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An Examination of the Organizational Effectiveness of High Schools Who Have Model Microcomputer Instructional Programs

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AN EXAMINATION OF THE ORGANIZATIONAL EFFECTIVENESS OF HIGH SCHOOLS WHO HAVE MODEL MICROCOMPUTER INSTRUCTIONAL PROGRAMS

by

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DEDICATION

TO MY LOVING WIFE, JUDY

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To my loving wife, Judy, for her never ending faith in me and my ability to succeed. Her strength and love gave me the opportunity and reason to complete my doctoral degree.

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VITA

The author, Chester Arthur Pulaski, Jr., is the son of Chester A. Pulaski and Helen (Swartz) Pulaski. He was born in Chicago, Illinois, on October 30, 1947.

He attended the public elementary schools in Downers Grove, Illinois. He graduated from Downers Grove North High School in 1965.

In September, 1965, Mr. Pulaski entered Illinois State University, receiving the degree of Bachelor of Science in Education in June, 1969. While attending Illinois State University, he was active in intercollegiate athletics and student government.

He began graduate study in 1969 towards the degree of Master of Science in Education. He received the degree from Illinois State University in June, 1973.

Mr. Pulaski began his professional career in September, 1969, as a mathematics teacher at Morton East High School in Cicero, Illinois. Mr. Pulaski entered the field of school administration in August, 1973, as an assistant principal at Crete-Monee High School in Crete, Illinois. Mr. Pulaski has served as a school administrator at East Aurora High School, Aurora, Illinois and he is serving currently as an assistant principal at Bloom High School, Chicago Heights, Illinois.

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CHAPTER I

INTRODUCTION

All organizations, whether they are international in scope with millions of members, such as the Roman Catholic Church, or locally interested groups with few members such as a volunteer fire department are concerned with organizational effectiveness. Individuals, both inside and outside an organizational structure, are continuouslly evaluating the organization. Assessments of organizational effectiveness are really evaluations.

Schools, as organizational entities, are forever being evaluated. Today, perhaps more than ever before, schools are being examined as to how well they accomplish their stated objectives. Parents demand to know how well their students compare with other students. Taxpayers are interested to learn if curricular programs are effectively and yet economically preparing students to take their place in society.

School administrators are responsible for answering questions about a school's performance. The building principal ia a key person in the success or failure of a school. The Reverend Jesse Jackson proclaimed:

> And unless someone - boards of education, parents, students, teachers, the community, personal pride and conscience-holds the principal accountable for making things come out right, don't ever expect any gourmet treats. The

> principal is the motivational yeast; how high the students and teachers rise to their challenge is the principal's responsibility. 1

One responsibility of principals is to keep students and teachers working toward the goals established by the local board of education and state board of education. The principal in each school as the responsible curriculum planner, utilizes the expertise of his faculty to devise educational experiences that will accomplish the goals agreed upon. All goal setting and planning in the school is carried out under the principal's direction. The principal must continuously evaluate the effectiveness of his school organization if his school is to progress.

Today's principals have a particularly difficult job. The world has become increasingly more technological due to computerization. Computers are now found everywhere from the local bank to the check- out line at the grocery store. Contemporary schools are considerably more computerized than they were just ten years ago. Principals now must have an understanding of terms such as "floppy disks," "daisy wheel printers" and "computer-assisted instruction." Today's principals are the instructional leaders of an organization that uses and must prepare its clients for survival in a high tech society.

There have been a number of research studies on the characteristics of effective organizations and, in particular effective high schools. Many school studies have focused

on effective high schools. For example, J. Lloyd Trump, director of the National Association of Secondary School Principals' Models Schools Project, reported in 1977 that one characteristic of effective high schools was that the school curriculum was continually evaluated in terms of the use of learning and teaching resources of the school. In 1983, a distinguished group of the nation's experts in technology, communications and education suggested that all aspects of the high school curriculum should be reassessed in light of the existence and growing potential of computer-assisted instruction. In other words, high schools should reassess their curriculum in terms of the potential benefits of computer instruction if they are to be effective schools.

There is a growing need for high school principals to evaluate their school's effectiveness in relation to their instructional programs. This study examined the organizational effectiveness characteristics of high schools who have model instructional programs.

STATEMENT OF THE PROBLEM

How do the organizational effectiveness traits of student educational satisfaction, student academic development, employee satisfaction and ability to acquire financial and human resources compare for high schools who have model micro-

computer instructional programs?

SIGNIFICANCE OF THE STUDY

Considerable research has been conducted on organizational effectiveness. The greatest share of the literature has focused on non-school settings, but recently school effectiveness has received wide attention as evidenced by an abundance of recommendations made by nationally recognized study groups. This study centered its attention on the organizational effectiveness of high schools rather than on elementary or university level because of the author's interest and experiences in high school administration.

Computer instruction in schools has become increasingly popular during the last ten years due to the availability of computers. Computer instruction has demonstrated that it can help improve student achievement and reduce student learning time.[2] Computer instruction is viewed by many individuals as one way to improve school effectiveness through the improvement of instruction.

Part of this study examined the microcomputer instructional programs of high schools. More significantly, this study analyzed the organizational effectiveness of schools who had model microcomputer instructional programs. The organizational effectiveness traits of high schools with model microcomputer instructional were profiled and then compared. This study can prove helpful for the high school

administrator who is interested in developing and implement- an effective microcomputer instructional program in order to improve his school's organizational effectiveness.

LIMITATIONS OF THE STUDY

The study was geographically limited to a population of high schools located in DuPage County, Will County and Cook County outside of the city of Chicago. A second limit of the study was that only high schools that were the sole high school within a unit district or high school district were included. Inconsistencies that could occur among multiple high schools within a single district, even though governed by a single district policy, were, therefore, avoided. Thus, the study did not include schools within the geographically targeted area that were part of a multi-school high school or unit district.

The study was also limited by the responses to the questionnaire pertaining to microcomputer instruction. The respondents to the microcomputer questionnaire were high school principals. The principals, however, may have had limited ability to answer the microcomputer questionnaire due to their limited personal knowledge about their schools' curricular programs. Any imperfections in the first ques-

tionnaire may have limited the final ranking of the microcomputer instructional programs.

