one ingredient that could be considered essential to being a leader; namely, there must be followers. Beyond this point, the study of leadership quickly becomes too complex for many. If this growth in complexity can be held in check, a productive study of leadership can be undertaken. To do so, there is a need to address certain basic questions. What is leadership? Who can be called a leader? What makes leadership effective? What makes leadership professional?

In this chapter a working definition of professionally effective leadership will be developed. Following a general formulation of this definition, attention will be focused on professional leadership. It will be shown that professional leadership requires a framework for leadership. A general discussion regarding the need for a framework for leadership will lead to a specific discussion of one such framework. The discussion on professional leadership will be followed by a discussion on effective leadership with a special focus on the resolution of conflicts. These sections relating to professionally effective leadership will comprise approximately the first half of this chapter. The second half of the Chapter will focus on learning styles and use experiential learning theory

as its base. Chapter II will provide a theoretical foundation for thinking (learning styles) and acting (leadership styles, a foundation which was essential in seeking to investigate the relationship between these two variables.

Professionally Effective Leadership

Hersey and Blanchard (1977), in synthesizing the work of many management writers, defined leadership as the "process of influencing the activities of an individual or a group in efforts toward goal achievement in a given situation." A key term in this definition is "influencing." It is also worth noting that goal achievement is tied to specific situations, that the originator of the goal is unimportant for the definition, and that goal "achievement" is not an essential element of leadership. If, according to this definition, a goal exists within a particular situation and someone can get another person or a group to put forth an effort directed at the achievement of that goal, leadership is present. Accepting this definition of leadership forces us to further accept the fact that each of us is a leader from time to time. Whether as parent, teacher, scout master, coach, committee chairperson or seminar participant, each of us has the potential for and the opportunities to demonstrate leadership. The frequency with which we tap our potential and take advantage of opportunities for leadership determines the "frequency" of our behaving as leaders. The question of how well we do as leaders still remains. Even though this question goes beyond the scope of the definition of leadership presented by Hersey and Blanchard, it must necessarily be asked and addressed if a study of leadership is

to be fruitful. It is appropriate at this point to move away from the general definition of leadership and consider a definition of effective leadership.

Effectiveness in leadership

Drucker (1967) states that being an effective leader does not mean doing things right, it means doing the right things. He assigns the term "efficient" to describe doing things correctly. Effectiveness is different. It calls for decision-making capability, diagnostic skills, originality and soundness in judgment and action. When faced with a new and different problem, one that was not anticipated in policy making and for which procedures do not exist, the effective leader does the right thing. Hamachek (1978) describes the successful leader as being "successful in the sense of enduring, of getting the job done, and of leaving people with a reasonably good feeling about (the leader) and themselves." Hamacheck is referring to more than just action, he is referring to action with results. The original definition of leadership is necessarily being narrowed to focus attention on what can be called effective leadership. By pulling together what has been said about leadership in general, effectiveness, and successful leadership, the following statement is proposed as a definition of effective leadership. Effective leadership is the process of influencing the activities of an individual or a group in efforts that result in the achievement of a goal or a portion of that goal. The relationship between task orientation and follower orientation, two dimensions that are used in the vast majority of studies on leadership, is being deliberately left out of the proposed definition of effective leadership. The role of

these two dimensions will become clear later in the chapter.

A key element of the proposed definition for effective leadership is the term "result." The definers of leadership are content to stop at the point of influencing efforts "toward" goal achievement. The definition of effective leadership includes the additional condition of actually achieving the goal or a portion thereof. The efficient leader referred to by Drucker will be effective at times, but the effectiveness will be based on the good fortune that the procedures available happen to match the situation with which the leader is dealing. Drucker's effective leader, on the other hand, will do the "right" thing, that which will result in the achievement of the goal or a part of the goal, even and especially in the absence of policy or procedure.

Some questions still remain. What determines what the "right" thing is? How is it that task orientation and follower orientation determine appropriate action? Can a leader be effective intuitively?

Professionalism in leadership

Carter (1973) has developed a model for classroom control called Assertive Discipline. This model proposes a system that can be used by teachers to maintain a controlled classroom atmosphere. In presenting his Assertive Discipline workshops, Carter admits that many of the techniques suggested in his model have been used intuitively by teachers for years. The only problem, according to Carter, is that basing action on intuition is "totally unprofessional." Carter's statement suggests that most, if not all, individuals would have to admit that at least some of their action is unprofessional, even in their "professional"

lives. Using Canter's statement as a base, it is proposed that professional action is action that is deliberate and guided by a frame of reference. Consider situations in which someone influences a group to work toward and achieve a goal. According to the definition proposed in this paper, this person demonstrates effective leadership. Let us suppose, in a first case, that this leader acted without conscious reasoning. This leader is not "less" effective, but can be described as being intuitively effective in this case. Let us suppose, in a second case, that this leader deliberately and consciously chooses an action and bases the choice on some framework that is used for guidance. This leader is not "more" effective, but now can be described as being professionally effective. With the preliminary comments on the terms "effective" and "professional" as a foundation, it is now appropriate to present the definition which will serve as the basis for this study. Professionally effective leadership is the process of influencing the activities of an individual or a group in efforts that result in the achievement of a goal or a portion of that goal, and influencing those activities through action which is deliberately and consciously chosen and guided by a frame of reference. Questions still remain. What makes one professionally effective leader "better" than another? What helps build the framework on which action is based?

A Framework for Professional Leadership

Heller (1980) has said that leadership must be action oriented. He states that a leader should have a philosophy, a psychology, and a theory of leadership. The resulting framework directs action. The quality of the framework's components will determine whether one can take the step from

action to professional effectiveness, and the quality of that effectiveness will be directly related to the consistency of the actions. Krolikowski (1981) has said that "moral reasoning gives us a framework from which to act; it gives consistency to our arguments and decisions." The moral reasoning to which Krolikowski is referring relates directly to the philosophical component in Heller's framework. Identifying and accepting a moral philosophy then, is one of the leader's first responsibilities. Identifying and accepting a psychology is one of the other initial responsibilities. There is a difference between these two components. Boyce and Jensen (1978) stated that "whereas the moral philosopher asks, 'Why should people believe or do something?' the psychologist more commonly asks, 'What do people believe or how do they act?' This question makes the psychologist's task different from the philosopher's. The essential difference is that the moral philosopher's work is prescriptive while the psychologist's is largely descriptive." Heller (1980) emphasized that the leader need not feel required to develop a philosophy and a psychology. "There are many good ones around," stated Heller, "pick one that fits!" The leader should investigate and analyze that which is already available in the likelihood of finding a philosophy and a psychology which feels comfortable. Out of this philosophical base and psychological base, a theory of leadership should take form. Here again, the leader need not develop the theory. The leader should again investigate and analyze the available theories in the likelihood of finding one that not only complements his or her philosophical and psychological bases, but one which, again feels comfortable. Once the leader reaches the point of either having developed or adopted a philosophy, a psychology and a theory of leadership, the necessary framework to guide

action and develop professional effectiveness is established. The framework, as well as its components, has been described thus far in very general terms, but even though this framework is general, having some type of studied framework to help guide action would appeal to most people. There is a problem, however. Most, if not all, leaders do not start with a philosophy and a psychology which supports a theory that guides action. Most, if not all, leaders find themselves 'thrust into leadership positions requiring immediate action. They act, but often without the benefit of a proper foundation which would allow and indeed cause them to become professionally effective. In order to take the one step from action to professional effectiveness, leaders will, in most cases, find it necessary to first take a step backward. It is essential that this backing up before moving forward idea is recognized by anyone who is working toward developing as a leader. It is essential because the building of a framework which will produce consistency of action and lead to professionally effective leadership is only possible with a framework consisting of a philosophy, a psychology, and a theory.

The three stages of leadership development

The process of leadership development offered in this chapter begins with the development or adoption of a philosophy, a psychology, and a theory. This framework directs action, the quality of which determines

effectiveness. This process (Figure 2.1) can be referred to as the "three stages of leadership development." Most, if not all, leaders find themselves in stage II upon their initial call to leadership. Few, if any, got to stage III by progressing initially from stage I of the sequence. For these leaders, stage III may never be realized if they hope to progress to that stage without a proper and essential foundation. Therefore, in order to move forward, a leader will have to first move backward.

Earlier in this chapter, reference was made to the Boyce and Jensen position that "the moral philosopher's work is prescriptive while the psychologist's is largely descriptive." Because of this difference, there is no need to believe that a leader's philosophy necessarily determines his psychology. According to Hamacheck (1978), "self-concept theory and research have taught us that people tend to behave in remarkably consistent

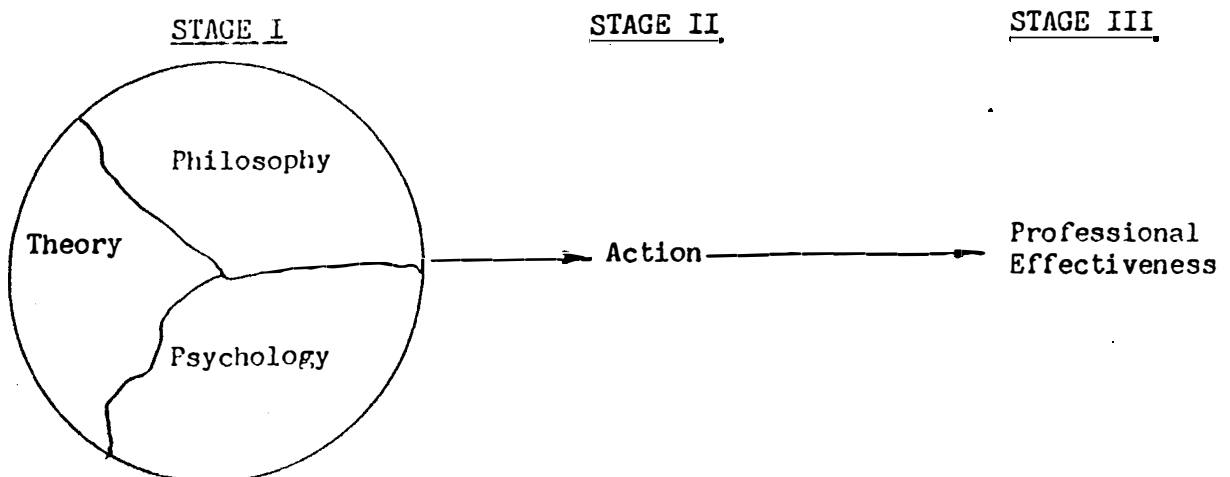


Figure 2.1 The three stages of leadership development

and uniform ways...which enables us to be reasonably predictable to ourselves and others on a day-to-day basis." One implication of this statement is that if someone knows ahead of time what the conditions of a situation will be, that person can predict with some degree of accuracy not only his or her behavior but the behavior of others. Another implication is that if a certain behavior is desired, it can be caused by controlling the conditions of a situation. The leader, in searching for a psychological base for his or her framework, needs to consider various questions. To what degree and under what conditions can the behavior of individuals be predicted? In what ways can individuals be motivated? Regarding followers, to what extent should a leader maintain control and to what extent should he or she allow "nature to take its course?" Answers to these questions will undoubtedly reflect the leader's philosophical values. Because of the influence of values on the answers to these questions, the leader should turn to the work of various individuals.

Maslow (1954) has stated that the needs we all have as human beings are arranged in a hierarchy, and to satisfy the needs at any but the most basic level, lower level needs must be at least partially satisfied. Were a leader to accept the teachings of Maslow, the leader would have to have the diagnostic skills necessary to determine the level at which a follower or group of followers finds itself at any particular time. The leader would also need to know those things which can be used as satisfiers. Herzberg (1966) and his Motivation/Hygiene Theory provides assistance at this point. Herzberg has stated that satisfiers and dissatisfiers are not on a continuum. In other words, the absence of a satisfier will not cause dissatisfaction, it will only prevent satisfaction. Likewise,

the absence of a dissatisfier will prevent dissatisfaction but will not bring on a sense of satisfaction. McGregor's (1960) Theories X and Y identified two strikingly different sets of assumptions regarding the nature of man. By identifying with one of those two theories, a leader will be taking a big step toward self understanding and how he or she perceives followers. Machiavelli's (1952 Ed.) advice in The Prince provides a sharp contrast with Gordon's (1977) advice in Leader Effectiveness Training. Machiavelli suggests that a leader needs to maintain tight, bold, and at times ruthless control over followers. Gordon, on the other hand, suggests that a leader needs to establish and maintain a caring and humanistic approach if he or she hopes to maximize not only the efforts of followers but also their feelings of self-worth. There are other authors and other theories, but the point is that an individual interested in developing as a leader needs a framework with a psychological component, and there is much in the way of available resources to help the leader in this search for a psychology.

A moral philosophy adds strength to a leader's convictions and consistency to a leader's actions. A psychology provides a guide for planning strategy and interrelating with followers. The meshing of these two components will determine a theory of leadership, a theory which can be used to direct the actions of a leader. Such a theory will need to address the leader's dual concern for productivity and job satisfaction of followers. The theory will also need to recognize that while a specific style of leadership is appropriate for one given situation, that style may be inappropriate in a different situation. Here again, much research has been done and many theories exist, and the responsibility

of the leader is to study that which is available and settle upon one which complements his or her philosophical and psychological bases.

Situational leadership theory

As mentioned earlier in this chapter, leadership styles, characteristics of "good" leaders, and conditions relating to "effective" leadership are common topics of study and discourse. Is there one best style to use in all situations? There is probably not one such style. Should leaders just "be themselves," whatever styles that view may imply? Again, one would think not. A leader must have a repertoire of styles and be able to appropriately choose and use the one style called for by the situation. A theory of leadership should provide the guidance needed by the leader at this point. Such guidance has been provided by Hersey and Blanchard (1977) in their Situational Leadership Theory. Although other theories are available, Situational Leadership provides a specific example through which the need for a theory of leadership can be illustrated. In this theory, the situation is diagnosed in terms of the maturity level of the follower(s), and this maturity level dictates the managerial style to be used. The maturity level is determined by the following components:

1. Achievement Motivation - Is the group able to set and achieve goals?
2. Responsibility - Is the group willing and able to assume responsibility?
3. Education/Experience - Has the group received training to do the task or had experience doing it?

An essential point to remember is that the maturity level has to be determined in relation to the specific task. Most groups will range

from a low maturity level regarding some tasks to a high level regarding others. The leader must keep this fact in mind to avoid stereotyping the followers as being "locked in" at a specific maturity level for all tasks. Hersey and Blanchard have developed a model for Situational Leadership (Figure 2.2). This model consists of two dimensions, task (directive) behavior and relationship (supportive) behavior. At first glance, these two dimensions may imply a predisposition on the part of the leader to emphasize one, the other, both or neither. To infer this predisposition may invite misinterpretation. These two dimensions should be interpreted in terms of how "concerned" the leader needs to be regarding

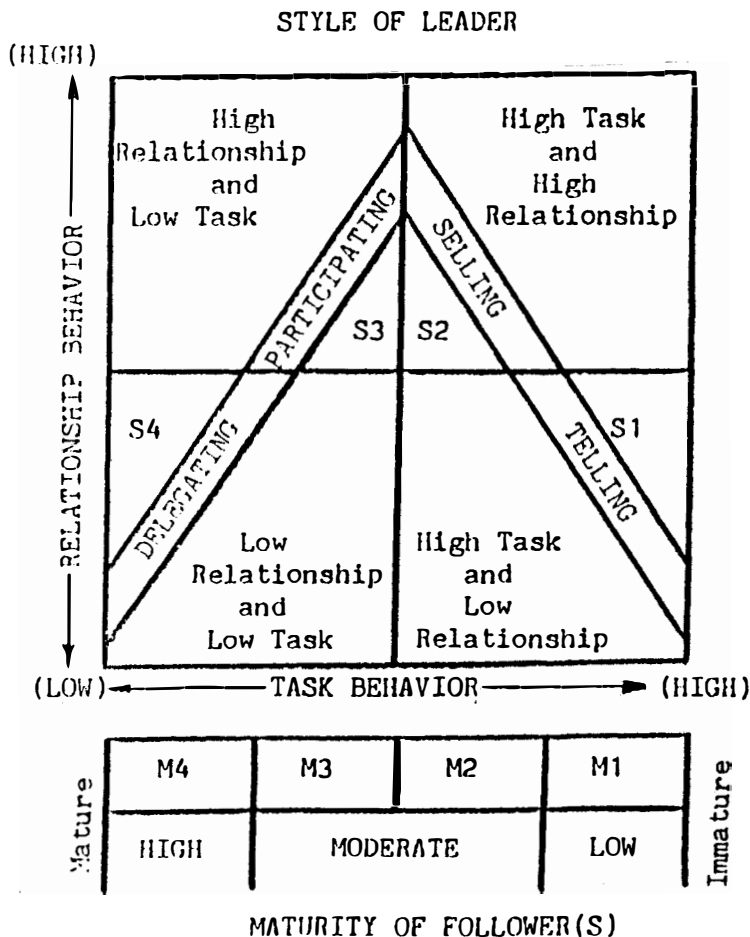


Figure 2.2 The situational leadership model

each. To illustrate, let us refer to Figure 2.2. If a leader determines that the maturity level of a group is low (M1), that leader needs to be highly concerned (High Task) about getting the job done. A low maturity level implies that the group, as it relates to the specific task, has little ability to set and achieve goals on its own, is unable or unwilling to assume responsibility, and has little or no training or experience with respect to the particular task. These conditions explain the leader's concern about getting the task accomplished. For these same reasons, the leader's relationship (Low Relationship) with the group is of little or no concern to him or her with regard to this particular task. The leader identifies this condition as a Situation One (S1), the type of situation that calls for a leadership style (Telling) characterized by the leader giving the orders, not asking for input or feedback from the followers, and not being too concerned about how the orders affect the followers. To illustrate further, assume that a leader has a task similar to tasks that have been successfully accomplished by the group in the past. The leader knows that the group is highly capable of successfully accomplishing the present task and that his or her function should be one of participation and support. The leader determines the maturity level of the group, as it relates to the specific task, to be moderate to high (M3). The leader does not have to be very concerned about the group being able to accomplish the task (Low Task), but he or she does need to be concerned with providing the needed support to the group (High Relationship) as they work. The leader identifies this condition as a Situation Three (S3) and properly employs a Participating style of leadership.

The preceding illustrations were intended more as a demonstration of how a theory of leadership can be used to guide a leader's behavior than as an endorsement for Situational Leadership Theory. A leader has to realize that success or failure may very well be determined by the approaches he or she chooses to use with followers. A leader's actions become consistently effective when guided by a theory of leadership supported by philosophical and psychological bases.