The study was limited to the five high schools who were indentified as having model microcomputer instructional programs. Five high schools, approximately the top quartile of the responding high schools on the microcomputer questionnaire, were defined as having model microcomputer instructional programs. Thus, the study did not include a number of high schools who had very fine microcomputer instructional programs or those without a microcomputer instructional program.

The respondents to the questionnaire on organizational effectiveness were a representative sample of students and teachers and all of a school's administrators. The study did not include noncertified staff, board of education members or parents of students who attended the high schools etc. The framework of the study purposely excluded certain groups' opinions because of their more limited involvement with the schools' organizational effectiveness.

The study was limited as a result of all respondents answering the same organizational effectiveness assessment instrument. Some respondent groups may have limited information about certain aspects about the school operation and thereby their perceptions may have been influenced.

SAMPLE

The population consisted of public high schools with microcomputer instructional programs. The sample consisted of students, teachers and administrators who were members of the five high schools that were identified as having model microcomputer instructional programs. The sample was drawn from those high schools who were located in DuPage County, Will County and Cook County outside of the city of Chicago. The schools were limited to those schools that were the only high school in the district. Twenty-seven high schools were identified in the targeted area. For purposes of this study, high schools with model microcomputer instructional programs were defined as those that ranked in the top five of all high schools on the microcomputer questionnaire.

RESEARCH QUESTIONS

These questions focused on the students, teachers and administrators at the high schools who had model microcomputer instructional programs. They were developed to assess the organizational effectiveness of schools as perceived by the three groups most directly involved with the school's operation: administrators, students and teachers.

1. What is the level of student educational satisfaction?
2. What is the level of student academic development?
3. What is the level of the school's ability to acquire financial and human resources?
4. What is the level of employee satisfaction?
5. What are the differences among the five high schools in terms of the variables of organizational effectiveness?

RESEARCH PROCEDURE

The study approached the research questions by collecting data through two separate procedures. The first procedure examined the microcomputer instructional programs at the twenty-seven high schools within the target population. A questionnaire was sent to the principals of the high schools, along with a cover letter, explaining the project and soliciting their assistance. A follow-up was conducted by forwarding a second copy of the questionnaire along with a second cover letter to those principals who did not respond within a two week period.

The questionnaire was created by the researcher after a review of the literature and a solicitation of suggestions from colleagues. The questionnaire contained 15 items addressing the characteristics of the school's microcomputer instructional program. For example, the microcomputer per student ratio was examined. A rank was assigned to the

schools' microcomputer instructional programs.

The second part of the study addressed the organizational effectiveness of the five high schools who had been identified as having model microcomputer instructional programs. A telephone interview was conducted with each of the principals of the high schools who had been identified as having a model microcomputer instructional program. The principal was asked to participate in the second aspect of study. The interview allowed the researcher to explain more fully his project and allowed the principal to ask questions and to accept/reject the researcher's invitation to participate further in the project.

The questionnaire used in the second part of the study was modified version of Cameron's 57 item instrument on organizational effectiveness used at the university level in 1976 and 1980. As a result of interviews with top level administrators in six New England colleges, Cameron developed an instrument that indentified nine categories of effective institutions. For purposes of this study, Cameron's instrument was modified in terms of language to fit the high school level. Cameron's research also gathered objective data related to the nine categories of effectiveness. For purposes of this study, objective data were secured from the five principals of the high schools for analysis. These data included: 1) the number of student drop-outs; 2) the number of students going on to post-secondary educa-

tion 3) the number of teachers leaving; 4) the number of administrators leaving; 5) the school's total budget and 6) the teachers' salary at the Bachelor's degree and no experience level.

ORGANIZATION OF THE STUDY

Chapter I presented the statement of the problem, significance of the study, the research questions and a brief overview of the research procedure.

Chapter II reviews the related literature.

Chapter III gives an overview of the research procedure and the methodology used.

Chapter IV presents an analysis of the collected data generated from the questionnaires.

Chapter V provides a review of the study and offers some conclusions and recommendations as a result of the study.

CHAPTER II

REVIEW OF RELATED LITERATURE

The chapter presents the relevant background, literature and research on organizational effectiveness and micro-microcomputer instruction. Four sections are used to present the findings of the search for existing information. Section one elaborates on the models that have been used to explain the construct of organizational effectiveness. Section two provides a background as to why no single definition for organizational effectiveness exists. Section three describes the criteria that have been used to identify and predict organizational effectiveness. Section four presents the research on the effectiveness of microcomputer instruction for the enhancement of learning. The focus of the chapter is on the construct of organizational effectiveness and the ongoing attempts to measure it.

Organizational effectivess is a topic that has received an increasing amount of attention in recent years. One reason for this phenomenon is that organizations play ever increasing roles in the lives of all people. Etzioni stated that:

> We are born in organizations,educated in organizations, and most of us spend much of our lives in organizations. We spend much of our leisure time paying, playing and praying in organizations. Most of us will die in an

> organization, and when then the time comes for burial, the largest organization of all - the state - must grant official permission. 3

No single definition of organizational effectiveness exists. There is little agreement between authors as to what organizational effectiveness means or how to measure it. The literature is very fragmented and somewhat confusing.

Organizational effectiveness is a major concern to school administrators. One responsibility of administrators is to assist students and teachers in achieving the educational and social goals established by the local and state boards of education. Administrative performance is in a large measure determined by the level of achievement that students attain. Effective schools have administrators who understand the complexities of the school organization and know how to make schools more effective. In summary, organizational effectiveness plays a very important role in one's daily life at home, school, work and play, and, therefore, warrants close examination.