Summary

This section began with the general concept of leadership. This concept was narrowed into a concept called effective leadership which, in turn, was narrowed into a final form termed professionally effective leadership. Professionally effective leadership was defined as the process of influencing the activities of an individual or a group in efforts that result in the achievement of a goal or a portion of that goal, and influencing those activities through action which is deliberately and consciously chosen and guided by a frame of reference. This section went on to propose a process for leadership development. The proposal maintained that in order for a leader to become professionally effective, actions as a leader need to become consistently effective. This state can only occur for a leader who has a sound framework that is used to guide action. Such a framework consists of a philosophical base and a psychological base, and these bases complement and support a theory of leadership. The process, then, begins with the adoption of a philosophy, a psychology, and a theory of leadership. The resulting framework is used

as a guide for action, and the quality of the components of that framework determines the effectiveness of that action.

The concept of leadership is, indeed, a bit more complex than simply having followers; however, it need not be too complex to pursue. A systematic study of leadership, its potential and its foundation, is both possible and potentially fruitful. It is also a must for individuals who are genuinely interested in their own development from being simply leaders to becoming a professionally effective leaders.

A Basis for Effective Leadership

Leadership is at the same time fascinating and complex. A thorough and comprehensive study of the subject would be an enormous undertaking, but one of potentially great value. However, it is a mistake for potential leaders to wait until they have a thorough and comprehensive understanding of leadership before engaging in leadership behavior. Further, it is a mistake for potential leaders to over-analyze situations or wait until all the data are in prior to their own action. Such mind sets prevent or at least seriously inhibit leader behavior which produces intended results. This condition has been described by some as the "paralysis of analysis" while others tell us that "all the data will never be in." But even if it were possible to gather all the relevant facts, time constraints often force people in leadership positions to act before such a gathering of facts can be completed. Those people must be willing to accept the fact that their decisions will not be as effective in producing desired results as might be the case with complete

information and unlimited time. Those decisions can, however, be as effective as possible given the constraints of time and knowledge. Rawls (1951), recognized this problem of determining when it is time to put the analysis of a case to rest and make a determination regarding it. With respect to moral reasoning, he has said that there are often too many diverse factors which can be considered relevant. He has stated that a good reason is whatever a competent person judges it to be in a reflective moment. What implication does this statement have to today's leaders? It quite plainly suggests that they can make effective decisions without waiting for all the facts. But it also demands that these leaders be competent and capable of reflecting. It is a mistake to make the thorough and comprehensive study of leadership a prior condition to acting as a leader, a mistake leading to either ineffective action or inaction altogether. However, it should also be stated that leader action which is prior to some study of leadership is equally inadvisable. The potential leader needs to analyze leadership to determine essential components, study an individual component to the point of being able to apply it in practice, apply the understanding of the component in actual practice, and reflect upon it and its application for purposes of modification. As the potential leader becomes comfortable in the use of a particular component of leadership, his attention can be turned toward another component. This component by component approach to the study of leadership has certain advantages. It is manageable and thus an especially attractive approach for today's busy executives. But it also allows the potential leader to build a base of competence

and establish frames of reference on which to base reflections. Rawls (1951) stated that these two conditions are necessary to produce good reasons. These two conditions are also necessary to produce effective leadership.

Efficiency and effectiveness

As mentioned earlier in this chapter, Drucker has distinguished between the terms effective and efficient. He has stated that efficient means doing things right, while effective means doing the right thing. For example, let us assume that an institution's policy states that the use of the facility by outside groups is requested in the following manner:

1. A Facility Request Form is completed by a representative of the group making the request.
2. The request form is submitted to the Vice President in charge of Plant Management and Scheduling.
3. The Vice President rules on the request.

Assume that the Vice President's assistant receives a request for the use of the institution's conference room. The assistant explains the process to the person making the request, sends a Facility Request Form to that person, and also sends a return envelope so that the request may be mailed to the Vice President. The right way of handling this type of request was outlined in company policy, and the assistant followed the policy in handling the inquiry. The assistant did "the thing right" by following policy and consequently in Drucker's terms, acted

efficiently. Let us now look at an illustration of effectiveness. A manager responsible for supervising twenty workers received reports from ten of them that cash had been taken from their lockers over the past two weeks. The amounts on these reports totaled \$100. Upon arriving to work one morning, the manager found an envelope that had apparently been slipped under the door of his office. The envelope contained \$50 in cash with an anonymous note. The note was an admission of the thefts that had taken place during the two week period and an apology. The manager had \$50 which had allegedly been stolen from his crew, and he had reports from ten members of that crew that money totaling \$100 had been stolen from them. There was no company policy which came anywhere near addressing this type of situation. The manager decided to return the \$50, on a prorated basis, to the ten workers who had reported cash loses during the two week period. His decision was well-received by the workers who were happy to recover at least part of their loses. Policy was not available to guide the manager, but in spite of this absence of a guide he did "the right thing" and acted, using Drucker's term, effectively.

The first example in the preceding paragraph was intended to illustrate Drucker's meaning of the term effecient. Efficiency, according to Drucker, means doing things right, correctly, properly, according to policy. The term implies that certain situations have been anticipated and that plans for addressing these situations have been established. The efficient leader simply applies these plans at the proper times and in the proper ways. This type of application of plans is what the Vice President's assistant did in the first example. Effectiveness, on the other hand and

according to Drucker, means doing the right thing, creating a good solution, fashioning a good and new product. This term implies creative problem solving. Effective leaders create good solutions (do the right thing) to new and different problems. Such was the case with the manager in the second example of the preceding paragraph. The distinction between effective and efficient is central to understanding the content of this chapter.

Effective leadership for conflict resolution

In an earlier section of this chapter, the following definition was proposed:

Professionally effective leadership is the process of influencing the activities of an individual or a group in efforts that result in the achievement of a goal or a portion of that goal, and influencing those activities through action which is deliberately and consciously chosen and guided by a frame of reference.

The term "professionally" was used to describe action which was deliberately and consciously chosen and guided by a frame of reference. Hersey and Blanchard's Situational Leadership Theory was offered as an example of a frame of reference which could be used to guide the action of a leader and make those actions deliberate. The term "effective" was defined by Drucker (1967) as doing the right thing. The focus of that earlier section was on the "professional" aspect of the proposed definition. This part of the chapter will focus on the "effective" aspect of the definition.

Consider the foundation from which an institution is administered to be a platform made of slats. Each slat represents the institution's

response to an experienced or anticipated problem or need. All the slats taken together represent the laws, rules, procedures, and policies of the institution. Since all possible contingencies could not be anticipated, these slats are not butted against each other. Some problems or needs are not yet foreseen, while others would require a unique, but as yet unrealized, combination of the existing slats. These problems or needs are the ones which slip between the slats and fall through the platform. Drucker defined efficiency as doing things right. The efficient leader gets results, but he works only on the platform by following the policies and procedures which have already been determined and which address anticipated problems and needs. The effective leader also gets results by working on the platform, but in addition he works below the platform by making the right decisions regarding those matters which slip through, those which were not anticipated and for which policies are not formulated. Richards (1971) distinguished between conventional rules and principles of action, principles of action being those that would be adopted by a reasonable and moral person. Likewise, Rawls (1955) divided rules into two types, summary and practice. Conventional or summary rules are based on past decisions made under similar circumstances. Principles of action or practice rules, on the other hand, define a practice to be followed when confronted with new and different situations. With summary rules the cases come before the rules. With practice rules however, the reverse is true. The slats of the platform from which our institution is being administered are made of conventional or summary rules, and these rules provide the only guidance that the efficient leader chooses to use.

In the absence of rules of this type, the effective leader needs a frame of reference from which to reflect on new and different situations, a frame of reference which will guide him toward making the right decisions. This frame of reference will be made of principles of action. The objective of this section is to develop a frame of reference based on Rawl's (1971) Theory of Justice, a frame of reference which can be used as a guide for analyzing problems that fall between the slats and making just determinations regarding those problems. In particular, this section will focus on conflicts between individuals, conflicts among groups of individuals, and conflicts that individuals have with institutional policies.

Consider again the platform from which an institution is administered. This platform represents the institution's conception of justice. Given that all institutions exist in a condition of moderate scarcity, our institution's conception of justice may not fit its concept of justice as well as would be desired. In this light the institution's conception of justice may be unsatisfactory, but nevertheless adequate given the condition of moderate scarcity. Hence, gaps exist between the slats. This leader accepts the reality of the situation, but not the permanence of it. The effective leader continually monitors the institution's conception of justice and its concept of justice, and makes adjustments to bring the two as close together as possible.

According to Rawls (1971), just institutions are formed for the mutual benefit of its members. The institution must be administered in a manner which is mutually beneficial, or it must at least be allowed to develop to that point. As long as the members accept the benefits of

cooperation, Rawls (1964) stated that they are obligated to abide by the laws of the institution, they may violate only those laws which are unjust "enough" and they may at times be obligated to abide by unjust laws because of the greater demand of justice. The actual practice there will quite obviously be many opportunities for conflict. The requirement of needing to be mutually beneficial serves as a useful criteria by which rules, regulations, procedures, and policies are established, implemented, and evaluated. The goal, however, of the institution is stability. The institution must be able to stand the test of time, for being mutually beneficial implies being mutually beneficial for all of the institution's members regardless of their positions or the time during which they occupy those positions.

Today's leader is often called upon to mediate in conflict situations requiring decisions. These conflicts may be between individuals, groups of individuals, or individuals and institutional policy. Rawls (1951) described decision making as an inductive process. It involves generalizing a specific fact into the universe to which it belongs, and it requires of the effective leader some guide for doing so. Sugarman and Kirp (1975) maintained that if someone could discern a general moral principle from observed behavior, the method of decision making becomes secondary. Drucker (1967) stated that decisions are made necessary because of disagreement. These authors appear to be telling us that disagreement or conflict produces the need for decisions, decision making should begin with the specific and progress to the general, and if such progression leads to a moral principal the task of decision making is simplified.

The conflicts with which today's leader is confronted are the result of disagreements and require decisions for their resolution. The amount of direct leader influence on decision will vary from one situation to another. The professional leader will have a specific frame of reference that will guide his behavior as he leads involved parties toward resolutions of conflicts. This frame of reference serves as a guide for action, a guide for the leader's behavior. The effective leader will also be able to call upon a frame of reference that can be used in decision making. There are several frames of reference that can provide guidance in conflict resolution situations. The guides that have been offered by various writers normally included four general stages: diagnosis of the problem, prescription of a remedy, implementation of the prescribed remedy, and evaluation of the decision. In particular, Gordon (1977) proposed the following guide for use in conflict resolution:

1. Define the problem in terms of needs
2. Brainstorm possible solutions
3. Evaluate the proposed solutions and choose one (or choose more than one if appropriate)
4. Plan the implementation of the chosen solution (Who does What by When)
5. Plan to meet again to evaluate the implementation of the decision and determine whether or not the conflict still exists.

Gordon's model has the general advantage of providing a structure within which conflicts may be resolved. Gordon's model has the added advantage of a built-in constraint to help determine which solutions are to be considered legitimate. The first step of his model directs us to do more than simply "define the problem," it directs us to define the problem in terms of needs. If a conflict exists, at least one of the involved parties is not getting its needs met. By identifying those needs, the appropriateness of the brainstormed solutions will be increased. Also, these identified needs serve as a criteria in evaluating the proposed solutions. Such a procedure is certainly structured and, in a Rawlsian sense, apparently fair, but Resnick (1977) has stated that "fair procedures may result in unjust outcomes." Resnick appears to be advising individuals to temper their enthusiasm about well-conceived procedures and be duly concerned with the substance and outcomes of conflicts. In a similar vein, Rhineland (1974) maintained that one cannot deal with the substantive aspects of cases without due attention to procedural fairness. These two authors are stating that individuals need to be concerned with both procedure and substance in resolving conflicts. Gordon's model, and others like it, will produce decisions; however, without a second set of criteria the quality of those decisions will be less than acceptable to the effective leader. That second set of criteria needs to be based on a frame of reference that will guide the leader in making just decisions. Such a frame of reference is offered by Rawls in his Theory of Justice. Rawls (1971) offered the following as a general conception of justice:

All social primary goods - liberty and opportunity, income and wealth, and the bases of self-respect - are to be distributed equally unless an unequal distribution of any or all of these goods is to the advantage of the least favored.

The drawback of this general conception, as Rawls pointed out, is that it lacks a definite structure. In his theory, Rawls attempted to alleviate this drawback through his two principles of justice and serial ordering. His first principle called for each person "to have an equal right to the most extensive total system of equal basic liberties compatible with a similar system of liberty for all." His second principle called for social and economic inequalities "to be arranged so that they are both:

- (a) attached to offices and positions open to all under conditions of fair equality of opportunity, and
- (b) to the greatest benefit of the least advantaged."

The serial ordering that plays an extremely important role in Rawl's theory requires that the first principle be satisfied prior to the second, and that the first part of the second principle be satisfied prior to its second part. Rawls stated that the serial ordering of the two principles "suggests priority rules which seem to be reasonable enough in many cases" and that "when we come to nonideal theory, we (should) not fall back straightway upon the general conception of justice." Rawls went

on to say that "the ranking of the principles of justice in ideal theory reflects back and guides the application of these principles to nonideal situations. It identifies which limitations need to be dealt with first." The implication here for effective leadership is twofold. If a leader is to base his frame of reference for making just decisions on Rawls, that leader first needs to understand the components of Rawls' theory and then realize that these components are applied in a definite order. Rawls' principles of justice and his priority rules relative to these principles play a crucial and major role in the frame of reference that is being developed as a guide toward effective leadership in conflict resolution. To complete this frame of reference, we again turn to Rawls.

Rawls (1971) stated that a theory of justice has to deal with at least three types of questions relative to judgments that citizens have to make. They must judge the justice of legislation and social policies, they must decide which constitutional arrangements are just for reconciling conflicting opinions of justice, and they must be able to determine the grounds and limits of political duty and obligation. It is this second type of judgment, the one addressing the reconciling of conflicting opinion, to which attention is being directed in this chapter. To aide the search for a guide for effective leadership in conflict resolution, Rawls (1971), himself, presented "a four-stage sequence that clarifies how the principles (of justice) for institutions are to be applied." This sequence was presented by Rawls as a framework to simplify

the application of these two principles. Up to the point at which this framework is introduced, Rawls focused on the original position and the principles of justice that emanate from that position. However, he recognized the need for more in stating "so far I have supposed that once the principles of justice are chosen the parties return to their place in society and henceforth judge their claims on the social system by these principles. But if several intermediate stages are imagined to take place in a definite sequence, this sequence may give us a schema for sorting out the complications that must be faced." Rawls' proposed sequence is as follows:

STAGE I The Original Position

STAGE II The Constitutional Convention

STAGE III The Legislative Stage

STAGE IV The Judicial Stage

The first stage produces the principles of justice. The second stage, under the constraints of these principles, is the stage in which "the constitutional powers of government and the basic rights of citizens" are designed. The intent of this second stage is to "choose the most effective just constitution, the constitution that satisfies the principles of justice and is best calculated to lead to just and effective legislation". The intent is to choose the most effective constitution possible with the knowledge available in the second stage. Rawls has said that once all four stages are understood, a form of reflective equilibrium can be used to move "back and forth

between the stages of the constitutional convention and the legislature" to produce "the best constitution." The constitution lays down limits in addition to those limits laid down by the principles of justice, and it is under these constraints that "proposed bills are judged from the position of a representative legislator" and statutes are established. The actual "application of rules to particular cases by judges and administrators, and the following of rules by citizens generally" is the subject of STAGE IV, the Judicial Stage.

The four-stage sequence that Rawls proposed is presented as a device for applying the principles of justice. Rawls stated that it is essential to keep this fact in mind and not to consider the sequence to be "an account of how constitutional conventions and legislatures actually proceed." He went on to say that "a just constitution is one that rational delegates subject to the restrictions of the second stage would adopt for their society. And similarly just laws and policies are those that would be enacted at the legislative stage. Of course, this test is often indeterminate: it is not always clear which of several constitutions, or economic and social arrangements, would be chosen. But when this is so, justice is to that extent likewise indeterminate. Institutions within the permitted range are equally just...meaning that they could be chosen (since) they are compatible with all the constraints of the theory." These statements point to an indeterminacy in Rawls' theory, but Rawls pointed out that this indeterminacy is not a defect in itself. As a matter of fact, Rawls stated that this indeterminacy

should be expected and that his theory will prove worthwhile "if it defines the range of justice more in accordance with our considered judgments than do existing theories."

Summary

The implication for the leader attempting to effectively resolve conflicts is clear but limited. To be professionally effective, a leader needs to influence the parties involved in the conflict toward resolution of the conflict, and this leader needs to be successful in ensuring that the conflict is at least partially resolved. In addition, the process that this leader follows needs to be consciously chosen and guided by a frame of reference, and the decisions that he or she may inevitably have to make must be consciously guided by a frame of reference. The last part of this statement, the part dealing with decision making, has been the focus of this section. The frame of reference that was offered as a guide for leaders in making decisions was based on Rawls' Theory of Justice. The components of this frame of reference consisted of Rawls' principles of justice, the serial ordering of those principles and their parts, and the four-stage sequence that Rawls gave us as a device for applying the principles. The frame of reference that has been presented in this section is intended as a guide and should satisfy that intent. However, whereas some guides have a built-in process that will lead to some result, this one does not. The same indeterminacy that Rawls observed in his own theory exists in the frame of reference developed in this

section. But just as Rawls pointed out that this indeterminacy does not have to be thought of as a defect of the theory, it likewise does not have to be considered as a defect of the guide for making just decisions. The leader must look on this frame of reference as a tool to assist in analyzing conflicts, weighing alternatives, and maintaining or strengthening the stability of the institution. The leader should not be discouraged by the fact that clearly just decisions will not always be apparent. The leader should, as Rawls noted look upon decision making as an inductive process, a process which starts with the specific and moves to the general. And finally, the leader should remember that, as Rawls told us, "a good reason (decision) is whatever a competent person judges it to be in a reflective moment." The leader's task, then, is to become that competent person capable of reflecting.

Experiential Learning Theory and Learning Styles

In the opening paragraph of the first chapter of his book on Experiential Learning, David Kolb (1984) wrote that "Human beings are unique among all living organisms in that their primary adaptive specialization lies not in some particular physical form or skill or fits in an ecological niche, but rather in identification with the process of adaptation itself-in the process of learning. We are thus the learning species, and our survival depends on our ability to adapt not only in the reactive sense of fitting into the physical and social worlds, but in the proactive sense of creating and shaping those worlds." This process of learning which is based on the ability to adapt to and shape the world around us both characterize and distinguish us as human beings. Adapting to and shaping the world

required humans to interact with the countless situations with which they are presented by the world, and this interaction produces action and often reaction on the part of humans. Do these actions and reactions have a predictable nature? Are they guided by some force within human beings? The answers to these and similar questions appear to lie in the claim that humans are the learning species. How people act in and react to the situations with which they are presented are illustrative of their attempts to adapt to and shape the world, and these attempts are guided by the way people learn. Very generally, the learning process characteristic of human beings is a process of adaptation. That learning process, however, takes different forms and even though that learning process aims toward adaptation, the particular forms that that adaptation may take may be determined by the particular forms that that learning process may take. In this section of the chapter, some of the general, as well as specific, theoretical frameworks relating to learning will be investigated. Experiential Learning Theory will be focused upon as will its function as a foundation for a discussion of learning styles. Finally, topic of learning styles will be addressed along with its possible influence on the way people act and the decisions they make.