MODELS OF ORGANIZATIONAL EFFECTIVENESS

> An Indian Tsar summoned several blind men together and asked them to describe an elephant. Each blind man touched a different part of the elephant(i.e. legs, trunk, tail, head, tusks and sides) and, as a result, each gave a different account of what an elephant was to him. (Tolstor, 1928) In some respects, this story may be adapted to fit organizational effectiveneness

> researchers who select different approaches for investigating organizational behavior. 4

The oldest model of organizational effectiveness is the goal achievement approach which focuses on an organization's ability to achieve its goals. Evaluation criteria are based on measuring goal achievement. The goal achievement approach relies on a closed system framework for organizations. A closed-system framework assumes that factors outside of the organization do not influence the organization. Rice and Bishoprich commented:

> . . . a closed system is a hypothetical construct. Closed systems do not exist in reality. There never was and probably never will be a completely closed system, because components are always influenced by forces outside of the system itself. But closed-system analysis as a way of thinking about the interaction of components is extremely useful. 5

The goal achievement approach argues that the higher the degree of goal achievement the greater the organization's effectiveness. The roots of the goal achievement model are from classic economic theory.

One of the best known early organizational theorist was the sociologist, Max Weber. He believed that optimizing efficiency would optimize effectiveness. Knezevich stated that Weber's theory was characterized by a division of labor within an organization based on fuctional specialization, a well-defined hierarchy of authority, a system of rules covering work to be performed, a situation where impersonality prevailed in inter-personal relations, and a pattern for selection and assignment of individuals based on technical

competency. In other words, like a machine, an organization could be managed to become more efficient and thereby increasing its ability to achieve goals. Formal organizational charts are an outgrowth of Weber's work. Katz and Kahn described application of the machine model approach:

> The organization, though consisting of people, is viewed: . . . as a machine, and . . . that just as we build a mechanical device with given sets of specifications for accomplishing the task, so we construct an organization according to a blueprint to achieve a given purpose. 6

An early advocate of the goal achievement approach was Fredrick Taylor. Taylor is commonly referred to as the " father of scientific management." He stressed the need for employing scientific methods to maximize efficiency and thereby increasing effectiveness. Spalding commented: "Taylor's most specifice contribution was his idea of measuring a suitable day's work, leading as it did to time-and-motion studies and many complex methods of wage payments." [7] Taylor believed that adhering to a mandatory schedule of work and restwould allow a worker to be at his peak efficiency at all times. Organizational effectiveness was defined in terms of work output-goal achievement. Massie summarized the work of Weber and Taylor:

> Efficiency of an undertaking is measured solely in terms of productivity. Efficiency related to a mechanical process and the economic utilization of resources without consideration of human factors. Human beings can be assumed to act rationally. The important consideration in management are those which involve individuals and groups of individuals heading logically toward their goals. 8

Daly pointed out that the research in the area of effectiveness prior to the 1950's was conducted primarily by sociologists using the case study approach. This was followed by the era of the goal oriented social pathologist and management theoretician.

In 1957, Georgopoulos and Tannenbaum published a criterion study that marked one of the first attempts to study effectiveness as a discrete topic. Their study of an industrial service specializing in the delivery of retail mechandise found that strain between organizational members was an important factor in effectiveness. They defined organizational effectiveness as: " the extent to which an organization as a social system, given certain resources and means, fulfills its objectives without incapacitating its means and resources. . ." [9] Prior to their work, goal achievement was linked to singular traits such as efficiency. Georgopoulos and Tannenbaum associated goal achievement to multiple components. Stewart stated that the Georgopoulos and Tannenbaum claim that productivity, flexibility and ex ternal adaption, and absence of tension and conflict with subgroups were dimensions of effectiveness that had applicability to most organizations.

During the 1960's, Etzioni advocated a modified goal achievement approach that was a synthesis of the bureacratic and scientific management and systems approaches. In other words, Etzioni incorporated the theories of Weber, Taylor,

Georgopoulos and Tannenbaum into a new one.

Etzioni's classification of organizations is noteworthy. Three major types of organizations are identified: 1) coercive - organizations that use force to control behavior, such as armies, prisons, etc.; 2) utilitarian - organizations that use rewards to control behavior, such as factories, stores, etc.; 3) normative - organizations that use morals or beliefs to control behavior, such as churches, political parties, etc. Etzioni argued that workers would become involved in their work in direct relation to the type of power exercised over them.

Etzioni borrowed from Parsons when he defined an organization: " Organizations are social units (or human groupings) deliberately constructed to seek specific goals."[10] Etzioni believed that an organizational goal was a desired state of affairs which the organization attempted to realize. In other words, Etzioni considered an organization to be effective if it attained its goals. Final attainment of all organizational goals, however, was unrealistic. Managers can help organizations become effective if they strive for a daily state of equilibrium.

Perrow, during the 1970's, advocated the use of the goal achievement model. Perrow criticized Etzioni's work as being narrow in focus.He argued that concentrating on one dimension of an organization may wrongfully neglect other dimensions that were equally or even more important. He

stated: " . . . if organizations are to be studied, rather than individuals or group processes,then the structural view, characteristic of sociology is superior."[11] Drabich and Haas stated that Perrow was an advocate of the technological perspective of organizational effectiveness theory. They stated: ". . . the forms of activity of some organizations is on processing physical objects ormaterials of some kind . . . it is argued that organizations are systems which use energy in a patterned, directed effort to alter the condition of basic materials in a predetermined manner."[12] Drabich and Haas stated that technology was defined by Perrow as the actions that an organizational member performed on an " object" with or without the aid of tools in order to change the object. "Objects" may be physical things, persons or ideas. Perrow explained that: ". . . Organizations are tools designed to achieve various goals. To understand them fully, one must understand the goals they pursue."[13] Five different organizational goals were defined by Perrow. These goals included: 1) societal goals; 2) output goals; 3) systems goals; 4) product goals and 5) derived goals. Perrow explained that "...our main reason for distinguishing types of goals is to deal with the question of whose point of view is being recognized-society the customer, the investor,the top executives, or others."[14] Perrow differentiated between real and stated goals. What an organization proclaimed its goals to be may not be the

same set of goals that it focused its daily energies. Hall commented that: " Perrow made the important distinction between official and operative goals, with the latter involving what the organization is attempting to do, regardless of official statements."[15]

In summary, Perrow was committed to the goal achievement model. He believed that organizations were established to accomplish goals. They performed work directed to some end. To assess effectiveness according to Perrow, required defining the level of goal achievement for that organization.

Another writer whose work warranted examination was Price. Cameron and Whetten stated that:" Price was the first to attempt to develop a comprehensive theory by reviewing and integrating 50 studies. He derived 34 propositions linking certain predictor variables to effectiveness."[16] Specifically, Price used four criteria for the selection of his 50 studies. The criteria were: 1) each study had to have information pertinent to effectiveness; 2) each study had to be reported at fairly great length; 3) each study had to be based on primary sources and 4) each study had to describe an administrative organization. He found that organizations were more likely to have a high degree of effectiveness if they had certain characteristics. These included: 1) high degrees of division of labor; 2) high degrees of legitimate decision making and 3) high degrees of autonomy. Goal achievemenmt and organizational effectiveness were synony-

mous terms for Price. He summarized that the independent variables of productivity, morale, conformity, adaptiveness and institutionalization were closely related to the dependent variable of organizational effectiveness.
More specifically, productivity was accepted as more closely related to effectiveness than were morale, conformity, adaptiveness and institutionalization.

Campbell is another advocate of the goal model. Campbell, however, expanded the goal achievement model to new dimensions. He stated:

> Perhaps a better way to think of organizational effectiveness is as an underlying construct that has no necessary and sufficient operational definition but that constitutes a model or theory of what organizational effectivess is. The functions of such a model would be to identify how these variables, or components, of effectivess are interrelated or should be interrelated. 17

Schneider commented that: " I agree with Campbell that the meaning of organizational effectiveness is not a truth that is buried somewhere waiting to be discovered if only our concepts and data collection methods were good enough." [18]
Campbell's analysis of organizational effectiveness criteria in 1973 identified 19 different independent valuables. These included: 1) overall effectiveness; 2) quality; 3) productivity; 4) readiness; 5) efficiency; 6)profit or return; 7) growth, 8) utilization of environment; 9) stability; 10) turnover or retention; 11) absenteeism; 12) accidents; 13) morale; 14) motivation, 15) satisfaction; 16) internalization of organizational goals; 17) conflict-

cohesion; 18) flexibility-adaption and 19) evaluations by external entities. The most prominent of these were: 1) productivity; 2) job satisfaction ; 3) profit and 4) turnover. Daly pointed out that: " Campbell has identified 30 criteria that have been used as indicators of effectiveness. Campbell has noted that pratically every dependent variable ever studied in the field of organizational behavior has been operationalized as an effectiveness criterion."[19] Campbell's work warrants further investigation as he points out that some effectiveness criterion are more important to organizational effectiveness than others. Invariably choices have to be made. Daly stated: "Campbell admitted that it is not clear which of the variables actually should be included as criteria of effectiveness. Their "closeness to the final payoff is unknown."[20] Additionally, Campbell defined criteria obtained from organizational records as "objective criteria." He asserted that studies based on " objective criteria" were inappropriate and would fail. " Objective criteria" were simply subjective criteria once removed. He believed that subjective value judgments were inherent in evaluation. A useful effectiveness theory should specify as to whose values count for how much. Campbell declared: "...in the end organizational effectiveness is what relevant parties decide it should be. There is no higher authority we can appeal."[21] Value judgements are an important component of

effectiveness studies. Campbell summarized:

> Neither the people in organizations nor the outsiders studying them can avoid the value judgement of what the goals of the organization should be, even though everyone seems to try . . . to be philosophical for a moment, all behavior is goal directed. Organizational behavior can be no exception . . . We are determinants whether we like it or not. Well, the obvious moral here is that the value judgement of what goals the organization should adopt must precede everything else and how the judgement is made can induce wide variation in the way organizational effectiveness is assessed. 22

During the last five years, Hall has suggested that the multiplicity of goals be recognized. Goals are inherent to organizational life and the goal model can be used , but with some alterations. Hall stated: " Organizations will vary in the degree to which they emphasize and act upon their diverse goals ... it's not reasonable to conceive of organizations as rational (single) goal seeking entities." [23] Additionally, Hall identified two other short-comings of the goal effectiveness model. These included: 1) general rather than specific organizational goals are measured and 2) time periods over which analysis is made are frequently inappropriate. Specifically, incoporation of both short term and long term analysis was seldom employed. Hall recognized that measuring single or even multiple goals of an organization was not easy. He stated that organizational goals do change through the life of an organization. Organizational goals change because of three primary reasons: 1) an organization's interaction with environmental elements; 2) an organization's internal

dynamics and 3) indirect influences on an organization from its environment. Hall's work is noteworthy because of his recognition of the shortcomings of the goal achievement model. Steers stated: " This operative goal approach, which is consistent with the position advanced by Hall, rejects the notion that organizational effectiveness can be universally defined or measured in terms of a static set of variables."[24] Hall believed that there are two irresolvable problems in the measurement of effectiveness: 1) the influence that events inside and/or outside an organization will have and 2) the question as to whose perspective should be valued. He felt that trying to separate events that happen outside an organization from events that happen inside an organization was a most difficult task. Measurements of effectiveness were subsequently affected and were subject to the personal opinions of organizational members.

In summary, Hall advocated the continued use of the goal model for assessing effectiveness dispite its shortcomings. Goals are a central characteristic of most organizational theories and play a very dominant role in organizational life as examplified by annual reports, etc.

There are a number of contemporary writers on the subjet of organizational effectiveness who are goal achievement oriented. For example, in 1976, Van de Ven suggested use of goal achievement model utilizing aggregated perceptions as

effectiveness indicators. Scott has analyzed the possible uses of goals and found three : 1) to motivate members; 2) to provide direction and constrain members and 3) to provide criteria for evaluation of organizational functioning. Hannan and Freeman made a comprehensive study of the goal model. They stated it had essentially three basic problems. They also noted that it would be a mistake to drop goals from organizational analysis. Goals are one of the major defining charateristics of organizations.

Without a doubt, advocates of the goal achievement model for assessing organizational effectiveness will continue to exist in future years. As stated earlier, the goal achievement model is the oldest model of organizational analysis. Organizations are created in order to achieve certain common goals of its members. Goal accomplishment is one obvious way to assess an organization's effectiveness. The problems associated with using the goal achievement model have been well documented. During the last twenty years, a number of researchers have turned to alternative models for assessing organizational effectiveness.