An introduction to experiential learning theory

In the development of his Experiential Learning Theory, Kolb distinguished his work from the behavioral theories of learning created by Watson, Hull, Skinner, and others in that experiential learning is based on a different philosophical base from the learning theories of these behaviorists. The epistemological base on which these theories rest contends that there are elements of consciousness which never vary, and

that varying patterns of thought are simply a product of the different combinations and associations of these consistent elements. Experiential Learning Theory, on the other hand, proceeds from a different base. According to Kolb (1984), "Ideas are not fixed and immutable elements of thought but are formed and re-formed through experience. (L)earning is...a process whereby concepts are derived from and continuously modified by experience. No two thoughts are ever the same, since experience always intervenes." This view of learning as an emergent process rather than a final outcome has support. Piaget (1970) considered each act of understanding to be the result of the piecing together and creating processes of assimilation and accommodation. In his statement that "Knowledge is a process, not a product," Bruner (1966) discounted the memorizing of a body of knowledge as the purpose of education. He contended that the purpose of education is to develop skills in the obtaining of knowledge and to stimulate the type of inquiry necessary in this endeavor. This emphasis on inquiry and knowledge as an emergent process is something, according to Friere (1974), without which men cannot be truly human. Friere stated that "Knowledge emerges only through invention and reinvention, through the restless, impatient, continuing, hopeful inquiry men pursue in the world, with the world, and with each other." This daily routine of interacting in the world, with the world, and with each other provides each individual with a base of experiences. Out of these experiences arise expectations. According to Kolb, it is in this interplay between expectation and experience that learning occurs. Along these same lines, the philosopher George Hegel (1953) stated that "Any experience that does not violate expectation is not worthy of the name experience."

The interplay between expectations and experiences has some interesting implications. When a view of learning is overly influenced by theory, expectation will reign over experience risking the possibility of dogmatism and rigidity. In contrast, when a view of learning is overly influenced by events, experience will reign over expectation risking the possibility of the paralysis of insecurity. Pepper (1942) contended that both of these extremes are inadequate foundations for the creation of valid knowledge systems. Pepper proposed that inquiry and learning be guided by what he calls partial skepticism. This view of learning as a dynamic and continuous process grounded in experience and refined through the interplay of experience and expectation has interesting implications in education. This view of learning implies that all learning is actually relearning and that the job of educators is not only to implant new ideas but also to dispose of or modify old ones (Kolb, 1984). This view of learning provides the base on which Experiential Learning Theory rests.

The intellectual origins of experiential learning

The work of Kurt Lewin, John Dewey, and Jean Piaget provided the intellectual origins of experiential learning. From these origins, Kolb is suggested through Experiential Learning Theory a holistic integrative perspective on learning that combines experience, perception, cognition, and behavior. An investigation of the learning models of Lewin, Dewey, and Piaget and their common characteristics will help define the nature of experiential learning.

The Lewin model is presented in a four-stage cycle (see Figure 3.1) representing an integrated process within which learning, change, and growth are facilitated. Lewin's model begins with actual, concrete experience (Lewin 1951). The observations made regarding this experience is reflected upon. Observations and reflections are assimilated into some type of theory from which conclusions, hypotheses, and new implications for action arise. These implications, hypotheses, and conclusions are then tested in actual, concrete experiences. After appropriate modifications are made, these implications, hypotheses, and conclusions will serve as guides in adapting to new experiences. The cyclical nature of this learning models makes these guides subject to continual revision. Also, the nature of each of the four stages (concrete experience, observations and reflections, formation of abstract concepts and generalizations, and testing implications of concepts in new situations) present some interesting conflicts. Stages one and three pit the concrete against the abstract while stages two and four pit reflection against action. Although these conflicts need not be thought of as irresolvable, they do call for a degree of flexibility and adaptability as one moves through the learning cycle.

The cyclical nature of Lewin's model has already been mentioned. In addition, Kolb (1984) commented that "Two aspects of (Lewin's) learning

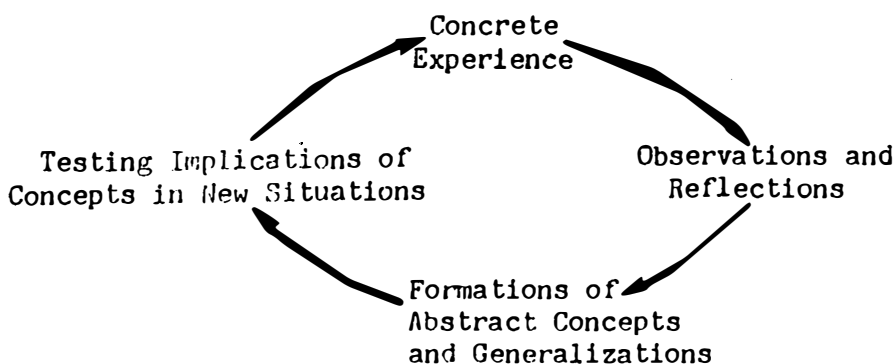


Figure 3.1 The Lewinian Experiential Learning Model

model are particularly noteworthy. First is its emphasis on here-and-now concrete experience to validate and test abstract concepts. Immediate personal experience is the focal point for learning, giving life, texture, and subjective personal meaning to abstract concepts and at the same time providing a concrete, publicly shared reference point for testing the implications and validity of ideas created during the learning process. Second, action research and laboratory training (on which Lewin's model rests) are based on feedback processes (and) this information feedback provides the basis for a continuous process of goal-directed action and evaluation of the consequences of that action." Ineffective feedback processes result in an imbalance between action and reflection. At one extreme, this imbalance results in decisions being made and action being taken in the absence of a proper data base. At the other extreme, this imbalance results in individuals, groups or organizations being so bogged down with data collecting and reflecting that decisions are not being made nor is action being taken. The laboratory method and action research on which the Lewin model is based seeks to integrate these two perspectives through effective feedback processes so that learning may proceed.

John Dewey's model of experiential learning (see Figure 3.2) has

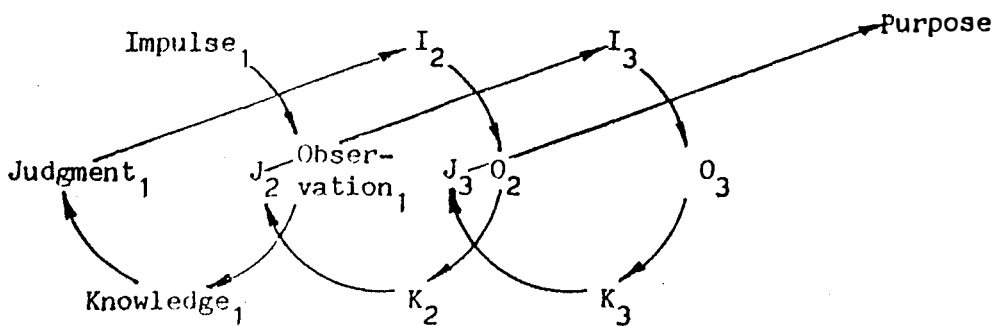


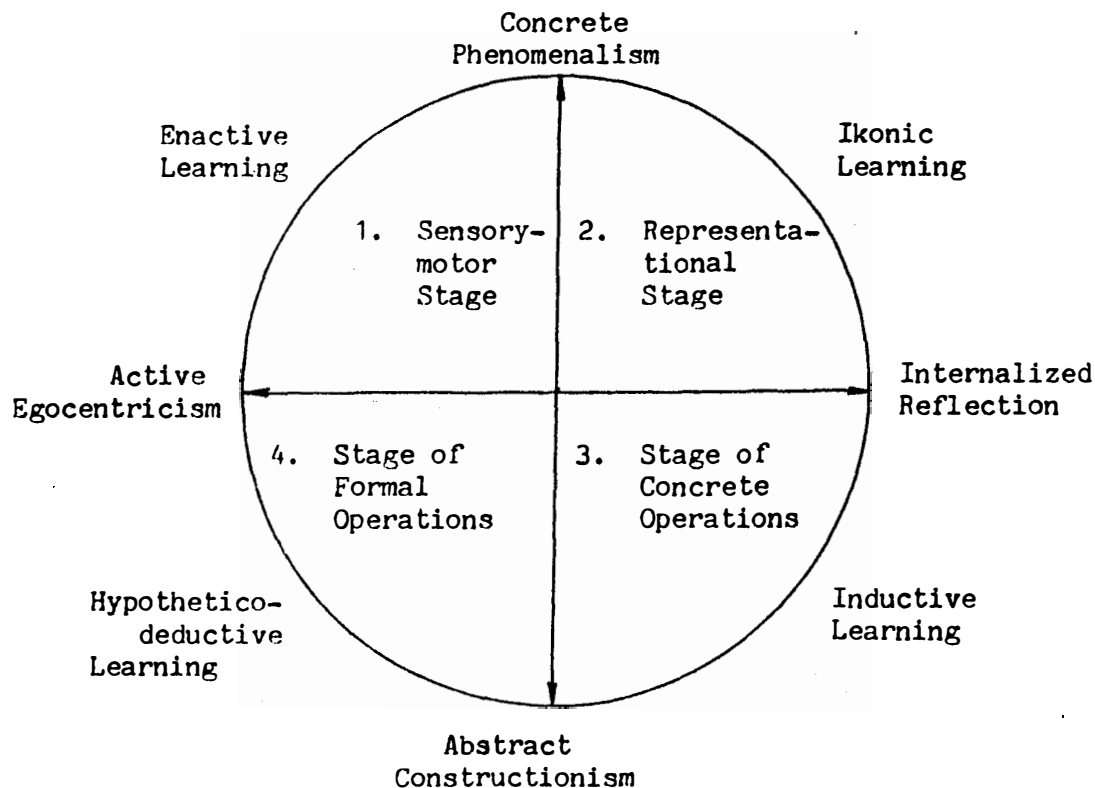
Figure 3.2 Dewey's Model of Experiential Learning

much in common with Lewin's model. Dewey's model is also cyclical in its construction, but its developmental nature is more explicit than Lewin's model. Whereas Lewin implied the developmental nature of his model through his conception of learning as a feedback process, Dewey explicitly described how "learning transforms the impulses, feelings, and desires of concrete experience into higher-order purposeful action" (Kolb, 1984). According to Dewey (1938), "The formation of purpose is... a rather complex intellectual operation. It involves: (1) observation of surrounding conditions; (2) knowledge of what has happened in similar situations in the past, a knowledge obtained partly by recollection and partly from the information, advice, and warning of those who have had a wider experience; and (3) judgment, which puts together what is observed and what is recalled to see what they signify. A purpose differs from an original impulse and desire through its translation into a plan and method of action based upon foresight of the consequences of action under given observed conditions in a certain way...The crucial educational problem is that of procuring the postponement of immediate action upon desire until observation and judgment have intervened...Mere foresight, even if it takes the form of accurate prediction, is not, of course, enough. The intellectual anticipation, the idea of consequences, must blend with desire and impulse to acquire moving force. It then gives direction to what otherwise is blind, while desire gives ideas impetus and momentum." Dewey's model and views of experiential learning are similar to Lewin's in the emphasis given to the integration of experience, observa-

tions, concept formation, and action. In addition, both Dewey and Lewin viewed learning as a dialectic process seeking to resolve the natural conflicts between concrete experiences and abstract concepts, and between reflection and action. Dewey's and Lewin's view of learning as a dialectic process implied that these conflicts are resolvable and it is through the continual resolution of these conflicts that learning takes place.

Although both Dewey and Lewin saw action as essential for the achievement of some purpose, they called for a postponement of immediate action so that observation and judgment may intervene. Kolb (1984) stated that "It is through the integration of these opposing but...related processes that sophisticated, mature purpose develops from blind impulse."

Jean Piaget's model of learning and cognitive development (see Figure 3.3) is similar to the models of Lewin and Dewey in that it includes the four dimensions of experience, reflection, concept formation, and action.



The resolution of conflicts characteristic of Lewin's and Dewey's models is also present in Piaget's model. Another similarity between Piaget's model and those of Lewin and Dewey is the cyclical nature of learning. In all three models, learning is viewed as a developmental process in which an individual interacts with his environment through a four-stage cycle. According to Piaget (1970), the key to learning lies in the mutual interaction of the process of accommodation of concepts or schemas to experience in the world and the process of assimilation of events and experiences from the world into existing concepts and schemas. Learning results from a balanced tension between these two processes. When accommodation processes dominate assimilation, we have imitation - the molding of oneself to environmental contours or constraints. When assimilation predominates over accommodation, we have play - the imposition of one's concept and images without regard to environmental realities. The process of cognitive growth from concrete to abstract and from active to reflective is based on this continual transaction between assimilation and accommodation, occurring in successive stages, each of which incorporates what has gone before into a new higher level of cognitive functioning. These views of Piaget and the model he has constructed to represent them address cognitive development as a long-term process consisting of four major stages starting from birth and progressing to about the age of 14-16. Even though Piaget's model presents cognitive development as a long-term process, somewhat in contrast to Lewin and Dewey, the four components of Piaget's learning process are very similar to the components found in the models of Lewin and Dewey.

A comparison of the learning models of Lewin, Dewey and Piaget

The learning models of Lewin, Dewey, and Piaget have been investigated and their common characteristics identified in order to help define the nature of experiential learning. Through this investigation, experiential learning can be seen as having the following characteristics:

1. Experiential learning consists of four stages - Concrete Experience, Reflective Observation, Abstract Conceptualization and Active Experimentation
2. Experiential learning is cyclical in nature - An individual proceeds through the four stages continually, each time viewing similar concrete experiences from a different (modified) perspective
3. Experiential learning is a continual interaction between experience and expectation - Reflections, conclusions, hypotheses, and implications are continually tested against the realities of concrete experiences
4. Experiential learning is a dialectic process - Experiential learning seeks to resolve the natural conflicts that exist between experience and abstract concept formation and between reflection and action
5. Experiential learning is a developmental process - The previous four characteristics establish the foundation for experiential learning as a developmental process in which, as

was mentioned earlier in this chapter, all learning is actually relearning.

The fourth characteristic listed above appears to be of key importance in achieving a thorough understanding of experiential learning. Kolb (1984) described this characteristic when he stated that "The process of learning requires the resolution of conflicts between dialectically opposed modes of adaptation to the world." Kolb went on to say that learning results from the resolution of these conflicts and that "learning is by its very nature a tension-and conflict-filled process. New knowledge, skills, or attitudes are achieved through confrontation among four modes of experiential learning. Learners, if they are to be effective, need four different kinds of abilities - concrete experience abilities (CE), reflective observation abilities (RO), abstract conceptualization abilities (AC), and active experimentation (AE) abilities." This focus on the resolution of conflicts between dialectically opposed modes provided direction to Kolb as he expanded on the works of Lewin, Dewey, and Piaget in developing his experiential learning theory.

Kolb's theory of experiential learning

Kolb's development of a theory of experiential learning rests solidly on the works of Lewin, Dewey, and Piaget. Kolb expanded on these works, but differed from them somewhat in the emphasis he gave to the four basic modes of learning. These four basic modes of learning have their origins in the concept of possibility processing structures. Leona Tyler (1978), in referring to the patterns of transaction between an individual and his or her environment, stated that "we can use the general term 'possibility processing structures' to cover all of these concepts having to do with the

ways in which the person controls the selection of perceptions, activities, and learning situations...The reason that one can proceed in most situations to act sensibly without having to make hundreds of conscious choices is that one develops organized ways of automatically processing most of the kinds of information encountered. In computer terms, one does what one is 'programmed' to do. Much of the programming is the same for all or most of the human race; much is imposed by the structure of particular cultures and subcultures. But in addition there are programs unique to individuals and these are fundamental to psychological individuality." This development of individual programs was further commented on by Kolb (1984): "The concept of possibility-processing structures gives central importance to the role of individual choice in decision making. The way we process the possibilities of each new emerging event determines the range of choices and decisions we see. The choices and decisions we make, to some extent, determine the events we live through, and these events influence our future choices. Thus, people create themselves through their choice of the actual occasions they live through...Human individuality results from the pattern created by our choices and their consequences." Kolb stated that the complex structure of learning allowed for the emergence of individual, unique possibility-processing structures, and he referred to these structures as styles of learning.

Styles of learning differ from modes of learning. The four states that comprise experiential learning correspond with the four modes of learning. The modes through which we learn consist of concrete experience, reflective observation, abstract conceptualization, and active experimentation. Earlier in this chapter, we saw that natural conflicts exist between concrete experience and abstract conceptualization and between reflective observation and active experimentation. The way in which any individual tends to resolve these two sets of conflicts determines his or her learning style. A learning style, then, is actually a combination of two dominant modes of learning. The possible combinations are determined by an individual's tendency to be either concrete or abstract and his or her tendency to be either reflective or active. The four resultant learning styles are diverger, assimilator, converger, and accommodator. The diverger emphasizes concrete experience and reflective observation in interacting with the environment. The assimilator emphasizes reflective observation and abstract conceptualization. The diverger emphasizes abstract conceptualization and active experimentation. The accommodator emphasizes active experimentation and concrete experience.

Kolb (1984) offered the following descriptions of the four basic styles of learning:

The convergent learning style relies primarily on the dominant learning abilities of abstract conceptualization and active experimentation. The greatest strength of this approach lies in problem solving, decision making, and the practical application of ideas. We have called this learning style the converger because a person with this style seems to do best in situations like conventional intelligence tests, where there is a single correct answer or solution to a question or problem. In this learning style, knowledge is organized in such a way that through hypothetical-deductive reasoning, it can be focused on specific problems. Research on those with this style of learning shows that convergent people are controlled in their expression of emotion. They prefer dealing with

technical tasks and problems rather than social and interpersonal issues.

The divergent learning style has the opposite learning strengths from convergence, emphasizing concrete experience and reflective observation. The greatest strength of this orientation lies in imaginative ability and awareness of meaning and values. The primary adaptive ability of divergence is to view concrete situations from many perspectives and to organize many relationships into a meaningful "gestalt." The emphasis in this orientation is on adaptation by observation rather than action. This style is called diverger because a person of this type performs better in situations that call for generation of alternative ideas and implications such as a "brainstorming" idea session. Those oriented toward divergence are interested in people and tend to be imaginative and feeling-oriented.

In assimilation, the dominant learning abilities are abstract conceptualization and reflective observation. The greatest strength of this orientation lies in inductive reasoning and the ability to create theoretical models, in assimilating disparate observations into an integrated explanation. As in convergence, this orientation is less focused on people and more concerned with ideas and abstract concepts. Ideas, however, are judged less in this orientation by their practical value. Here, it is more important that the theory be logically sound and precise.