Yuchtman and Seashore presented in 1967 their systems-resource model. While the goal achievement model for organizational effectiveness is concerned with the outputs or goals of an organization, the systems-resource model concentrates on the inputs or scarce resources that are acquired and used by an organization. Cameron pointed

out:

> This approach focuses on the interaction of the organization with its environment: and defines organizational effectiveness as the ability of the organization to exploit its environment in the acquisition of scarce and valued resources. Organizatinal inputs and acquisition of resources replace goals as the primary criteria of effectiveness. 25

The literature reported that Yuchtman and Seashore built their model on the writings of Georgopoulos/Tannenbaum, Thompson and McEwen. In the systems-resource model for effectiveness, an organization is considered to be a network of interrelated subsystems. The outputs of one subsystem may become the inputs of another subsystem. An organization functions smoothly if all subsystems work in harmony. Van de Ven remarked that Yuchtman and Seashore's operational definition that an organization was effective if it could manage to survive was a reasonable belief. An organization can only survive if it can maintain a sufficient inflow of essential resources.

Seashore and Yuchtman factor analyzed the performance criterion of 75 insurance companies into 10 criteria that were integrated to form their effectiveness model. The most prominent trait of these criteria related to an organization's bargaining position. The system-resource model avoids the following short-comings of the goal achievement model: 1) an organization's inability to reach consensus on a set of organizational goals due to the multiple perspectives of its members and 2) the external determination of an

organization's goals by an investigator of organizational effectiveness. Yuchtman and Seashore argued that it was difficult to identify an accurate set of organization-wide goals and that the search for an ultimate criterion of effectiveness was fruitless. Yuchtman and Seashore stated: "The concept of 'bargaining position' implies the exclusion of any specific goal as the ultimate criterion of organizational effectiveness."[26]

Critics of the system-resource model stated that it was too narrow in focus. For example, Campbell stated that Yuchtman and Seashore utilized a factor analysis thereby not establishing a real hierarchy of the performance factors for the insurance companies. Scott argued the acquisition of scarce resources was normally based on some set of organizational goals and only the goals of management were reflected in the Yuchtman and Seashore study. Cameron added that an organization may be judged effective even though it may fail to acquire needed resources, whereas another organization may be judged ineffective when resources are abundantly acquired.

Other alternative approaches have been developed within the past twenty years. Whereas the goal achievement model examines the outputs of an organization, and the systems-resource model scruitinizes the inputs of an organization, some approaches investigate the means to attain optimum organizational effectiveness. Representative of these

effectiveness models are Bennis' organizational health and Likert's System 4. Organizational development is also part of this group. Champion commented on organizational health:

> Bennis has suggested that we must change many of the outmoded ideas about the relationship of the organization to the individual . . . he recommends: 1) a new concept of man based on increased knowledge of his complex and shifting needs; 2) a new concept of power based on collaboration and reason and 3) a new concept of organizational views based on humanistic-democratic ideals to replace the depersonalized value system of bureaucracy. 27

Bennis' writings offered a point of view that combined features of the scientific management and the human relations approaches. Bennis believed that certain traits, such as adaptability, sense of identity and the capacity to test reality, as indicative of healthy and, therefore, effective organizations. Champion pointed out that Bennis advocated specific traits for effective leaders:

> Bennis gives us his impression of an effective agent of change. A good agent is professional and undoubtedly possesses a doctorate in one of the behavioral sciences ... he is preoccupied with people and the importance of social interaction as it relates to the structure and functioning of organizations. 28

Likert's work is noteworthy as it applies to the organizational effectiveness of schools. Sergiovani commented: " The significance of this book (Likert's) to educational supervision is that it offered for the first time an integrated, research based system of supervision applicable to schools." [29] Likert's Systems 4 model combined the scientific management perspective with the human relations approach. The literature reported that Likert's

model was suitable for a group level of analysis. Likert's model was based upon three general variables that can normally be controlled by the organization as management policies and leadership strategies. Intervening variables are variables that reflect the internal conditions of the organization such as motivation, communications and attitudes. End-result variables are dependent variables such as productivity, costs and profits. Likert's model assumes that casual, intervening and end result variables operate as an input-throughput-output process. Four systems of operation were identified by Likert as being representative of how most organizations function. For example, a System 1 operation is representative of organizations that are exploitive and authoritarian. A System 2 organization is one that is authoritarian but benovelent. A System 3 organization tends to consult all of its members for management decisions. A System 4, the ideal level, organization is participatory in terms of management. For example, schools that would operate on a Systems 4 level would rely on the principle of supportive relationships between teachers and administrators. Sergiovanni pointed out:

> A highly effective school work group is described as one which: 1) members perceive as supportive and which builds and maintains their sense of personal worth: 2) has performance goals which are consistent with those of the school and/or profession; 3) uses group decision making and 4) is linked to other school groups through multiple and overlapping group structures. 30

Likert's belief in an interaction influence theory formed the basis for his System 4 model. Interaction influence theory suggests that the effectiveness of any group is proportional to the combined ability of its members to make and implement quality decisions. Likert believed that organizations are comprised of multiple groups that are interlinked. Organizational members belong to several groups and, therefore, serve as linking pins between groups. Overlapping of groups helps an organization survive. Only at the very extreme ends of the organizational spectrum will constituents not belong to more than one group. It is for this reason Likert contended that participatory managment is the most appropriate and, therefore, most effective. The work of Likert is a milestone in the research of school organizational effectiveness. The literature reported numerous studies have utilized Likert's Survey of Organizations diagnostic instrument in assesssing organizational effectiveness. Numerous studies have utilized Likert's Profile of School diagnostic instrument. Hausser summarized Likert's influence: " Althoughh Likert's work has come under some criticism for advocating a single best way to organize and manage, it can claim an empirical base and well-documented operationalization."[31]

Another approach to improve and, thereby, measure the effectiveness of an organization is organizational development. Organizational development is an inter-

disciplinary approach that incorporates the theories of Argyris, Maslow, McGregor and Likert. Organizational developmentists argue that through increased effectiveness of management, organizations can improve. Changes that are instituted are deliberate and calculating. Beckhard, for example, advocated continual feedback between groups within an oganization in order to solve organizational problems. In a school organizational developmentists would suggest a continuous process of needs assessment of the various members and a follow-up process to address the identified needs.

Capsulizing what has been stated about means effectiveness models, such as Bennis' organizational health, Likert's System 4 and organizational development, each examined interpersonal relationships within an organization. All three models support the premise that human relation skills can increase the effectiveness of managers. Effective organizations treat workers as valuable resources rather than as cogs in a machine. Internal process advocates, just like goal achievement and system-resource advocates, believe that their model is the best way to analyze and improve organizational effectiveness.

The review of the literature, however, showed that the debate as to how to evaluate organizational effectiveness was not limited. Authors such as Steers, Weick, Zammuto and Cameron each presented a model that incorporated components

from other effectiveness models.

Steers presented an effectiveness model that emphasized the various organizational processes related to effectiveness rather than considering effectiveness to be a single dimensional end-state. Steers cricized univariate studies:

> . . . most univariate attempts to study organizational effectiveness probably suffer from a form of empirical myopia. As such, they contribute little toward building effectiveness models or making meaningful recommendations to managers concerning ways to improve effectiveness. 32

Steers identified eight problems with organizational effectiveness: 1) construct validity; 2) criterion stability; 3) time perspective; 4) multiple criteria; 5) precision of measurement; 6) generalizability; 7) theoretical relevance and 8) level of analysis. Steer's process model was one way to overcome each of the eight identified problems.

It is only fitting that Steers' model be outlined at this time. Three components of Steers' model are: 1) the notion of goal optimization; 2) a systems perspective and 3 an emphasis on human behavior in organizational settings.

Goal optimization was described by Steers : " ... a vehicle by which multiple and conflicting goals are balanced so that each goal receives sufficient attention and resources commensurate with its importance to the organization."[33] In other words, goal optimization is an attempt to "weight" the various goals that an organization might have. Organizations may have multiple goals but some

warrant and receive more attention. Steers descibed his concept of a system perspective:

> The use of a systems perspective emphasizes the importance of organizational-environment interactions. It focuses on relationships between components inside and outside the organization as they jointly influence organizational success or failure. 34

Steers argued that effective organizations maintain a systems equilibrium between four major influences: 1) organizational characteristics; 2) environmental characteristics; 3) employee characteristics and 4) managerial policies. Steers reasoned that through the use of the systems-perspective managers can correctly analyze their behavior in order to help improve organizational effectiveness.

The role of human behavior is the third component of Steers' model. Steers took the opposite viewpoint than did researchers who examined organizations on a " mass " or organization-wide basis. He believed that more can be learned about organizational goals if analysis is given to the goals of individual members. He argued that if employees agreed with the goals of their employers then one would expect a high level of effort to achieve these goals. However, if employees disagreed, then one would expect a lower level of effort. Examination of the goals of individual employees more accurately predicted the level of employee effort and, therefore, the level of organizational goal achievement.

Steers' model revealed that his definition of effectiveness: ". . . organizational effectiveness is largely the extent to which managers and employees can join together and pool their knowledge and efforts to overcome obstacles that inhibit the attainment of the organization's goals."[35] In short, Steer's contribution to effectiveness research has been his effort to combine the strengths of several models into one comprhensive one.

Weick's model of organizational effectiveness is in sharp contrast to the more popular models in the effectiveness literature. Most effectiveness models presume that organizations are linked through tight channels of control between members. Organizational goals are targets at which the actions of organizational members are directed. The allocation of resources is determined in conjunction with the organization's goals. Rationality and predeictability describe the behavior of the constituents in effective organizations. Weick, on the other hand, presented an organizational effectiveness model that was much different. Weick argued that rational and predictable behavior of members in organizational settings is a rare occurrence. He believed that most organizational members are loosely linked. Organizational goals are retrospective and serve to justify organizational actions not to direct them. The allocation of resources is determined by the decisions of certain members rather than in conjunction with

organization-wide goals. Goodman and Pennings stated that: " Weick's view of organizational effectiveness is described best by such words as garrulous, clumbsy, haphazard, hypocritical, monstrous, octopoid, wandering and grouchy."[36]

Weick's model is based on the premise that organizations are "loosely coupled systems." Weick stated: "By loose coupling, the author intends to convey the image that coupled events are responsive, but that each event also preserves its own identity and some evidence of its physical or logical separateness."[37] Organizations are not viewed as passive structures upon which practices, programs, and policies can be layed. Instead, organizations are viewed as a complex of conflicting and competing activities, interests and capabilities. Behavior of people in groups is at the center of Weick's theory. The effective organization in Weick's scheme is characterized by three traits: 1) buffers - these elements serve to sense and respond to environmental changes without affecting the core of an organization; 2) issue saliency - an organization is able to be selective and respond in a rigid, tightly coupled, fashion when necessary and 3) leadership flexibility- individuals within an organization are allowed discretion without compromising the organization.

Weick's "loosely coupled system" model is applicable to educational organizations. He found a number of flaws in the management of school administrators who tried to use

conventional effectiveness models:

> These managerial activities, which are taught in most programs of educational administration, presume at least four fproperties for the organization being managed, the existence of a self-correcting rational system among highly interdependent people, consensus on goals and the means to attain those goals, coordination by dissemination of information, and predictability of problems and responses to those problems . . . one thing that is wrong with schools. They are managed with the wrong model in mind. 38

Because of schools' indeterminate goals, large spans of control and unclear technology, Weick believed that the tightly coupled model was inappropriate for school administrators. For example, the goals of education are very uncertain. Each of the members of the school community - students, teachers, administrators, parents, board of education members - have different goals for a school. As a result, the use of a school's goals as a basis for evaluating schoolperformance is limited. Evaluation of individual teachers based on a school's goals is infrequent. Spans of control for the leaders of school over students is quite broad but limited in strength. For example, local boards of education in public schools are mandated the responsibility of educating children. However, because of the various constitutents within a school community - citizens, parents, administrators, curriculum specialists teachers, etc - the control that the local board of education has on individual students is remote. The technology or science of teaching is at best an uncertain one. The history of education has

revealed that a variety of methods have been tried and continue to be tried by educators in an effort to teach effectively. No single science of teaching exists - teaching approaches an art form. Weick's model is an alternative to the more popular models found in the literature.