The accommodative learning style has the opposite strengths from assimilation, emphasizing concrete experience and active experimentation. The greatest strength of this orientation lies in doing things, in carrying out plans and tasks and getting involved in new experiences. The adaptive emphasis of this orientation is on opportunity seeking, risk taking, and action. This style is called accommodation because it is best suited for those situations where one must adapt oneself to changing immediate circumstances. In situations where the theory or plans do not fit the facts, those with an accommodative style will most likely discard the plan or theory. (With the opposite learning style, assimilation, one would be more likely to disregard or reexamine the facts.) People with an accommodative orientation tend to solve problems in an intuitive trial-and-error manner, relying heavily on other people for information

rather than on their own analytic ability. Those with accommodative learning styles are at ease with people but are sometimes seen as impatient and "pushy."

The ideal learning orientation would be characterized by balanced resolutions of the conflicts between concrete and abstract and between reflection and action. A balanced resolution implies that one part of the conflict is not subordinated by the other part. If this type of balance were achieved, a corresponding balance would exist among the four learning styles so that no one particular style would dominate any of the other three. Such a learning orientation is referred to as ideal because of the cyclical and developmental nature of experiential learning. This cyclical and developmental nature of experiential learning implies that individuals must use all four modes and styles of learning as they interact with their environments. Even though a particular individual may have a dominant learning style, reality requires him to have an use abilities in all four learning styles. Proper learning development, then, requires that an individual not only have abilities in all four learning styles, but is also capable of integrating these styles. This view of the developmental nature of experiential learning as it relates to learning styles plays a key role in Kolb's experiential learning theory.

David Kolb's model for his Experiential Learning Theory of Growth and Development is shown in Figure 3.4. Kolb's model has some familiar components and characteristics. The four modes of learning that have been addressed (concrete experience, reflective observation, abstract

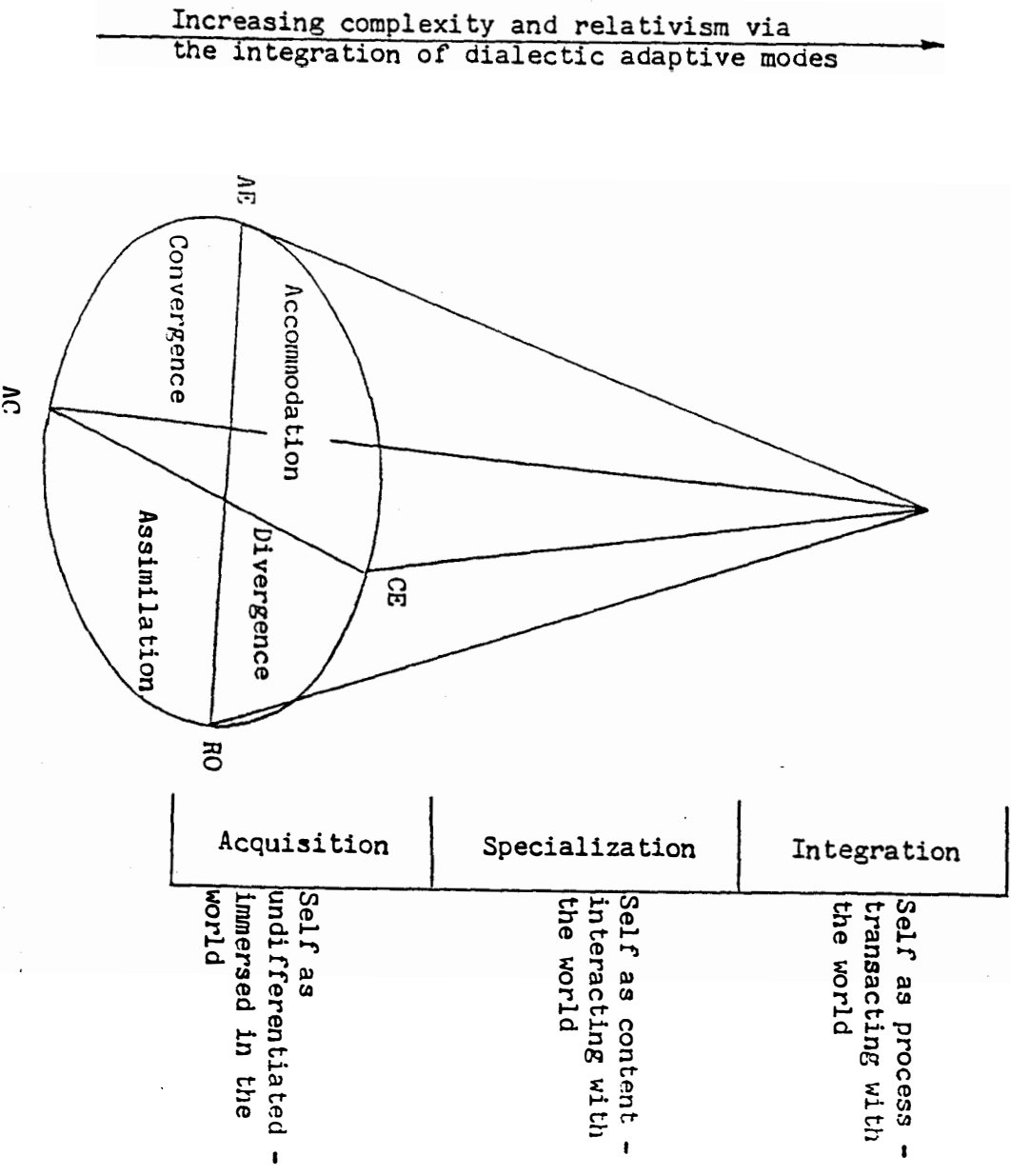


Figure 3.4 The Experiential Learning Theory of Growth and Development

conceptualization, and active experimentation) serve as the basic components of Kolb's model. The resolution of the natural conflicts between concrete experience and abstract conceptualization and between reflective observation and active experimentation produces the four basic learning styles. The developmental nature of this model is illustrated through its vertical dimension. Kolb presented three stages of development; the acquisition stage, the specialization stage, and the integration stage. Ascending through these stages is achieved from the perspective of the individual learning modes and is a matter of both type and complexity. Kolb (1984) stated that "The way learning shapes the course of development can be described by the level of integrative complexity in the four learning modes - affective complexity in concrete experience results in higher-order sentiments, perceptual complexity in reflective observation results in higher-order observations, symbolic complexity in abstract conceptualization results in higher-order concepts, and behavioral complexity in active experimentation results in higher-order actions." Kolb's model depicts the preceding statement in the shape of a cone. The base of the cone represents the lower stages of development while the apex represents the highest level of development. As an individual ascends through the three stages, the four dimensions become more highly integrated. Kolb (1984) stated that "Development on each dimension proceeds from a state of embeddedness, defensiveness, dependence, and reaction to a state of self-actualization, independence, proaction and self-direction. This process is marked by increasing complexity and relativism in dealing with

the world and one's experience and by higher-level integrations of the dialectic conflicts among the four primary learning modes. In the early stages of development, progress along one of these four dimensions can occur with relative independence from the others...At the highest stages of development, however, the adaptive commitment to learning and creativity produces a strong need for integration of the four adaptive modes. Development in one mode precipitates development in the others...Thus, complexity and the integration of dialectic conflicts among the adaptive modes are the hallmarks of true creativity and growth." Although Kolb's model is similar to those of Lewin, Dewey, and Piaget regarding the four modes of learning and the cyclical nature of learning, it distinguishes itself through its heavy emphasis on development through integration. Kolb's model strongly suggests an ideal learning situation, a situation in which an individual has equal abilities and capabilities with the four basic modes of learning and the four basic learning styles. This ideal learning situation is also characterized by a synergistic relationship among the four modes and styles of learning. To expand further on this emphasis on development, attention will now be focused on the three stages of development that comprise Kolb's model.

The acquisition stage is the initial stage in Kolb's model and extends from birth to adolescence. This stage is characterized by the acquisition of basic learning abilities and cognitive structures. Kolb (1984) said that "Development in the acquisition phase is marked by the gradual emergence of internalized structures that allow the child to

gain a sense of self that is separate and distinct from the surrounding environment. This increasing freedom from undifferentiated immersion in the world begins with basic discrimination between internal and external stimuli and ends with (the) delineation of the boundaries of selfhood... called the identity crisis." The period of time comprising the acquisition stage has been studied intensively and described by Piaget (1970) as consisting of four major substages. Piaget called the first substage, from birth to about two years, the sensorimotor stage. Knowledge in this stage is externalized in actions and the feel of the environment thus illustrating an accommodative form of learning. The second substage ranges from two to six years of age. Piaget referred to this substage as the iconic stage since internalized images begin to acquire an independent status and are seen as separate from the objects they represent. Early forms of divergent thinking begin to develop during this stage. The third substage, from ages seven to 11 years, was referred to by Piaget as the stage of concrete operations. This stage marks the beginning of symbolic development in which an individual begins to develop the logic of classes and relations and also inductive reasoning. Assimilative learning of this type is characteristic of this third substage. The fourth and final substage of Kolb's acquisition stage of development occurs from 12 to 15 years of age. During this period of adolescence, according to Piaget, symbolic powers reach a level of total independence from concrete reality. Convergent learning results from these symbolic powers in that they allow an individual to imagine or hypothesize implications and test them out in real situations.

In this paragraph, the acquisition stage of Kolb's model was analyzed in terms of Piaget's work. This analysis demonstrated the cyclical nature of assimilation to convergence. The fact that this cyclical nature of experiential learning was illustrated within one particular stage implies additional evidence for the developmental nature of experiential learning.

According to Kolb (1984), the specialization stage "extends through formal education and/or career training and the early experiences of adulthood in work and personal life. People shaped by cultural, educational, and organizational socialization forces develop increased competence in a specialized mode of adaptation that enables them to master the particular life tasks they encounter in their chosen career paths." Hudson (1966) stated that "Although children in their early experiences in family and school may already have begun to develop specialized preferences and abilities in their learning orientations, in secondary school and beyond they begin to make choices that will significantly shape the course of their development." Such choices will tend to promote specialization in that they have an accentuating, self-fulfilling quality to them. Kolb and Goldman (1973) contended that "development in general tends to follow a path toward accentuation of personal characteristics and skills in that development is a product of the interaction between choices and socialization experiences that match these choice dispositions such that resulting experiences further reinforce the same choice disposition for later experience. This process is inherent in the concept of learning styles

as possibility-processing structures that govern transactions with the environment and thereby define and stabilize individuality." Specialization in this stage of Kolb's model is seen as a form of adaptive competence in dealing with the demands of the world. In this stage of development, those demands are usually seen as demands of the job or the chosen career. The work that is done in a person's job or career is rewarded and recognized. Furthermore, this work and its related rewards and recognition serve as the basis for the person's sense of individuality and self-worth. Kolb (1984) stated that "The primary mode of relating to the world is interaction - I act on the world (build the bridge, raise the family) and the world acts on me (pays me money, fills me with bits of knowledge), but neither is fundamentally changed by the other."

The transition from the acquisition stage to the specialization stage appears to be a very natural occurrence. A combination of forces, both internal and external, acts on an individual in very normal ways to create strong tendencies. These tendencies both chart and generate further development. Entering into and moving through the specialization stage can be viewed as an automatic consequence of having moved through the acquisition stage. The transition from the specialization stage to the integration stage, however, presents an entirely different matter. The specialization stage can also be referred to as the "socialization" stage. Kolb (1984) stated that "The specialized developmental accomplishments of stage 2 bring social security and achievement, often paid for by the subjugation of personal fulfillment needs. The restrictive effects that society's socializing institutions have on personal fulfillment has been a continuing theme of

Western thought, particularly since the Enlightenment." The socializing nature and institutions of society that made the transition from the acquisition stage to the specialization stage so easy and natural now provide the constraints which make the transition to the integration stage difficult. Jung's (1977) theory of types was based on the dialectic model of adaptation to the world. Jung stated that "individuation is accomplished by higher-level integration and expression of nondominant modes of dealing with the world. This drive for fulfillment, however, is thwarted by the needs of civilization for specialized role performance." The transition from the specialization stage to the integration stage, then, is a form of breaking free of society's bonds and constraints. Kolb (1984) referred to this transition as being "marked by the individual's personal, existential confrontation of this conflict. The personal experience of the conflict between social demands and personal fulfillment needs and the corresponding recognition of self-as-object precipitates the individual's transition into the integrative stage of development. The experience can develop as a gradual process of awakening...or it can occur dramatically as a result of a life crisis...Some may never have this experience, so immersed are they in the societal reward system for performing their differentiated specialized function." For those individuals who successfully make this transition into the integration stage, a new level of awareness awaits them. The dominant learning style that has guided any particular individual through the specialization stage begins to lose its position of dominance. Other learning styles begin to emerge and be developed for more frequent use. As an individual begins to develop all four learning styles, these

styles begin to enhance each other and a synergistic relationship develops among them. Kolb (1984) stated that with the new awareness that accompanies entrance into the integration stage, "the person experiences a shift in the frame of reference used to experience life, evaluate activities, and make choices. The nature of this shift depends upon the specifics of the person's dominant and nonexpressed adaptive modes. For the reflective person, the awakening of the active mode brings a new sense of risk to life. Rather than being influenced, one now sees opportunities to influence. The challenge becomes to shape one's own experience rather than observing and accepting experiences as they happen. For the person who has specialized in the active mode, the emergence of the reflective side broadens the range of choice and deepens the ability to sense implications of actions. For the specialist in the concrete mode, the abstract perspective gives new continuity and direction to experience. The abstract specialist with a new sense of immediate experience finds new life and meaning in abstract constructions of reality. The net effect of these shifts in perspective is an increasing experience of self as process. A learning process that has previously been blocked by the repression of the nonspecialized adaptive modes is now experienced deeply to be the essence of self."

Kolb's model of the Experiential Learning Theory of Growth and Development is based on the four modes and styles of learning. The growth and development component of the theory is based on the resolution of the conflicts between concrete experience and abstract conceptualization and between reflective observation and active experimentation. An individual

develops the modes and styles of learning through three distinct stages requiring interaction with increasingly complex situations and also requiring increased relativism. As the demands of complexity and relativism increase, an integration of the modes and styles of learning become essential for dealing effectively with the world. As mentioned earlier in this section, Kolb's model strongly suggests that an ideal learning situation is one in which an individual has equal abilities and capabilities with the four basic modes of learning and the four basic learning styles. This ideal learning situation is also characterized by a synergistic relationship among the four modes and styles of learning.

Summary

This review of the literature laid a foundation for two broad areas of discussion; namely, learning styles and leadership. A definition for Professionally Effective Leadership was developed and allowed the topic of leadership to be addressed from the two perspectives of professionalism and effectiveness. These two perspectives served as the bases for two of the three major components of this review. The topic of learning styles served as the third major component. The topic of learning styles was addresssd from its theoretical origins in experiential learning.

In reviewing the theories of experiential learning from which learning styles emerged, a recurring theme was found. The dialectic process, a process necessary for the resolution of natural, yet inevitable conflicts in learning, was seen to be an essential component of experiential learning theories and the related issue of learning styles. It was also established

conflict resolution is a natural, yet inevitable demand on those individuals in position of leadership.

This common thread of "conflict resolution" that occupies such an important position regarding the way people learn and lead suggests the existence of a relationship between learning styles and leadership. This study sought to address the possibility and nature of that relationship.

CHAPTER III

METHODOLOGY

Introduction

The purpose of this study, as identified in Chapter I, was to determine whether the synthesis of studies in leadership and learning styles would reveal relationships which can further the understanding of these two areas and their relationship with each other, and be useful in identifying leaders and properly placing them in leadership positions. Several considerations arose regarding the method of data collection. If the sample included leaders from broadly varying occupations or job responsibilities, the data could be too diluted to be of much value. On the other hand, a sample taken from environments which differ little in social and economic characteristics could introduce unwanted bias to the study. The collection of data relating to leadership characteristics could have been conducted in many ways. Leadership characteristics could be studied from the perspective of the leader's effectiveness in achieving the goals of the organization or the leader's effectiveness in diagnosing situations and choosing appropriate responses. Data regarding the leader's effectiveness in diagnosing situations and determining appropriate responses could reflect the point of view of the leader's subordinates or the personal point of view of the leader. The work on learning styles identified four basic styles with each individual style being a product of two types of thinking behavior. The learning style data to be collected needed to produce information which could be translated into an overall learning style as well as the thinking behavior components which would produce any particular learning style.

In addition to the data related directly to leadership and learning styles, other data of a more general nature were determined to be important to the study. These data addressed such factors as age, years of experience, number of assistants and undergraduate major. Data of this type would be useful in affirming and disspelling relationships that may or may not appear to exist as a result of analyzing the other data collected for this study.

The methodology of this study attempted to identify a sample consisting of leaders occupying the same type of position in the same type of organization, but in different socio-economic settings. Furthermore, this study collected data on each leader which identified overall leader effectiveness, predominant and subordinant leadership styles, learning style, and its thinking behavior components, and a set of general factors.

Finally, this study sought to answer the following research questions:

1. Is there a relationship between learning style and leader effectiveness?
2. Is there a relationship between leadership style and learning style?
3. Is there a relationship between leader effectiveness, learning style and leadership style?
4. What leadership style, if any, is prevalent among high school principals?
5. What learning style, if any, is prevalent among high school principals?

The sample

The type of organization chosen for this study was the high school. The leadership position chosen for this study was principal. To ensure that socio-economic conditions would not bias the results, public and private high schools were chosen from a variety of counties in the northern part of Illinois. These counties included Cook, DeKalb, DuPage, Kane, Kendall, Lake, McHenry and Will. These counties are comprised of large and small urban communities, suburban communities and rural communities. These counties have unemployment rates that range from the lowest and the highest in the State. There was also a wide range of socio-economic status represented by the communities within the sample.

A cover letter, a general data sheet, the LEAD-Self, and the Learning Style Inventory were mailed to the 140 principals that comprised the sample. Responses were received from 112 of these principals for a response rate of eighty percent. These responses provided the data for this study.

Instrumentation: general

The collection of data was achieved through the use of three separate instruments. A general data sheet was designed for this study to collect information on the following factors: school enrollment, age of the principal, years of experience as a high school principal, number of assistants, college undergraduate major, and whether or not the principal had been interviewed by the Board of Education before

being employed. With these data, principals could be grouped in a variety of ways in the search for relationships among the variables of this study.

For the purposes of this study, a narrow focus was used in addressing the issue of leader behavior. The study addressed the leader's ability to diagnose a given situation and choose the most appropriate response from among a set of possible responses. The LEAD-Self was used to collect data relating to this ability. The LEAD-Self was designed to measure three aspects of leader behavior: (1) leadership style, (2) leadership style range, and (3) style adaptability (effectiveness) (Hersey and Blanchard, 1977). As its name implies, the LEAD-Self measures the self-perception of the leader. The data from the LEAD-Self do not present perceptions of others nor do they indicate how the leader would actually respond to real situations. The LEAD-Self does, however, measure the leader's ability to diagnose situations and judge possible responses to those situations. Such thinking behaviors as diagnosing and judging are related to learning styles; thus, the data provided by the LEAD-Self were appropriate for the purposes of this study.