Another contemporary writer is Zammuto who believed that participant-interest theories more accurrately assessed effectiveness than did goal achievement theories. Zammuto categorized participant- interest theories into four groups: 1) relativistic; 2) developmental; 3) power and 4) social justice. Relativistic approaches were judgements of effectiveness based on someone's perception. For example, workers and managers have different points of view and, therefore, their assessments of organizational effectiveness may reflect these differences. Developmental approaches took into account how perceptions of organizational members could change over the course of time. Power approaches examined the struggles between organizanizational groups and how these struggles will determine the organization's actions. Social-justice approaches attempted to use the principles of justice as standards for evaluating organizations. Unlike relativistic, developmental and power approaches that recognized the differences between organizational members perceptions, opinions over time and importance, social-justice approaches attempted to rationalize an organization's actions based on standards of

law.

Zammuto's evolutionary model is very developmental in nature: " . . . effectiveness stems from the ability of an organization to satisfy changing prefernces of its constituencies over time."[39] Components of Zammuto's model included: 1) the role of constituent preferences in defining the preferred direction of social evolution; 2) how constraints created niches within organizations exist and 3) the effect of time on organizational performance. Zammuto believed that an effective organization was one that over time expanded its niche, the limits on what is possible, in order to more satisfy its members in the long run.

The final contemporary writer that will be presented is Cameron. Cameron's approach was to point out the strengths and weaknessess of the commonly used models in relation to a series of six key questions.Cameron identified four major models of organizational effectivess: 1) goal achievement; 2) systems-resource; 3) process and 4) participant satisfaction. He stated that no single model was best: " . . . none of these models is apprpriate in all circumstances and with all types of organizations."[40]

Each of the models was appropriate for some organizations and not for others: 1) goal achievement - organizations that had clearly stated goals such as athletic teams; 2) systems-resource - organizations that could be judged on the basis of their ability to secure resources such as

savings and loans and banks; 3) process - organizations where output was very dependent upon internal activities such as factories with assembly-lines and 4) participant satisfaction - organizations that were very dependent upon the achievement of a minimal level of satisfaction for all of its constituencies such as governmental agencies.

On the other hand, each of the models was inappropriate with other organizations: 1) goal achievement - organizations that did not have clearly stated goals such as service organizations. The objectives of some organizations were not easily defined and, therefore, it was difficult to use only the goal achievement model in assessing the organization's effectiveness. The systems-resource model was inappropriate for some organizations. For example, it may be appropriate to judge the effectiveness of a land acquisition company on the basis of its ability to secure large parcels of valuable commercial property. The success of a land acquisition company in securing a small parcel of a property housing a wildlife refuge perhaps should not be judged in the same fashion. The process model was inapplicable for some some organizations. For example, it may be appropriate to assess the organizational effectiveness of a company such as the Ford Motor Company that relied greatly upon the teamwork of an assembly line with the process approach. An organization may have little, if any, teamwork occurring within its ranks and yet

be very effective as examplified by a number of professional athletic teams. The participant satisfaction model was inappropriate for assessing the effectiveness of some organizations. It may be appropriate to judge the success of a government on its ability to minimally satisfy all of its constituencies. On the other hand, the use of the participant-satisfaction model may be inappropriate when trying to judge the accomplishments of national governments.

In summary, Cameron believed that no one of the four effectiveness models were applicable for all organizations. He stated: " Organizations may be judged ineffective even when they meet the criteria of each approach, or they may be judged effective even when they don't meet the criteria."[41]

Six key questions were identified by Cameron as critical in the selection of an effectiveness approach: 1) what domain of activity is being focused on?; 2) whose perspective is being considered?; 3) what level of analysis is being used? 4) what time frame is being employed?; 5) what type of data is being used? and 6) what referent is being used.[42]

The domain of activity refers to specific actions of an organization that were to be scrutinized. Most organizations operate in a variety of activity domains. Cameron's research revealed four different major domains of activity for colleges and universities. These were: 1) an academic domain - teaching, research, etc., 2) an external adaption domain - community service, career or job training,

etc; 3) an extracurricular domain - the personal, social activities of students, teachers and administrators etc. and 4) a morale domain - the satisfaction of students, teachers and administrators etc. It is important to know which activities are to be judged before evaluation begins.

The point of view that is used in reflecting the values or goals of an organization is an important consideration. Cameron stated: "Several researchers have pointed out that individuals occupying different positions within an organization and performing different tasks use different criteria for evaluating the organization."[43] The effectiveness of a school may be perceived differently by students than by teachers. It is therefore critical to determine whose point of view is to be used before attempting to evaluate an organization.

The level of analysis used in an effectiveness study makes a difference. Cameron argued that within an organization different levels of interaction occurs. A single organizational member may be evaluated in his role as an individual, small group member or large group member. Effectiveness may vary in the eyes of that member at each of the different levels of interaction. Cameron's research on the life cycles of organizations has revealed that the domains of activity for an organization can change over the course of time. This phenomenon has a subsequent effect on the relative importance for the various levels of analysis.

The time frame used during an effectiveness study is important. Effectiveness may be different when an organization is judged on a long term basis than on a short time basis. It is critical that an evaluator understand that incompatibility may exist between short term and long term effectiveness within an organization. Selection of a time frame can result in significantly different measures of effectiveness.

The type of data used in an evaluation can result in different measures of effectiveness. Subjective data can be generated by surveying the opinions of organizational members. This data will enable a researcher to assess a wide range of perspectives. These opinions are subject to the individual bias of members. On the the hand, objective data is quanitfiable. This data is apt to be much narrower in scope. Cameron's research has attempted to incorporate both types of data.