Chapter I stated that learning styles would seem to relate closely to a way of thinking. The chapter further stated that it seems reasonable to suspect that a relationship exists between the way a person thinks and the way he or she chooses to act. In order to investigate such relationships, a learning style had to be determined for each of the subjects in the study. Learning styles were determined for these subjects by analyzing

data collected through the Learning Style Inventory. The Learning Style Inventory measures an individual's relative emphasis on four learning abilities--Concrete Experience, Reflective Observation, Abstract Conceptualization, and Active Experimentation--plus two combination scores that indicate the extent to which an individual emphasizes abstractness over concreteness and the extent to which an individual emphasizes action over reflection (Kolb, 1976).

The LEAD-Self

As mentioned in the previous section, the LEAD-Self and the Learning Style Inventory were two important instruments used in the data collection of this study.

The Learning Resources Corporation had a summary of technical information about the LEAD-Self prepared by John F. Greene, Ph.D. According to this summary, the LEAD-Self measures specified aspects of leader behavior in terms of the Situational Leadership theoretical model. This instrument yields four style scores and one adaptability score. The LEAD-Self consists of 12 items and requires about 10 minutes to complete. The relatively few number of items and the short period of time needed to complete the LEAD-Self reflect the intended function of the instrument when it was initially developed. The LEAD-Self was originally designed to serve as a training instrument, but it has recently become a popular research instrument.

The LEAD-Self was standardized on a North American sample of 264 managers. The managers ranged in age from 21 to 64; 30 percent were at

the entry level of management; 55 percent were middle managers; 14 percent were at the high level of management.

According to Greene's report, the 12 item validities for the adaptability score ranged from .11 to .52, and 10 of the 12 coefficients (83 percent) were .25 or higher. Eleven coefficients were significant beyond the .01 level and one was significant at the .05 level. Each response option met the operationally defined criterion of less than 80 percent with respect to selection frequency.

Greene reported that the stability of the LEAD-Self was moderately strong. In two administrations across a six-week interval, 75 percent of the managers maintained their dominant style and 71 percent maintained their alternate style. The contingency coefficients were both .71 and each was significant ($p < .01$). The correlation for the adaptability scores was .69 ($p < .01$). The LEAD-Self scores remained relatively stable across time, and the user may rely upon the results, according to Greene, as consistent measures.

Greene reported that the logical validity of the scale was clearly established. Face validity was based upon a review of the items, and content validity emanated from the procedures employed to create the original set of items.

Greene reviewed several empirical validity studies. As hypothesized, correlations with the variables of sex, age, years of experience, degree and management level were generally low, indicating the relative independence of the scale with respect to these variables. Satisfactory results were reported supporting the four style dimensions of the scale using a

modified approach to factor structure. In 46 of the 48 item options (96 percent), the expected relationship was found. In another study, a significant ($p < .01$) correlation of .67 was found between the adaptability scores of the managers and the independent ratings of their supervisors.

As mentioned earlier, the content of this section on the LEAD-Self comes from a summary of technical information about the instrument prepared by John F. Greene for the Learning Resources Corporation. Based on the findings of Greene's research, the LEAD-Self is deemed to be an empirically sound instrument.

The learning style inventory

The Learning Style Inventory was created to measure the individual learning styles derived from experiential learning theory. David Kolb (Kolb, 1984) reported that "the development of this instrument was guided by four design objectives: First, the test should be constructed in such a way that people would respond to it in somewhat the same way as they would a learning situation; Second, a self-description format was chosen for the inventory, since the notion of possibility-processing structure relies heavily on conscious choice and decision; Third, the inventory was constructed with the hope that it would prove to be valid - that the measures of learning styles would predict behavior in a way that was consistent with the theory of experiential learning; and Fourth, the test should be brief and straightforward, so that in addition to

research uses, it could be used as a means of discussing the learning process with those tested and giving them feedback on their own learning styles."

In its final form, the test was a self-description questionnaire consisting of nine items. Each item contains four words, one each for the four learning modes. For each item, the respondent rank-orders the four words in the way which best describes his or her learning style. Experiential learning theory, the theory from which the Learning Style Inventory emanated, identifies the four learning modes as concrete experience, reflective observation, abstract conceptualization, and active experimentation. An individual's responses on the Learning Style Inventory produce scores for each of the four learning modes. Since it is unlikely that an individual's learning style will be described accurately by just one of the four basic learning modes, it is more meaningful to describe an individual's learning style by a single data point that combines his scores on the four basic modes (Kolb, 1976). Because they naturally tend to oppose each other, active experimentation and reflective observation were paired together as were concrete experience and abstract conceptualization. These two pairings give an indication of the degree to which someone emphasizes action over reflection and abstractness over concreteness. The resultant data point identifies the person's predominant learning style. The grid that is used to interpret the results of the Learning Style Inventory is divided into four quadrants. These quadrants are

labeled Accommodator, Diverger, Assimilator and Converger, and represent the four dominant learning styles

A sample of 1,933 men and women ranging in age from 18 to 60 and representing a wide variety of occupations was used to establish the norms for scores on the Learning Style Inventory. These norms, along with reliability and validity data for the Learning Style Inventory, have been reported in detail by Klob in the Learning Style Inventory Technical Manual, published by McBer and Company, 1976. This information from the Technical Manual is condensed and summarized below.

Several versions of the Learning Style Inventory underwent refinement through item analysis. Initially, a panel of four behavioral scientists acquainted with experiential learning theory was used to select the words which would comprise the Learning Style Inventory. In the original version, the inventory consisted of twelve sets of four words. For any one set, each of the four words represented one of the four basic learning modes. Three of these sets were eliminated when preliminary analysis showed that they produced random answers. The nine remaining sets established the structure of the final version of the Learning Style Inventory. Additional refinement was achieved through the analysis of the interrelations between the words that comprise the four learning style scales and the total scale scores. According to the Technical Manual, "the words comprising each scale show similar, but somewhat lower, correlations with the theoretical scale opposite (e.g., CE

The assessment of measurement error that establishes reliability required the addressing of special problems characteristic of the Learning Style Inventory and the experiential learning theory on which it is based. These problems stem from the fact that the basic learning modes of experiential learning theory are interdependent and variable. These modes are interdependent because any action, including responding to the inventory, is determined in varying degrees by all four learning modes. These modes are variable because the mode an individual chooses to use in responding to a particular item should be influenced by his or her interpretation of the situation portrayed by the item. Split-half and test-retest reliability techniques were used to assess measurement error. The special problems mentioned in the preceding paragraph presented a dilemma. The Technical Manual reports that "While we would theoretically predict lower reliability coefficients on the Learning Style Inventory modes than on independent fixed psychosocial traits, we cannot know whether lower reliability coefficients are in fact a result of these theoretical considerations, or are simply measurement errors in the Learning Style Inventory. To assess measurement error, therefore, we must rely on more qualitative interpretations of the studies, and on the construct validity of the Learning Style Inventory; for if the Learning Style Inventory shows a consistent pattern of relationships with predicted dependent variables, then that is an indicator that the inventory is to some degree accurately measuring the learning modes postulated by experiential learning theory." From the analysis of split-half reliability results, the

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From the analysis of split-half reliability results, the

investigators who assembled the Technical Manual concluded that "the combination scores AC-CE and AE-RO are highly reliable indices suitable for most research applications. The basic scales CE, RO, AC, and AE show greater variability and hence must be used more cautiously."

The test-retest technique was used to assess the stability of Learning Style Inventory scores over time and the corresponding impact of situational factors. Four different samples were studied using this technique. These groups differed in terms of discontinuity between their previous experience and their experience during the test-retest period. Also, these studies were conducted over different periods of time ranging from three to seven months. The data collected through these studies showed that test-retest correlations decreased with an increase in discontinuity and the length of time between testing. These findings established the stability of Learning Style Inventory scores over time and the corresponding impact of situational factors.

The validity of the Learning Style Inventory was established through the review of several correlational studies that related Learning Style Inventory scores to performance tests, personality tests, and preferences for learning situations and teachers. In addition, relationships between learning style and academic specialization were reviewed. The reviews were conducted from the perspective of predictions based on experiential learning theory. Experiential Learning Theory suggests that any particular learning style would match up well with certain types of tests, teaching styles, learning

situations and academic areas, and not so well with other types. Predictions were made from this basis and compared with the results of the correlational studies which were reviewed. These reviews were reported in the Learning Style Inventory Technical Manual and are summarized in the following paragraphs.

Experiential learning theory suggests that aptitude tests favor the convergent learning style while divergers should perform better on tests of creativity. The Technical Manual reported that "the data to date are only mildly supportive of these hypotheses and suggest that the hypotheses need to be refined to deal with both the specific characteristics of the performance tests and the specific characteristics of the population tested." The manual goes on to report that "correlations between the Learning Style Inventory scales and aptitude tests for graduate study in business and law show the predicted pattern of a positive relationship between an abstract and active orientation and high performance, but in only two cases do the results reach statistical significance."

Correlations were determined between Learning Style Inventory scores and the following personality tests: The Myers-Brigg Type Indicator, the Thematic Apperception Test, measures of n Achievement, n Power, and n Affiliation, and FIRO-B. Extroversion/Introversion, Sensation/Intuition, Thinking/Feeling, and Judging/Perceiving are the psychological types that the Myers-Brigg Type Indicator is designed to assess. The preparers of the Technical Manual predicted that "individuals who score high on Concrete Experience should use sensation

as a mode of perceiving and feeling as a mode of judging. Abstract Conceptualizers should use intuition as a perceiving mode and thinking as a judging mode. Active Experimenters should be extroverts who use the sensation perceiving mode, while Reflective Observers should be introverts who use the intuition perceiving mode." The data that was reviewed tended to support these hypotheses, though not consistently in all groups. The strongest and most consistent relationships were found to be between concrete/abstract and feeling/thinking and between active/reflective and extrovert/introvert.

Although no predictions were made regarding the Thematic Apperception Test measure of motivation, correlations between concreteness and high n Affiliation was found to be consistent with the thinking that concrete individuals are both people and feeling oriented.

Learning situations and the teaching style of teachers were also correlated with Learning Style Inventory scores. Regarding learning situations, the Technical Manual reports that "Concrete individuals tend to find theoretical readings unhelpful and student feedback helpful. Reflective observers find that lectures facilitate their learning. Abstract persons learn best from case studies, theoretical reading, and thinking alone, while they find exercises and simulations and talks by expert practitioners unhelpful. Active experimenters learn best from projects, homework, small group discussions, and student feedback. Lectures are not helpful to them." Another study was used to correlate the learning style of students with the learning style of the teacher who had the most influence on them. In this case, the correlations on all

Learning Style Inventory dimensions show a strong similarity between the student's learning style and that of the teacher who had the most influence on him.

Several studies were reviewed to determine correlations between learning styles and academic areas of specialization. These correlations were quite consistent with predictions based on experiential learning theory. The Technical Manual reported that "the data show that one's undergraduate education is a major factor in the development of his learning style. Whether this is because individuals are shaped by the fields they enter or because of selection processes that put people into and out of disciplines is an open question at this point. Most probably both factors are operating: People choose fields which are consistent with their learning styles and are further shaped to fit the learning norms of their field once they are in it. When there is a mismatch between the field's learning modes and the individual's learning style, people will either change or leave the field."

In each of the studies reviewed, some evidence could be found to support the validity of the Learning Style Inventory. To some extent, consistency between actual and predicted correlations were found to exist in each of the studies. Although no one study demonstrated this consistency entirely, the collection of studies that was reviewed demonstrated this consistency to such an extent that the validity of the Learning Style Inventory was established.

CHAPTER IV

PRESENTATION OF THE DATA

This study sought to reveal relationships between any two of a whole range of variables pertaining to high school principals in northern Illinois. The key variables which were studied were learning style, leadership style, and leader effectiveness. The other variables which were studied related directly to each individual principal and his or her respective set of school circumstances. These variables consisted of the following: school enrollment, number of assistants, undergraduate major, age, years of experience as a principal, and whether the principal had been interviewed by the Board of Education prior to the principalship appointment. These data will be presented and analyzed in this chapter, first in the form of a general overview and then in specific detail from the perspective of each research question. The findings regarding each of the research questions will be reported. In addition, implications, conclusions, and recommendations that can be derived from these findings will be reported.

General Overview of the Data

The data which were collected for this study are presented in four separate tables according to the learning styles of principals who were surveyed. The data relating to all the variables are contained in each table. Table 4.1 contains the data relating to all these variables for principals identified as having the converger learning style. Table 4.2 presents these data for the principals having the accommodator learning style. Table 4.3 relates to the diverger learning style while Table 4.4 relates to the assimilator learning style. The data collected on some of

TABLE 4.1

RAW DATA ON CONVERGER PRINCIPALS

School Enrollment	Basic Leadership Style	Supporting Leadership Style	Adaptability Rating	Number of Assistants	Undergraduate Major	Age	Years of Experience	Interviewed by the Board
2176	2	3	13	6	Science	41-50	3-10	No
160	3	2	11	0	P.E.	31-40	0-2	Yes
1330	2	1	5	4	Music	31-40	0-2	No
1242				3	History	41-50	3-10	No
2250	3	2	10	4	P.E.	41-50	3-10	Yes
2078	1-2-3	-	5	4	History	31-40	3-10	No
2300	2-3	-	14	1	Pol.Sci.	41-50	over 10	No
1800	2	4	4	4	Chemistry	41-50	3-10	No
2188	-	-	-	6	Soc. Studies	31-40	0-2	Yes
1750	3	2	10	4	Economics	41-50	3-10	No
2900	3	1-2	9	5	Science	over 50	3-10	No
1800	3	2	18	7	Hist/Pol.Sci.	over 50	3-10	No
2500	2	3	13	5	Ind. Arts	41-50	3-10	No
600	2	1-3	5	1	Hlth/PE/Soc.St	over 50	over 10	Yes
800	2	3	5	2	Elem. Educ.	over 50	3-10	No
3500	2	1	2	3	Ind. Arts	over 50	over 10	No

TABLE 4.1 (cont.)

School Enrollment	Basic Leadership Style	Supporting Leadership Style	Adaptability Rating	Number of Assistants	Undergraduate Major	Age	Years of Experience	Interviewed by the Board
987	2	1-3	8	2	Speech/Eng.	over 50	over 10	No
1500	2	3	9	3	P.E./Soc. St.	over 50	over 10	No
1800	2	1-3	11	4	Math	41-50	3-10	No
1330	2	3	4	6	P.E.	over 50	3-10	No
1300	3	2-4	12	2	P.E.	41-50	over 10	Yes
575	2	1-3	14	1	Soc. St.	31-40	3-10	Yes
340	3	2	7	0	Soc. St.	41-50	3-10	Yes
700	3	1-2	16	2	Eng./Soc. St.	over 50	over 10	Yes
2400	2	1-3-4	15	6	Chemistry	41-50	0-2	Yes
160	2-3	-	15	0	English	31-40	0-2	No
2150	2	1-3	9	5	Math	41-50	3-10	Yes
1100	2	1-3	5	2	Elem. Educ.	31-40	3-10	No
1250	2	3	12	4	Soc. St.	41-50	3-10	No
510	2	3	15	1	Ind. Arts	41-50	over 10	Yes
1900	3	2	19	6	Hist./Soc.	41-50	over 10	yes
2166	2	1-3	9	5	Ind. Arts	41-50	over 10	No

TABLE 4.1 (cont.)

School Enrollment	Basic Leadership Style	Supporting Leadership Style	Adaptability Rating	Number of Assistants	Undergraduate Major	Age	Years of Experience	Interviewed by the Board
3360	2	1-3	15	2	Education	41-50	over 10	Yes
1712	2	2	12	3	P.E.	over 50	over 10	No
2800	3	1-2	13	9	Math/PE	41-50	3-10	Yes
1900	3	2	12	4	History	41-50	over 10	No
2300	2	1-3	11	6	English	31-40	0-2	No
1530	2	3-4	2	4	Ind. Arts/PE	over 50	over 10	No
1800	3	2	5	3	Soc. St.	over 50	over 10	No
1900	2	1-3	10	4	History	41-50	3-10	No
464	1-2-3	-	12	1	Math/Sci.	over 50	3-10	No
144	2	3	11	1	Math	over 50	3-10	Yes

NOTE: Tables 4.1 - 4.4 contain leadership style and adaptability rating data. Leadership Style 1 is a "telling" style, Style 2 a "selling" style, Style 3 a "participating" style and Style 4 a "delegating" style. Adaptability rating can range from a low of -24 to a high of +24. This rating measures the ability to choose the most effective leader response, according to Situational Leadership Theory, to a set of leadership situations.

RAW DATA ON ACCOMMODATOR PRINCIPALS

School Enrollment	Basic Leadership Style	Supporting Leadership Style	Adaptability Rating	Number of Assistants	Undergraduate Major	Age	Years of Experience	Interviewed by the Board
2507	3	2	15	6	P.E./Soc. St.	41-50	over 10	No
2300	3	1	10	7	Soc. St.	41-50	3-10	No
2000	2	3	7	7	Math	41-50	3-10	No
260	2	1-3	5	0	Science	31-40	over 10	No
1691	2	3	5	4	Health/P.E.	31-40	0-2	No
1500	2-3	-	14	4	Math	over 50	over 10	No
2250	2	3	15	4	English	over 50	3-10	Yes
2600	2	3	13	4	Bio./Chem.	31-40	0-2	No
2300	2	1	0	7	P.E.	over 50	0-2	Yes
1881	2-3	-	11	3	English	41-50	over 10	No
2300	2	3	8	6	P.E.	41-50	3-10	No
444	3	2	8	0	Agriculture	over 50	over 10	No
1400	2	1-3	6	3	Ind. Arts	41-50	3-10	Yes
980	2	1-3-4	6	2	Soc. St.	31-40	3-10	-
1600	2	1	5	2	P.E.	31-40	3-10	No
2600	2	1-3	4	6	Ind. Arts	41-50	3-10	No

TABLE 4.2 (cont.)

School Enrollment	Basic Leadership Style	Supporting Leadership Style	Adaptability Rating	Number of Assistants	Undergraduate Major	Age	Years of Experience	Interviewed by the Board
----	2	1-3	12	3	Education	over 50	0-2	Yes
420	3	2	13	2.5	Soc. St.	31-40	3-10	yes
850	3	2	13	1	Speech	31-40	3-10	Yes
1727	2	3-4	13	2	Elem. Educ.	41-50	over 10	No
2250	2	1-3	9	5	Math	over 50	over 10	Yes
1250	3	2	13	7	Soc. St./Eng.	over 50	over 10	No
1680	2	1-3	0	2	Ind. Arts	over 50	0-2	No
1284	3	2	17	2	English	over 50	over 10	Yes
740	2	1-3	3	1	English	31-40	3-10	Yes
2050	2	3	15	8	English	41-50	3-10	No
2600	3	1	8	2	P.E.	41-50	0-2	No
180	3	1-2	13	4	Bus. Ed.	over 50	over 10	No
2650	3	1-2	8	6	Health/P.E.	over 50	over 10	Yes
1300	2	1-3	-3	2	Bus. Ed.	41-50	over 10	Yes

TABLE 4.3

RAW DATA ON DIVERGER PRINCIPALS

School Enrollment	Basic Leadership Style	Supporting Leadership Style	Adaptability Rating	Number of Assistants	Undergraduate Major	Age	Years of Experience	Interviewed by the Board
130	2	3	14	0	English	31-40	0-2	Yes
1600	2	1	3	4	Science	over 50	over 10	No
725	2	3	18	3	Philosophy	31-40	0-2	Yes
2200	2	3	13	2	P.E.	over 50	3-10	No
1500	2	1-3	8	0	Soc. St.	41-50	over 10	Yes
2045	1-2	3	10	4	Biology	over 50	over 10	No
2300	2	1-3	13	4	Elem. Educ.	31-40	3-10	No
2200	2	3	16	5	P.E.	41-50	3-10	No
647	2	3	11	2	Sci./Health	31-40	0-2	Yes
750	3	1-2	14	1	Electronics	31-40	3-10	-
2800	2	3	6	5	P.E.	over 50	over 10	No
1200	2	1-3	8	2	Soc. St./Eng.	over 50	over 10	No
2250	3	2	12	4	Fine Arts	over 50	over 10	No
1600	2	1-3	9	2	Bus. Ed.	over 50	over 10	No
1550	2-3	1	11	4	Chemistry	over 50	over 10	No
575	2	3	12	1	Math	31-40	3-10	Yes

TABLE 4.3 (cont.)

School Enrollment	Basic Leadership Style	Supporting Leadership Style	Adaptability Rating	Number of Assistants	Undergraduate Major	Age	Years of Experience	Interviewed by the Board
675	3	1-2	4	1	P.E.	41-50	3-10	No
1865	2	3	1	3	Health/P.E.	over 50	over 10	No
1069	1-2	3	8	3	Ind. Arts	over 50	over 10	Yes
2897	1	2-3	0	4	Soc. St.	over 50	over 10	No
1100	2	3	13	1	English	41-50	3-10	Yes
204	2	3	9	0	Education	over 50	over 10	No
2356	2	3	4	8	History	over 50	over 10	No

TABLE 4.4

RAW DATA ON ASSIMILATOR PRINCIPALS

School Enrollment	Basic Leadership Style	Supporting Leadership Style	Adaptability Rating	Number of Assistants	Undergraduate Major	Age	Years of Experience	Interviewed by the Board
1900	2-3	-	11	5	P.E.	over 50	0-2	Yes
1647	1	2	4	3	P.E.	41-50	over 10	-
1900	2	3	12	5	English	31-40	3-10	Yes
1875	3	1-2	4	3	Math	over 50	over 10	No
87	2	3	15	0	Pol. Sci.	31-40	0-2	Yes
1178	3	2	11	4	Math/P.E.	over 50	over 10	No
670	2-3	1	8	2	English	41-50	3-10	No
1500	2	1-3	7	4	History	31-40	0-2	No
775	2	1-3-4	9	1	Math	31-40	over 10	No
1159	2	3	15	2	Soc. St.	over 50	over 10	Yes
1000	2	3	11	2	Math	over 50	over 10	No
811	2	1-3-4	13	2	History	41-50	3-10	No
560	2-3	1	11	3	Soc. St.	31-40	0-2	No
2200	2	1-3-4	12	6	Chemistry	over 50	3-10	Yes
1350	2-3	1	14	3	Ind. Arts	over 50	3-10	No

the variables reported in these tables are straightforward and do not need explanation. These variables are school enrollment, number of assistants, undergraduate major, and whether the principal had been interviewed by the Board of Education. The variables of age and experience were collected in terms of ranges. For example, a principal's age may be in the range of 41 to 50 years while his experience as a principal is in the range of 10 or more years. The four learning styles of converger, accommodator, diverger and assimilator, were identified for the various principals through their completion of the Learning Style Inventory. The LEAD-Self was used to determine basic and supporting leadership styles and also the adaptability rating. The adaptability rating, for the purposes of this style, was used as the measure of leader effectiveness. This rating measured the ability of each individual principal to analyze a given situation and choose the most appropriate leadership response from a given set of four. This adaptability rating could range from -24 to +24. For the principals surveyed, the actual range was -3 to +19. Leadership styles are represented by the numbers 1, 2, 3, and 4. Style 1 corresponds to a "telling" type of leader behavior, Style 2 corresponds to a "selling" type of leader behavior, Style 3 corresponds to a "participating" type of leader behavior, and Style 4 corresponds to a "delegating" type of leader behavior.

A review of Tables 4.1, 4.2, 4.3 and 4.4 leads to several general observations which will be reported in this section of the chapter.

Learning styles of the principals in the study

Of the 110 principals surveyed, 42 were convergers (38%), 30 were accommodators (27%), 23 were divergers (21%), and 15 were assimilators (14%). These learning styles are presented in an obviously descending order with regard to how common they are among the group of high school principals, but a closer inspection reveals some interesting points. Each learning style is a combination of two learning modes. The two most common learning styles, converger and accommodator, share the common learning mode of active experimentation. In other words, 65% of the principals surveyed tend to be active as opposed to reflective in their learning styles. Those principals with a learning style containing the reflective observation learning mode, divergers and assimilators, represent 35% of the principals surveyed. Active experimentation and reflective observation are conflicting modes of learning and separate the principals into two groups by a margin of almost two to one. The same tendency is not found, however, when we separate the principals into two groups based on the other pair of conflicting learning modes, concrete experience and abstract conceptualization. In this case, we find roughly equal proportion of principals in each category. The accommodators and divergers share the concrete experience mode of learning and represent 48% of the principals surveyed. The convergers and assimilators share the abstract conceptualization learning mode and represent 52% of the group. These data appear to indicate that high school principals strongly tend to be active as opposed to reflective in their learning styles. Furthermore, within the "active" group, there appears to be a tendency toward

abstract as opposed to concrete. These data are consistent with Kolb's (1976) findings that educational administrators have learning styles that are very close to the line separating accommodators from convergers.

Leadership styles of the principals in the study

Hersey and Blanchard, the developers of Situational Leadership Theory and the LEAD-Self instrument, suggest that successful leaders capitalize on two important abilities. These leaders are able to make the right decision in a given situation, and they make proper use of each of the four styles of leadership. Consider the LEAD-Self for purposes of illustration. A "perfect" score on this instrument would produce an adaptability rating of +24. In addition, out of the 12 items, each of the four learning styles would have been chosen by the respondent three times. In other words, the respondent would have shown flexibility in style and effectiveness in decision making ability. With these thoughts in mind, it is especially interesting to review Tables 4.1 through 4.4 in terms of leadership style. A principal's basic leadership style was that style he or she exhibited most often in responding to the items on the LEAD-Self. In most cases, the principals had a single basic leadership style. In a few cases, though, a principal's basic style was a combination of two or three styles. The data in the tables reveal the predominant frequency with which the high school principals surveyed were identified as having either Style 2 or Style 3 as their basic leadership style. Of the 110 high school principals surveyed, 95 were identified as having a single basic leadership style. Of these 95 principals, 65 (68%)

were identified as Style 2 leaders while 28 (29%) were identified as Style 3 leaders. Only two of the principals had Style 1 as their single basic leadership style, and none of the principals were identified as having Style 4 as a basic leadership style. Thirteen principals were identified as having a basic leadership style which was a combination of two or three styles. Nine of these 13 principals had a basic style which combined styles 2 and 3. In only four cases was Style 1 part of the combined basic style, and in none of the cases was Style 4 part of a combined basic leadership style. Even when supporting styles are examined, any movement away from styles 2 and 3 is in the direction of Style 1 to a far greater extent than it is in the direction of Style 4. Only with the assimilators was Style 4 part of a supporting style with any frequency. Of the 15 assimilators, three (20%) had Style 4 as part of their supporting leadership styles.

The predominance of styles 2 and 3 over styles 1 and 4 among the high school principals surveyed is obvious from the data. The data also reveal a predominance of Style 2 over Style 3 among these principals. This predominance is consistent through the four learning styles; however, it is more pronounced among divergers and assimilators. Of the 19 style 2 and 3 divergers, 16 (84%) are Style 2, and of the 10 style 2 and 3 assimilators, 8 (80%) are Style 2. On the other hand, of the 36 style 2 and 3 convergers, 23 (64%) are Style 2, and of the 28 style 2 and 3 accommodators, 18 (64%) are Style 2. As was mentioned earlier, convergers

and accommodators tend to be active experimenters while divergers and assimilators tend to be reflective observers. The data indicate that while principals from all four learning style groups tend to be Style 2 leaders as opposed to Style 3 leaders, this tendency is more pronounced among those principals with a reflective observation learning mode.

It should be recalled that Styles 1, 2, 3 and 4 represent, respectively, the telling, selling, participating and delegating approaches to leadership. The high school principals surveyed are predominantly sellers and participators, mostly sellers.

Board of Education interviews of the principals in the study

Each of the principals surveyed was asked whether he or she had been interviewed by the Board of Education as part of the process leading toward the principalship appointment. Sixty-nine indicated that they had not been interviewed by the Board, while 38 indicated that they had had such an interview. By a roughly two to one margin, such interviews with the Board were not part of the screening process. This rough two to one margin is consistent through the four learning style groups possibly indicating that the chance of being hired as a principal with or without an interview by the Board seems unrelated to the candidate's learning style. However, the enrollment of the high school may be an indication of a candidate's likelihood of being interviewed by the Board. Those principals who were not interviewed by the Board were found in high schools with an average enrollment of 1687, while those principals who were interviewed by the Board were found in high schools with an average enrollment of 1310. It

appears that the smaller the school, the greater the likelihood of being interviewed by the Board of Education, and the larger the school, the lesser the likelihood of such an interview. This difference could indicate that a Board of Education is more likely to get directly involved in matters such as personnel in smaller districts while in larger districts these matters are the responsibility of the professional staff.

Age and experience of the principal in the study

Data regarding the ages and years of experience of the principals in the study were collected in sets of ranges and are presented in Table 4.5. For years of age, the categories consisted of a 31-40 range, a 41-50 range, and an over 50 range. Similarly, years of experience as a principal consisted of a zero to two range, a three to 10 range, and an over 10 range. Overall, 41% of the principals were over the age of 50, 35% were in the 41-50 age range, and 25% were in the 31-40 age range. Forty-two percent of the principals had more than 10 years of experience, 41% were in the three to 10 years range, and 17% had two or fewer years of experience. When these data are investigated in terms of learning styles, a variety of observations can be made. These observations are made by comparing the averages just reported for the sample with the corresponding averages within each learning style group.

Forty-one percent of the principals surveyed are over 50 years of age. Among the divergers, however, 57% are over the age of 50. This variance could suggest that principals who are divergers tend to remain as principals. In contrast, 25% of the principals fall in the 31-40 age

TABLE 4.5

AGE AND YEARS OF EXPERIENCE FOR PRINCIPALS REPORTED BY LEARNING STYLE AND TOTALS FROM THE SAMPLE

	Years	Convergers		Accommodators		Divergers		Assimilators		Totals	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Age	over 50	14	33%	11	37%	13	57%	7	47%	45	41%
	41-50	20	48%	11	37%	4	17%	3	20%	38	35%
	31-40	8	19%	8	27%	6	26%	5	33%	27	25%
Experience	over 50	15	36%	12	40%	13	57%	6	40%	46	42%
	3-10	21	50%	12	40%	7	30%	5	33%	45	41%
	0-2	6	14%	6	20%	3	13%	4	27%	19	17%

range while 33% of the assimilators and 19% of the convergers fall in this range. This variance could suggest that assimilators become principals earlier and convergers become principals later in their careers.

Undergraduate majors of the principals in the study

The 110 principals represented 121 majors from 11 areas. The areas represented along with their frequencies are social studies (30), health and physical education (25), English (15), mathematics (13), science (12), industrial arts (11), education (7), business education (3), fine arts (2), and agriculture (1). These data are presented in Table 4.6 and broken down according to learning styles. Kolb (1984) derived learning style orientations of various academic fields from the Carnegie Commission Study of American Colleges and Universities. These learning style orientations are also reported in Table 4.6.

Of the 121 majors, 55 come from the social science, health and physical education fields. Although the diverger learning style is typical of undergraduate majors in these fields, only 10 of the principals who majored in these fields were divergers, while 25 were convergers. Similarly, of the 25 mathematics and science majors, only five were identified as assimilators, the typical learning style orientation, while 10 were convergers. It is interesting to note the absence of positive correlation between the learning style orientations typical of the various undergraduate majors and the actual learning styles orientations

TABLE 4.6

UNDERGRADUATE MAJORS (WITH TYPICAL LEARNING STYLES) OF PRINCIPALS REPORTED BY LEARNING STYLE

MAJOR	Learning Style Typical of Major	Number of Convergers	Number of Accommodators	Number of Divergers	Number of Assimilators	Totals
Agriculture	Assimilator	0	1	0	0	1
Business Education	Accommodator	0	2	1	0	3
Education	Accommodator	3	2	2	0	7
English	Diverger	4	6	3	2	15
Fine Arts	Diverger	1	0	1	0	2
Health/Physical Education	Diverger	9	7	6	3	25
Industrial Arts	Converger	5	3	2	1	11
Mathematics	Assimilator	5	3	1	4	13
Science	Assimilator	5	2	4	1	12
Speech	Diverger	1	1	0	0	2
Social Studies	Diverger	16	5	4	5	30

of the principals surveyed. This absence of positive correlation may suggest that teachers pursue administrative positions when their undergraduate majors and subsequent teaching fields are inconsistent with their learning styles. This tendency may be especially true for convergers who find themselves in fields not typified by the converger learning style. This possibility may be argued further by noting that although the majority of the principals are convergers, only a very small handful come from fields typified by the converger learning style. Perhaps convergers who major in fields where the typical learning orientation is converger stay in those fields, while convergers in fields typified by other learning orientations tend to move out of those fields.

School enrollment

The average enrollment of the high schools represented in this study was 1543. When the schools were categorized according to the learning styles of the principals, some varying from this average of 1543 was observed. Accommodator-principals were found in the largest schools having an average enrollment of 1699, while assimilator-principals were found in the smallest schools having an average enrollment of 1241. The average enrollment of schools with converger-principals was 1606 and the average enrollment of schools with diverger-principals was 1430. Average school enrollment was also investigated in terms of the basic leadership styles of the various principals. Those principals with Style 2 as their single basic leadership style had an average enrollment of 1539, while those principals with Style 3

as their basic leadership style had an average enrollment of 1577. Both of these average enrollment figures are close to each other and also to the overall average of 1543. When those principals with a basic leadership style which was a combination of two or three of the four styles are investigated, we find them in school having an average enrollment of 1352.

Number of assistants of the principals in the study

The principals in this study had an average of 3.37 assistants. This variable of number of assistants was investigated in terms of both the learning and leadership styles of the principals, but the variance in the number of assistants from school to school appears to be a function of school enrollment only.

Leader effectiveness

For the purposes of this study, leader effectiveness was measured by the adaptability rating determined for each of the principals in the study. When the specific research questions on which this study was based are investigated later in this chapter, this adaptability rating will play a major role. At this point in the chapter, some basic data regarding leader effectiveness are presented. In terms of learning styles, the average adaptability rating was 8.87 for accommodators, 9.43 for divergers, 10.15 for convergers, and 10.47 for assimilators. In terms of leadership styles, those principals with Style 2 as their single basic leadership style had an average adaptability rating of 8.95, principals with Style 3 as their basic style had an average adaptability rating of 11.32, and principals

with a basic leadership style which was a combination of two or three of the four styles had an average adaptability rating of 11.08. These adaptability ratings will be investigated further as the specific research questions are analyzed in this chapter.

Summary

This overview has presented the data in a general way to provide a foundation on which to proceed. In the next major section of this chapter, the data will be analyzed in relation to the specific research questions on which this study was based.

Analysis of the Data in Relation to the Specific Research Questions

Chapter I reported that the specific goal of this study was to answer a set of basic research questions. In this section of Chapter IV, those questions will be presented separately and analyzed from a statistical perspective.

Is there a relationship between learning styles and leader effectiveness?

The Learning Style Inventory and the LEAD-Self provided the data necessary to investigate this question. The adaptability rating produced by the LEAD-Self was used as the measure of effectiveness for the purposes of this study. Each principal was identified according to his or her learning style and adaptability rating. The principals were grouped by learning style and the average adaptability rating for each group was computed. These average adaptability ratings were as follows: accommodators had an average adaptability rating of 8.87, divergers had an average of 9.43, convergers

had an average of 10.15, and assimilators had an average of 10.47. The t test was used to analyze the differences between groups. The t ratios comparing the various groups were as follows: convergers with accommodators, 1.14; convergers with divergers, .62; convergers with assimilators, .26; accommodators with divergers, .41; accommodators with assimilators, 1.10; and divergers with assimilators, .73. In addition to the comparisons just reported, a comparison was made between principals with a concrete learning mode in their learning styles (accommodators and divergers) and principals with an abstract learning mode in their learning styles (convergers and assimilators). The accommodator/diverger group had an average adaptability rating of 8.92 while the converger/assimilator group had an average rating of 10.07. The t ratio comparing these two groups was 1.31. Based on these seven t ratios and the respective degrees of freedom, there is no significant difference at the .05 level between these groups regarding learning styles and effectiveness. It should be remembered that effectiveness, for the purposes of this study, is represented by an adaptability rating which measures the ability to diagnose a given situation and choose an appropriate response to that situation from a set of alternatives. Also, learning style represents the predominance of two learning modes over two other, conflicting modes. Based on the analysis of the data, no significant relationship exists between learning style and effectiveness.

Is there a relationship between leadership style and learning style?

The LEAD-Self used to establish effectiveness through the adaptability

rating was the instrument used to establish the leadership style of each principal. As was mentioned earlier, the LEAD-Self consisted of 12 items. Each item presented a leadership situation with four response alternatives. Each of the four alternatives represented one of the four basic leadership styles. The basic leadership styles of telling, selling, participating, and delegating were represented equally as the most appropriate response in the various items. A "perfect" score on the LEAD-Self would have revealed a leadership style which was a combination of all four styles, each being chosen an equal number of times. An adaptability rating of +24 on this "perfect" performance on the LEAD-Self would indicate that the various leadership styles were chosen at the appropriate times. In the actual practice of administering the LEAD-Self, one dominant leadership style usually emerges. This particular style emerges when it is chosen more often than the other styles. It was in this way that the leadership styles for the principals in the study were determined.

Task oriented behaviors and relationship oriented behaviors on the part of the leader represent the two variables which have been a consistent and essential aspect of leadership studies over the years. A particular leadership style represents a level of concern regarding these two issues. A "telling" style of leadership reflects a high level of concern regarding task accomplishment, but a low level of concern regarding the need for relationship oriented behavior on the part of the leader. If these two levels of concern are appropriate in a given situation, then the proper leadership style is the "telling" style.

The "telling" and "delegating" styles reflect a low level of concern for relationship behavior, while the "selling" and "participating" styles of leadership reflect a high level of concern for relationship behavior. As was mentioned in the general overview of this chapter, there was a predominance of "selling" and "participating" leadership styles among the principals in this study. This predominance indicates that principals may be far more concerned about the relationship aspect of their leadership roles than they are about task achievement. Is it possible that schools are not as task oriented as they perhaps should be?

The research question asks if there is a relationship between leadership style and learning style. The Chi-square test was used to investigate this question from a statistical perspective. Does any one leadership style have a relationship with any one learning style? The test produced a Chi-square value of 8.12 which is not significant at the .05 level. There is no relationship at the .05 level between leadership style and learning style among the principals in this study. The analysis of this question indicates that a leader's learning style, in and of itself, has no significant relationship with the leader's leadership style.

Is there a relationship between the variables of leader effectiveness, learning style, and leadership style?

In each of the prior two research questions, relationships between two variables were investigated. In this question, relationships among three variables were investigated. The variables of

effectiveness, learning style and leadership style were explained previously. The prior two sections of this chapter reported that there was no significant difference between learning style and effectiveness nor learning style and leadership style. But could there be relationships when all three variables are investigated together? The analysis of this question began with an investigation of the relationship between leadership style and effectiveness. The analysis continued with the further categorization of learning style by leadership style. Although it has already been determined that no relationship exists between learning styles and effectiveness in general, the analysis of this research question allowed more specific investigation. For example, is there a relationship between learning style and effectiveness among Style 2 leaders? This analysis sought to answer such questions.

A series of t tests were conducted in the analysis of the research question. Prior to investigating all three variables, an analysis was conducted regarding the variables of leadership style and effectiveness. Is there a significant difference between leadership style and effectiveness? The principals were placed into three groups according to their basic leadership styles. The vast majority of the principals were in either the Style 2 or the Style 3 categories. The third category was comprised of principals whose basic leadership style consisted of a combination of two or three styles. This third category was referred to as the "mixed" style. The following t ratios were computed: Style 2 and Style 3, 2.35; Style 2 and the Mixed Style, 1.55; and Style 3 and the

Mixed Style, .20. Neither of the two relationships involving the Mixed Style was significant; however, the difference between Styles 2 and 3 in terms of effectiveness was significant at the .05 level. The average adaptability rating of Style 2 principals was 8.95 while the average rating of Style 3 principals was 11.32. This difference was significant at the .05 level. This finding appears to indicate that Style 3 leaders may be more effective, as defined in this study, than Style 2 leaders. More generally, it appears that leaders who work with their staffs (participators) may be more effective than leaders who are more likely to direct their efforts toward "getting" their staffs to do things (sellers).

With this finding regarding Style 2 and Style 3 leaders as a base, further analysis of the research question was conducted. Was this difference between leadership styles on the basis of effectiveness consistent through each of the four learning styles? A t ratio was computed comparing leadership styles 2 and 3 in each of the four learning style categories. Those t ratios were as follows: assimilator category, 1.46; diverger category, .06; converger category, 2.52; and accommodator category, 4.14. These t ratios indicated that the difference between Style 2 and Style 3 leaders was not significant at the .05 level for assimilators and divergers, but the differences were significant at the .05 level for convergers and accommodators. It can be seen that the significant difference between Style 2 and Style 3 leaders is not consistent through all four learning styles. This significant difference is

maintained through the converger and accommodator learning styles, but not in the diverger and assimilator learning styles. It should be remembered that the converger and accommodator learning styles share an active experimentation learning mode, as opposed to the reflective observation learning mode shared by the divergers and assimilators. It appears that Style 3 leaders are more effective than Style 2 leaders among active experimenters, but the same statement cannot be made for Style 2 and Style 3 leaders when they are reflective observers.

The final area of investigation regarding the analysis of this research question focused on relationships between learning style and effectiveness among principals who had the same basic leadership style. For example, are assimilators who are Style 2 leaders more effective than convergers who are Style 2 leaders? A series of t tests was conducted to answer each of the twelve questions of this type. The t ratios which were computed to compare the effectiveness for Style 2 leaders of differing learning styles are as follows: Convergers and accommodators, 2.36 (significant at the .05 level); convergers and divergers, .86 (not significant); convergers and assimilators, 2.08 (significant at the .05 level); accommodators and divergers, 2.99 (significant at the .01 level); accommodators and assimilators, 3.84 (significant at the .001 level); and divergers and assimilators, 1.28 (not significant).

The similar set of t ratios for Style 3 leaders are as follows: convergers and accommodators .03 (not significant); convergers and

divergers, .79 (not significant); convergers and assimilators, 1.59 (not significant); accommodators and divergers, .74 (not significant); accommodators and assimilators, 1.52 (not significant); and divergers and assimilators, .71 (not significant). A previous research question failed to produce a significant difference between learning style and effectiveness. This finding indicated further support in the analysis of the present question for principals with a Style 3 leadership style; however, this earlier finding was not supported when the Style 2 principals were investigated. It appears that there are significant differences in effectiveness among principals of different learning styles when these principals are Style 2 leaders. The two exceptions to this statement appear to be the converger-diverger pair and the diverger-assimilator pair. The average adaptability ratings for Style 2 leaders according to learning style are as follows: convergers, 9.00; accommodators, 6.83; divergers, 9.88; and assimilators, 11.75. The low average of the accommodators was significantly lower than each of the other three learning styles. The high average of the assimilators was significantly higher than the convergers and accommodators.

This section analyzed a research question containing three variables. This analysis was more complex and involved than either of the previous two analyses, but it produced some findings that would not have been discovered had the question not been investigated.

What leadership style, if any, is prevalent among high school principals?

What learning style, if any, is prevalent among high school principals?

Both of these questions were addressed in detail in the general overview of this chapter. The general finding regarding leadership style is that high school principals appear to be predominantly sellers and participators (Styles 2 and 3), mostly sellers. This finding suggests that high school principals tend to be more concerned with relationships than task accomplishment. The general finding regarding learning style is that high school principals strongly tend to be active as opposed to reflective and, within this active group, the principals tend to be more abstract than concrete. The largest number of principals, 42 out of 110, were identified as convergers, the learning style which combines the active and abstract learning modes.

Discussion and Implications of the Results

This section of the chapter will review the findings which have already been reported and discuss those findings in terms of their implications and also in terms of any conclusions which may be drawn from them.

Learning styles

As indicated earlier in this chapter, 38 percent of the principals surveyed were convergers, 27 percent were accommodators, 21 percent were divergers, and 14 percent were assimilators. When pairing learning styles which have a common learning mode, active experimenters (convergers and accommodators) outnumbered reflective observers (divergers and assimilators)

by almost a two to one margin. However, the number of principals with the concrete experience learning mode (accommodators and divergers) were roughly equivalent to those principals with the abstract conceptualization learning mode (convergers and assimilators). The data indicated that the high school principals surveyed are active as opposed to reflective in their learning styles, and very close to the line separating concrete from abstract styles of learning. In earlier studies by Kolb (1976), educational administrators were characterized in the same manner. With Kolb's study for comparison, it can be concluded that the particular group of high school principals surveyed was a typical group of educational administrators. Even though the group of high school principals surveyed is a typical one, how can learning style data be used by superintendents and Board of Education members in their efforts to place individuals in principalship positions?

If a particular school district is searching for a "typical" school principal, the Learning Style Inventory could be used to find a converger who is not too far removed from being an accommodator or an accommodator who is not too far removed from being a converger. In either case, the district would be getting an active experimenter. A district should be careful, however. Simply because an individual may fit the typical mold of principal in terms of learning style, it should not be assumed that that type of principal is best for a particular school or for any school. The percentages reported in the preceding paragraph merely indicate the frequency with which the various learning

styles are found among the high school principals surveyed. Those percentages indicate what is, but not necessarily what should be. School district personnel have the responsibility to diagnose their own unique set of circumstances and needs and match those circumstances and needs with the person who will serve as a school principal in that district. The Learning Style Inventory can be a useful tool in the screening and selection process. The principalship role in any school carries with it a set of expectations which is unique for that school. Those expectations should be formalized, especially for those times when the principalship is being filled. Those expectations should be interpreted in terms of learning modes and learning styles. For example, assume that a particular high school is planning to undertake a comprehensive review of its philosophy. This review will either affirm the philosophy or result in its modification. This philosophy will then serve as the basis for a review in the curriculum and graduation requirements of the high school. Necessary changes in the curriculum and graduation requirements will be made to ensure a proper match between these two areas and the school's philosophy. Assume further that the high school principal is expected to provide the leadership in this endeavor and that the school community is willing to take the time to do the job well, but is not very accepting of mistakes, especially if those mistakes appear to be the product of moving too quickly. The reviewing of philosophy and the ensuring of a proper match between philosophy and curriculum are fairly abstract

exercises. A principal who is expected to provide leadership in these efforts must be capable of working with abstract concepts. In addition, this principal must be cautious not to move too quickly. This principal must continually reflect on the progress which has been made in relation to the philosophy and projected outcome. This example presents a specific set of expectations for the school's principal. The example also presents a set of school community characteristics. When these expectations and characteristics are interpreted in terms of learning modes, the modes of abstract conceptualization and reflective observation emerge. These modes combine to form the assimilator learning style.

The school district in this particular example could use the Learning Style Inventory as a screening device through which only those candidates who were assimilators would be chosen to continue in the selection process. In addition to illustrating how a particular set of circumstances can be interpreted in terms of learning modes and learning styles, this example also illustrates how an analysis of a reasonable and likely set of expectations and school community characteristics can identify the need for the least typical principal of those surveyed, an assimilator. If school district personnel analyze the needs of the district and a particular school in terms of learning modes and learning styles, the Learning Style Inventory can be a useful tool in the screening and selection process.

Leadership styles

The LEAD-Self was used to identify basic and supporting leadership styles of the principals surveyed. Theoretically, the "perfect" leader would have a basic leadership style which combined all four styles in equal proportions. Since all four styles comprised this leader's basic leadership style, this leader would have no supporting style. In reality, such a perfect mix of leadership style is seldom found and among the principals surveyed, such a mix was never found. For each item on the LEAD-Self, four responses were available. Each response represented one of the four leadership styles. A leader's basic leadership style emerges by choosing responses representing one particular style more often than any of the other styles. Among the principals surveyed, a surprising predominance of Styles 2 and 3 emerged as basic leadership styles. Of the 108 principals whose basic leadership styles were identified, 95 had a single basic leadership style, while 13 had a basic leadership style which combined two or more styles. Of the 95 principals with a single basic leadership style, 93 were either Style 2 or Style 3. Only two principals had Style 1 as a single basic leadership style, while no principal had Style 4 as a single basic leadership style. Even among the 13 principals with a combined basic leadership style, nine had a combination of styles 2 and 3, four had Style 1 as part of their basic styles, and none had Style 4 as part of a basic style. The data clearly indicate a predominance of styles 2 and 3 among the high school principals surveyed. A closer

inspection of these principals reveals a further predominance of Style 2 over Style 3. This predominance is most pronounced among convergers and assimilators, those learning styles sharing the abstract conceptualization learning mode. The predominance is less pronounced among accommodators and divergers, those learning styles sharing the concrete experience learning mode. What does this predominance of styles 2 and 3 imply? What does the predominance of Style 2, in particular, imply?

Style 2 has been referred to as the "selling" style while Style 3 has been referred to as the "participating" style. Although these styles are different, they do share a common orientation. Leadership styles represent a combination of two types of orientation, task orientation and relationship orientation. Task orientation represents the level of concern of a leader regarding the accomplishment of a given task. A high task orientation implies that the leader is very concerned about the task and whether it will be accomplished. A low task orientation implies that the leader is not concerned about the task being accomplished. Task accomplishment may be important to this leader, but the quality of the followers will ensure this accomplishment so that the leader's level of concern may remain low. A high relationship orientation implies that the leader is very concerned about providing the proper level of socio-emotional support to the followers in their efforts to accomplish a particular task. A low relationship orientation in a given situation implies that such support is neither needed nor wanted by the followers. The four leadership styles represent different combinations of these orientations.

Style 1, the "telling" style, is characterized by a high task, low relationship orientation. Style 2, the "selling" style, is characterized by a high task, high relationship orientation. Style 3, the "participating" style, is characterized by a low task, high relationship orientation. Style 4, the "delegating" style is characterized by a low task, low relationship orientation. The predominance of styles 2 and 3 over styles 1 and 4 implies a noticeably high relationship orientation in the leadership styles of the principals surveyed. The predominance of Style 2 over Style 3 implies a tendency toward higher risk orientation among the principals surveyed. The high school principals surveyed are definitely relationship oriented in their leadership styles and tend toward higher, as opposed to lower, task orientation.

Style 2 principals, far and away the most common type, will be effective leaders within their high schools under two main conditions. First, most of the situations which arise within a high school lend themselves toward a Style 2 leadership approach. Second, for situations which do not lend themselves toward a Style 2 leadership approach, the principal is capable of shifting to and properly implementing the appropriate leadership style.

Just as with learning styles, choosing the "typical" principal in terms of leadership style ignores the uniqueness of any particular school and school community. Even though theoretically ideal, the leader with a perfectly balanced leadership style is unlikely to be found. School

district personnel, as was the case with learning styles, should analyze their needs and characteristics in terms of leadership styles. These personnel must identify the major goals and priorities of the school and the district, and then diagnose the maturity level of the school's staff regarding the achievement of the goals. A low maturity level regarding a majority of the goals would indicate the need for a Style 1 leader. A high maturity level regarding the majority of the goals, on the other hand, would indicate the need for a Style 4 leader. Maturity levels which range from low, through moderate, to high regarding the various goals would indicate the need for a leader who has the flexibility to implement any of the four leadership styles and the wisdom to use these various styles at the proper times. Although a Style 2 converger may be the most common type of high school principal, such a leader may be totally inappropriate for a given school setting. The type of analysis illustrated in the preceding discussion would appear to be a wiser attempt to match the leadership needs of a particular school with the leadership style and capabilities of a prospective principal.

The typical principal among those surveyed has a high relationship orientation and a moderately high task orientation. Should this principal be more highly task oriented and, perhaps, less relationship oriented? Two movements of the past ten years make this question a legitimate one to address. The instructional improvement movement which began in earnest in the mid-1970s has caused many principals to focus on the process of

teaching. This type of focus naturally calls for a relationship orientation on the part of the principal. The principal's orientation could become too high regarding relationship and too low regarding task if the focus on process is to such an extent that the principal and teachers lose sight of the product, student outcomes. Evidence of the possibility of a general overemphasis on process may be the relatively recent school effectiveness movement. Lezotte (1982) and Edmonds (1982) propose similar definitions of the effective school: An effective school is a school where the proportion of students from the lowest socio-economic class in the school evidences minimum mastery of the essential curriculum in equal proportion to the levels of minimum mastery evidenced by the higher socio-economic class in the school. This definition, indeed the whole school effectiveness movement, focuses on student outcomes, mastering curriculum. Lezotte (1982) states that "Starting in the early 1970s, the methodology that dominated educational research on instructional efficacy changed. The change went away from theory-based, hypothesis testing toward observation-based, discovery oriented research. A number of researchers began looking at - through observation - practice, starting with instances of effective practice. This new orientation also places heavy emphasis on outcomes. The research begins in the inquiry with a positive instance - i.e. a state of affairs where there is a desired outcome - and then proceeds to carefully study - through observation - those practices that seem to be associated with that positive outcome." Although the research base exists

to encourage principals to focus on both process and product, the recent popularity of the school effectiveness movement would indicate that the focus of principals and other school people has been too much in the direction of process. This observation, if accurate, could also explain the predominance of relationship orientation in the leadership styles of the principals surveyed for this study.

There is a clear need for principals to focus on both process and product, but the key to effective leadership is the ability of the principal to diagnose his staff in terms of maturity relative to the goals of the school and then implement the appropriate leadership styles called for in the various related situations.

Undergraduate majors

The data regarding the undergraduate majors of the principals surveyed were discussed earlier in this chapter and were presented in Table 4.6. The data were discussed in terms of the learning styles of the various principals and the learning styles typical of the various undergraduate majors. A very interesting finding surfaced when the learning style typical of a particular major was compared with the actual learning styles of the principals with that particular major. High school principals are not typical when their learning styles are compared to their undergraduate majors. In fact, it was very unlikely that a principal had the learning style typical of his or her undergraduate major. This finding appears to imply that teachers who found themselves teaching in fields which were inconsistent with their learning styles felt the need to move out of

teaching. For these teachers who stayed in the education profession, counseling and administration were the likely alternatives. The accuracy of this observation could be verified by surveying counselors and non-principal administrators and matching their learning styles with the learning styles typical of their respective undergraduate majors. Assume that it were established that non-teaching educators are characterized by learning styles which do not match the learning styles typical of their respective undergraduate majors. Assume further that teachers who remain teachers are characterized by learning styles which do match the learning style typical of their respective undergraduate majors. How could school district personnel use this knowledge? This type of knowledge could be used in a program designed to identify, at an early stage, teachers with counseling or administrative potential. Teachers who were identified as having this type of potential and had learning styles which did not match the learning styles typical of their respective majors would form a pool from which future counselors and administrators would be chosen.

Learning style, leadership style, and leader effectiveness

The preceding sections presented interesting and useful implications and conclusions regarding learning styles, leadership styles, and the matching of learning styles with undergraduate majors. This section will present implications and conclusions regarding the relationships involving the variable of learning styles, leadership styles, and effectiveness. When the data were analyzed earlier in this chapter, no significant

difference was found between learning style and effectiveness nor between learning style and leadership style. In other words, a high school principal's effectiveness appeared unrelated to his or her learning style, and his or her leadership style appeared unrelated to the principal's learning style. Some interesting findings surfaced, however, when the three variables were analyzed together.

The analysis began with a comparison of leadership styles and effectiveness. This analysis revealed a significant difference between Style 2 and Style 3 leaders in terms of effectiveness. The effectiveness rating of Style 3 leaders was significantly higher than the effectiveness rating of Style 2 leaders. This finding was the first one of significance in the study and, initially, seemed to imply that Style 3 leaders are more effective than Style 2 leaders. In other words, "participators" are more effective than "sellers." Further analysis, however, indicated that such an initial conclusion was premature. This further analysis indicated that the significant difference between Style 2 and Style 3 leaders is not consistent through all four learning styles. The significant difference between Style 2 and Style 3 leaders applies to convergers and accommodators, but not to divergers and assimilators. Since convergers and accommodators share the active experimentation learning mode while divergers and assimilators share the reflective observation learning modes, it can be concluded that Style 3 leaders are more effective than Style 2 leaders among active experimenters. This same statement cannot be made for

reflective observers. The implications of such a conclusion would be found in the process of selecting individuals for and placing them in positions of leadership.

Earlier in this chapter, learning and leadership styles were discussed in terms of their implications in school settings in general. In particular, the position of principal and the placing of the most appropriate leader in that position was discussed. Those discussions focused on the importance of diagnosing the school and community as well as the staff and the school's goals. Such diagnoses would produce a profile of the ideal leader with respect to the given set of circumstances. If this set of circumstances identifies a particular learning style and a particular leadership style which would be most appropriate for a given situation, the Learning Style Inventory and the LEAD-Self could be very useful as screening devices. The conclusion of the preceding paragraph provides an additional element which could be included in the selection or placement process. The additional element is effectiveness as defined in this study. Even when the selection process identifies the candidates with the learning and leadership styles most appropriate for a given situation, it is important to choose the most effective leader from among those candidates. It has been concluded that Style 3 leaders are more effective than Style 2 leaders among convergers and accommodators. How can this knowledge be useful in selecting individuals for leadership positions? Consider a situation in which a school district is seeking to find someone to assume the principalship of the high school. Through the

type of diagnosis referred to earlier, it has been determined that the principal should be an active experimenter, either a converger or an accommodator. It has been further determined that the principal should be relationship oriented, either a Style 2 or Style 3 leaders. Finally and as could be expected, the principal should be an effective leader. Since Style 3 leaders are more effective than Style 2 leaders among convergers and accommodators, the pool of candidates with converger and accommodator learning styles could be narrowed further by selecting only those candidates who are Style 3 leaders. Such a narrowing of the pool of candidates would not have been advisable had it been determined that the principal should be a reflective observer, either a diverger or an assimilator. With either of these learning styles, candidates could not be differentiated between regarding effectiveness on the basis of their leadership styles.

This section of the chapter is investigating the three variables of learning style, leadership style, and effectiveness. It has been concluded that there is a significant difference between leadership styles regarding effectiveness among certain learning styles. Specifically, Style 3 leaders are more effective than Style 2 leaders among divergers and accommodators, those with an active experimentation learning mode. This conclusion emerged by analyzing leadership styles in terms of effectiveness within each of the four learning styles. What could be concluded by analyzing learning styles in terms of effectiveness within each of the two predominant leadership styles?

A previous research question which sought to determine whether a relationship existed between learning styles and effectiveness failed to produce significant results. When this same question was analyzed within groups of principals sharing the same leadership style, however, significant results emerged. In particular, significant differences between learning styles in terms of effectiveness were found among Style 2 leaders. The previous findings of no significant difference between learning styles and effectiveness continue to be the finding among Style 3 leaders. These findings lead to the conclusions that learning styles make a significant difference regarding effectiveness among Style 2 leaders. In particular, the findings imply the following conclusions:

1. Assimilators are significantly more effective than accommodators and convergers.
2. Divergers are significantly more effective than accommodators.
3. Convergers are significantly more effective than accommodators.
4. Accommodators are significantly less effective than any of the other three learning styles.

The effectiveness ratings, in descending order, of the learning styles of Style 2 leaders are as follows:

- | | | | |
|----|---------------|---|-------|
| 1. | Assimilators | - | 11.75 |
| 2. | Divergers | - | 9.98 |
| 3. | Convergers | - | 9.00 |
| 4. | Accommodators | - | 6.83 |

It should be remembered that these effectiveness ratings apply to Style 2 leaders only. While the ranking implies that assimilators are the most effective Style 2 leaders, the set of conclusions reports that the difference between assimilators and divergers are not significant. On the other hand, the ranking implies that accommodators are the least effective of the Style 2 leaders and this observation is supported by the set of conclusions. In order to be accurate, the ranking must be interpreted using the set of conclusions as a base.

The set of conclusions of the preceding paragraph would have important implications in the placement of individuals in positions of leadership. Those implications can be illustrated by again using the example of a school district's effort to place an individual in the position of high school principal. As was the case with the previous examples, the school district staff would be encouraged to diagnose the school and its goals, the community, and the school staff. This diagnosis should produce a profile of the ideal leader for the particular school. This profile would be interpreted in terms of learning and leadership styles. Let it be assumed that this district is seeking the most effective leader available. The three variables of learning style, leadership style, and effectiveness could create some very interesting situations for district personnel and its profile of the ideal principal. For instance, if the profile is that of a Style 2 assimilator, the effectiveness issue is automatically resolved. The district personnel could quickly narrow its pool of candidates to Style 2 assimilators and proceed with its selection process from that point. If, on the other hand, the profile is that of a

Style 2 accommodator, the issue of effectiveness presents district personnel with a serious dilemma. In general, Style 2 accommodators are the least effective Style 2 leaders. A simple narrowing of the pool of candidates to include only Style 2 accommodators would, perhaps, be inadvisable. This dilemma would dictate a cautious and detailed investigation of the candidates who are Style 2 accommodators in terms of their effectiveness. If an effective leader could not be identified from within this group, the district personnel would have to consider changing the learning style or leadership style of its profile. It should be recalled at this time that the significant differences in effectiveness between learning styles of Style 2 leaders did not transfer to Style 3 leaders. The data have indicated that there is no significant difference in effectiveness between learning styles among Style 3 leaders. The previous two examples illustrated how the three variables of learning style, leadership style, and effectiveness can produce a good match and also a dilemma. A profile focusing on Style 3 will create neither as good a match nor as serious a dilemma. For instance, if a district's profile of the ideal leader is that of a Style 3 converger, the effectiveness issue will not present a dilemma since, in general, any learning style is as effective as any other learning style among Style 3 leaders. In addition, if this district is searching for the most effective Style 3 leader, it will have all four learning styles from which to choose. In the present example of a profile focusing on Style 3 leadership, an initial narrowing of the pool of candidates can be performed to identify Style 3 leaders. If a particular learning style is also part of this profile, further

narrowing can take place; however, this further narrowing, in and of itself, will neither produce a good match nor create a dilemma in terms of effectiveness. Learning style, leadership style, and effectiveness are all important components in the profiles of the ideal leaders that district personnel create in their efforts to place individuals in positions of leadership. The conclusions that have been reported in this study can provide valuable guidance as these profiles are analyzed and interpreted, and as they are applied in the various selection processes which place people in positions of leadership.

Summary

This chapter presented the data which were collected for this study in two main sections. The first section presented a general overview of these data while the second section analyzed these data in relation to the specific research questions of the study. The data were presented, reviewed, and analyzed, and the initial findings were reported. These findings were analyzed for statistical significance and these analyses produced the major conclusions of the study. These conclusions are presented with the respective research questions as follows:

1. Is there a relationship between learning style and leader effectiveness? From a broad and general perspective there is no relationship between learning style and leader effectiveness.

2. Is there a relationship between leadership style and learning style? There is no relationship between learning style and leadership style.
3. Is there a relationship among the variables of leader effectiveness, learning style and leadership style? There is a relationship among the variables of leader effectiveness, learning style and leadership style.
 - a. Style 3 leaders are more effective than Style 2 leaders among accommodators and convergers (active experimenters) but neither leadership style is more effective among assimilators and divergers (reflective observers).
 - b. Among Style 3 leaders, there is no significant difference between learning styles regarding effectiveness.
 - c. Among Style 2 leaders, there are significant differences between learning styles regarding effectiveness.
 1. Assimilators are significantly more effective than accommodators and convergers.
 2. Divergers are significantly more effective than accommodators.

3. Convergers are significantly more effective than accommodators.
4. Accommodators are significantly less effective than any of the other three learning styles.
4. What leadership style, if any, is prevalent among high school principals?

Eighty-eight percent of high school principals are either Style 2 or Style 3 leaders. Within this majority, sixty-eight percent of the principals were Style 2 leaders and twenty-nine percent were Style 3 leaders. High school principals are sellers and participators, predominantly sellers.

5. What learning style, if any, is prevalent among high school principals?

The converger learning style was the most common (38%) and the assimilator learning style the least common (14%) learning styles of the principals surveyed. High school principals appear to consist of mostly convergers and then, in descending order, accommodators, divergers and assimilators.

The implications of these conclusions were discussed from the perspective of a selection process designed to place an individual in the position of high school principal. From the diagnosis of needs to the narrowing of the candidate pool, the implications of these conclusions were discussed. Other implications can certainly be discussed from this sorting and selecting perspective. Such implications could include the identification of potential

administrators from among an existing staff. Such implications could be generalized from the principalship position to any position of leadership, both within and outside the field of education. Such implications could also apply to the establishment of staff development programs for the existing administrative staff.

Several findings emerged through the analysis of the data. In some cases, the findings led to major conclusions while in other cases, they raised additional questions. These new questions will be addressed in the next chapter where recommendations for further study will be presented.

The purpose of research is to create new knowledge, the nature of research is to raise new questions as it answers the old ones.

CHAPTER V

SUMMARY AND CONCLUSIONS

This chapter will review the purpose of this study and the procedures used in conducting it. The constraints placed on the study through its methodology will be presented as limitations to the study. The major conclusion of this study will be reviewed and the related recommendations presented. Finally, the recommendations for further study, based mainly on the limitations of this study, will be represented.

Purpose of the study

The purpose of this study was to determine whether a relationship existed between leadership style, learning style, and leader effectiveness. Since learning style would seem to relate closely to the way people think while leadership style would seem to relate closely to the way people act, it seemed reasonable to suspect that a relationship exists between thinking and acting and this relationship could be studied in terms of learning style, leadership style, and effectiveness. This study sought to determine the existence and nature of this relationship.

Procedures and methodology

What kind of data needed to be collected and from whom? The answer to this question placed constraints on the study. These constraints provided the structure which was needed in the study, but these constraints also placed limitations on the study. Data were collected from high school

principals. To ensure that socio-economic conditions would not bias the results, public and private high schools were chosen from a variety of counties in northern Illinois. These counties are comprised of urban, suburban and rural communities and have unemployment rates that range from the lowest to the highest in the state. Data were collected which identified the learning style, leadership style and adaptability rating (effectiveness) of each principal. Data were also collected on such general factors as age, years of experience, number of assistants, and undergraduate major. These data were presented, reviewed, and analyzed. Relationships between variables were analyzed to determine statistical significance.

Limitations of the study

It was noted in the preceding section that the constraints which were placed on this study provided needed structure, but also created limitations. This study focused only on principals of high schools in northern Illinois. Because of this limitation, caution must be exercised in drawing conclusions regarding the following groups and sets of circumstances.

1. Principals of middle and elementary schools
2. Educational administrative positions such as deans, assistant principals, directors, assistant superintendents and superintendents
3. People in leadership positions outside the field of education

4. Locations in other parts of Illinois, the United States, and the world.

This study used a specific measure to determine effectiveness and leadership style. The LEAD-Self measured the ability to choose the best response to a given situation from among given alternatives. Furthermore, this measure represented the principal's perspective. This self-perception of principals regarding their abilities to choose the most appropriate given responses to a given set of situations created limitations represented by the following questions:

1. What are the perceptions of others, superiors, peers, or subordinates, regarding the principal's ability to choose the best response to a given situation from among given alternatives?
2. How capable is the principal in diagnosing given situations and prescribing appropriate responses without having alternative responses presented to him or her?
3. How could narrative assessments, by the principal and by others, be used to determine effectiveness?
4. In contrast to diagnosing hypothetical situations, could not actual observations of the principal at work be used to determine effectiveness?

5. How could other measures which focus on desirable principal characteristics be used to determine effectiveness?
6. How could other measures which focus on the characteristics of effective schools be used to determine principal effectiveness?

The use of the LEAD-Self provided structure and guidance which was useful in conducting this study, but this structure and guidance was accompanied by the types of limitations illustrated through the preceding questions.

This study focused on individuals who were high school principals at the time the data were collected. Is it possible that the position of high school principal affects the learning style, leadership style or adaptability rating of an individual occupying that position? Such a possibility would suggest another limitation of this study. It would be interesting and informative to trace an individual's career from a classroom teacher, through a principalship, to a superintendency and note any shifts regarding learning style, leadership style and effectiveness (adaptability rating).

The data which were collected for this study were in the form of written responses. This form of data collection could be a limitation in itself. The recording of actual observations of principals could provide an important set of data to supplement the data which represent responses to given situations.

The limitations presented in this section of the chapter suggest many opportunities for further study. These opportunities for further study will be presented later in this chapter in the form of recommendations for additional research.

General conclusions

The analysis of the data which was presented in Chapter IV led to several findings. These findings were specific in nature and the statistical analyses of these findings led to several specific conclusions. These findings and conclusions were reported in specific detail in Chapter IV, and they will be reviewed in more general form in this section.

1. Is there a relationship between learning style and leader effectiveness? This question was initially addressed from a general perspective. Is one learning style superior to the others in terms of effectiveness? Can the four learning styles be ranked according to effectiveness? These examples are the types of specific questions that the research question sought to answer. The answer that emerged, however, revealed that no such relationship exists between learning style and effectiveness from a general perspective. If all that is known about a group of individuals is their respective learning styles, no conclusions could properly be drawn regarding their respective levels of effectiveness.

2. Is there a relationship between learning style and leadership style? Is a leader with a learning style containing an active experimentation component more likely to be a "telling" or "selling"

type of leader? Likewise, is a leader with a learning style containing a reflective observer learning mode more likely to be a "participator" or a "delegator" type of leader? The statistical analysis of the data failed to determine a relationship between learning style and leadership style. The data did lead to the conclusion that if an individual is a high school principal, he or she is probably a Style 2 or a Style 3 leader; however, a leader's leadership style is insufficient information from which to predict his or her learning style. Similarly, a leader's learning style is insufficient information from which to predict his or her leadership style.

3. What leadership style, if any, is prevalent among high school principals? This question was alluded to in the preceding paragraph. Most of the high school principals surveyed were Style 2 leaders with a sizable number being Style 3 leaders. This predominance of Style 2 and Style 3 leaders among high school principals suggests a high relationship orientation by members of this group.

4. What learning style, if any, is prevalent among high school principals? More high school principals were convergers than any other learning style. It was interesting to note that the vast majority of these convergers had undergraduate majors which were not typical of convergers. This finding suggested that convergers who majored in fields typical of one of the other three learning styles tended to leave the classroom in pursuit of different challenges.

5. Is there a relationship between effectiveness, learning style and leadership style? This question produced the most interesting results of the study. In general, the study found no relationship between learning style and effectiveness nor between learning style and leadership style. However, when all three variables of effectiveness, learning style and leadership style were analyzed, relationships were identified. For instance, Style 3 leaders are more effective than Style 2 leaders among accommodators and convergers, but neither leadership style is more effective than the other among divergers and assimilators. In addition, no particular learning style is more effective than another among Style 3 leaders; however, there are differences between learning styles among Style 2 leaders regarding effectiveness. Specifically among Style 2 leaders, assimilators are more effective than accommodators and convergers, divergers are more effective than accommodators, and convergers are more effective than accommodators. Among Style 2 leaders, the accommodator learning style is the least effective of the four learning styles.

Recommendations from the study

The implications that were suggested in Chapter IV focused on the sorting and selecting function of organizations. This function is essentially one of recruiting, identifying, screening and placing individuals in various positions within the organization. When proper consideration is not given to this function, the likelihood of problems

is increased. When problems arise in an organization and these problems are personnel-related, three alternatives exist for their resolution (Gordon, 1975). These three alternatives relate to the three ways in which an individual should "fit" into an organization. There should be a proper match between the individual and his or her position, between the individual and the other people in the organization, and between the individual and the structure and goals of the organization. When such a match does not exist, the following three alternatives are available:

1. The individual can change himself or herself.
2. The individual can change the other people in the organization.
3. The individual can change his or her environment by changing the present organization or moving to a different organization.

A leader who is ineffective in one setting could very well be effective in a different setting. The three alternatives just cited present ways to resolve problems of ineffectiveness. The cause of such problems is assumed, by Gordon, to be a poor match in one of three areas. Although the alternatives for resolving these types of problems are logical, the effort required to implement any one of them could be considerable.

Therefore, an organization would be wise to do the type of preliminary work necessary to avoid such problems. Since this study focused on high school principalships, the organization becomes that of a school district. A

school district should conduct diagnoses to determine the characteristics of the leaders that are needed now and will be needed in the future. Such diagnoses should increase the likelihood of avoiding the problems associated with improperly matching individuals and specific positions.

With the preceding paragraph as a base, the study suggests the following recommendations:

1. School districts should establish a process whereby leadership positions are diagnosed in terms of learning and leadership styles.
2. When filling a specific leadership position, school districts should identify the learning and leadership styles of the various candidates as part of the screening process.
3. If a school district determines that it is regularly seeking individuals with a particular learning style and a particular leadership style for its leadership positions, that district should screen its non-administrative personnel for the purpose of identifying a pool of potential administrators.
4. If a school district, through its diagnosis of leadership needs, determines that it seeks a Style 2 accommodator, that district should proceed cautiously because accommodators were generally found to be the least effective learning style among Style 2 leaders.

5. If a school district, through its diagnosis of leadership needs, determines that it seeks a Style 2 assimilator or diverger, that district can proceed somewhat comfortably since assimilators and divergers were generally found to be the more effective learning styles among Style 2 leaders.
6. If a school district determines that it needs a Style 2 leader but that leader's learning style is not a factor, that district would find a greater percentage of effective leaders among the assimilators and divergers and, for the sake of efficiency, should first consider candidates with one of these two learning styles.
7. If a school district determines that it needs a Style 3 leader, it need not be concerned about the learning style issue since the study determined that there is no difference regarding effectiveness between learning styles among Style 3 leaders.

Recommendation for future study

The constraints which were placed on this study provided structure for the study. This structure was beneficial, but it also created limitations. These limitations can serve as the basis for additional study. The recommendations for additional study are as follows:

1. A study similar to this one should be conducted to include elementary and middle school principals, along with high

school principals, to determine if the conclusions regarding high school principals can be generalized to all levels of school principalships.

2. A study similar to this one should be conducted to include other school administrative positions (deans, assistant principals, directors, assistant superintendents, and superintendents) to determine if the conclusions regarding high school principals can be generalized to positions of school administration.
3. A similar study with similar purposes should be conducted for positions of leadership outside the field of education.
4. Similar studies with similar purposes should be conducted in other locations to determine if findings and conclusions are affected by geographic location.
5. When conducting similar studies, additional means should be used to determine leader effectiveness. Such means could include the following:
 - a. Use the LEAD-Other to obtain style and effectiveness data on a leader from those individuals who work with and for him or her.
 - b. Gather data on the leader's ability to "create" solutions to a given set of situations.

- c. Gather data regarding leadership style and effectiveness through actual observation.
- d. Gather data based on the characteristics of effective leaders as found in the literature.
- e. Gather data based on the characteristics of effective schools, when studying principals, as found in the research on school effectiveness.

Closing statement

What can be expected from research? This study sought to address the relationship between learning style, leadership style, and leader effectiveness. Some questions were answered while others were raised. The purpose of research is to answer questions, but it is perhaps the pervasive nature of research to raise as many questions as it answers, and, at times, raise more questions than it answers. Because of its purpose and nature, research, and the knowledge and understanding it creates, is self-perpetuating and never-ending.

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The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Education.

May 12, 1986
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