The referent employed in an effectiveness study should be analyzed in advance. The selection of the referent can make a difference as to the level of effectiveness achieved. Cameron identified five different referents: 1) comparative - an organization is compared to a second organization; 2) nominative - an organization is compared to an ideal organization; 3) goal-centered - an organization is judged on its level of goal achievement; 4) improvement - an organization is judged against itself over a period of time

and 5) trait evaluation - an organization is judged as to how many desirable characteristics it possesses.

Cameron's approach is to assess organizational effectiveness through a combination of the four models in conjunction with his six key questions. His approach is particularly appropriate in the study of the organizational effectiveness of schools.

Cameron's original research in 1976 used a sample of six colleges in New England. Each of the colleges had an undergraduate enrollment ranging up to ten thousand students. Administrators at each of the institutions were asked what organizational traits did effective colleges possess. As a result, Cameron identified nine broad effectiveness traits: 1) student educational satisfaction; 2) student academic development; 3) student career development; 4) student personal development; 5) faculty and administrator employee satisfaction; 6) professional development and quality of the faculty; 7) systems openness and community interaction; 8) ability to acquire resources and 9) organizational health. Subsequently, a fifty-seven item questionnaire was developed pertaining to the nine broad categories. The questionnaire was distributed to administrators and department chairpersons at the six colleges in order to generate subjective data for the study. A second instrument was used to gather objective data from the colleges' records relating to the nine broad categories.

Cameron felt that: "The reason for developing both objective and perceived instruments was to provide data for testing the external validity of the dimensions . . ."[44] Results of Cameron's orginal study revealed that institutional affliations did have a significant effect on the responses for combined organizational effectiveness but that job or position was not an important factor. Second, certain patterns of organizational effectiveness for each of the six colleges were distinguished. Each college had a unique organizational effectiveness profile. Third, some colleges did achieve a higher organizational effectiveness rating. Four, the ability of the objective data to test the external validity of the perceptual data was limited. Cameron's final conclusion was that his multi-dimensional approach was only the first step in a multiple step process. Cameron stated: "This approach to the study of organizational effectiveness is probably most useful as a first step in approaching a fine-grained analysis of effectiveness in colleges and universities."[45] It was suggested that once a profile of a college or university's organizational effectiveness had been completed, an in-depth analysis of the reasons for that particular profile would be a logical second step.

In 1980, a follow-up study was conducted to examine the change organizational effectiveness over the four year period. Cameron reported that changes did occur in one or

more of the nine broad categories at each of the colleges. Cameron's follow-up study revealed that improvements in effectiveness were aided by an organization's management being proactive rather than reactive to changes. Cameron stated: "In institutions of higher education, as in other types of organizations, not waiting for environmental events to occur before implementing strategies appears to be an important prescription for success."[46] Second, Cameron found managers must implement a variety of strategies with a variety of targets in order to ensure effectiveness over time.

Cameron's contribution to the field of organizational effectiveness in schools is highlighted by his identification of nine broad categories of organizational effectiveness indicators. His use of both subjective and objective data provides an added dimension to school effectiveness. Finally, his addressing six critical questions before assessment begins helps shed some light on the final path that an evaluator should follow. No one best model of organitional effectiveness exists. Each effectiveness model has relative strengths and weaknesses. An integration of the models offers an evaluator the best chance for success.

ORGANIZATIONAL EFFECTIVENESS IS A CONSTRUCT

One theme that has run throughout the literature is that organizational effectiveness is a construct.

Kerlinger defined a consturct as a concept with added meaning of having been deliberately and consciously invented for a special purpose. Gay defined a construct similarly: " A construct is a nonobservable trait, such as intelligence, which explains behavior. You cannnot see a construct, you can only observe its effects. In fact, constructs were "invented" to explain behavior."[47]

A number of models have been presented to describe effectiveness ranging from Bennis' organizational health to Zammuto's evolutionary model. Each author has claimed that his model outlined the construct of organizational effectiveness the best. Campbell's assessment of the literature on the construct of organizational effectiveness summarizes the problem: " Organizational effectiveness as it has been defined and measured in the literature is an extremely untidy construct."[48]

The literature on effectiveness in schools has borrowed from the research in sociology, industrial relations etc. in describing the construct of an effective school organization. One characteristic common to effective schools everywhere is an effective principal. The high school principal is the key individual in determining the success or failure of a

high school. Qualities of effective organizations, such as open communications, employee satisfaction etc., have been found characteristic of effective schools. The study of the organizational effectiveness of schools is a relatively new chapter in the history of organizational effectiveness.

In summary, organizational effectiveness is a construct and, therefore, is very difficult to define. Like other abstract ideas, many individuals can recognize an effective organization but can not determine what constitutes an effective organization. Whether an individual is inside or outside of a school organization, he can usually identify an effective school but cannot define it. Difficult as it may be for school administrators, it is important that they understand what constitutes an effective school organization.

CRITERIA USED TO PREDICT ORGANIZATIONAL EFFECTIVENESS

As a construct, organizational effectiveness is similar to an unmapped virgin territory. Each researcher has chosen specific criteria to help map his chart. Steers in his 1975 review of seventeen different effectiveness models found fifteen different traits had been used. He found only one criterion, adaptability/flexibility, to be represented in over half of the studies. Adaptability/flexibility was defined as the ability of an organization to change its

operating procedures in order to respond to changes in its environment. Effective organizations are not static and non-resistant to change, insteadthey can change when necessary.[49] Table 1 summarizes Steers' findings.

TABLE 1

STEERS" FINDINGS OF THE FREQUENCY OF OCCURRENCE OF EVALUATION CRITERIA IN 17 MODELS OF ORGANIZATIONAL EFFECTIVENESS

EVALUATION CRITERIA	No.of times mentioned (N = 17)
Adaptability/flexibilty	10
Productivity	6
Satisfaction	5
Profitability	3
Resource acquisition	3
Absence of strain	2
Control over environment	2
Development	2
Efficiency	2
Employee retention	2
Growth	2
Integration	2
Open communications	2
Survival	2
All other criteria	1

Campbell found in his 1973 review of the criteria used to determine effectiveness nineteen different variables had been used.[50] Table 2 summarizes Campbell's findings.

TABLE 2

CAMPBELL'S FINDINGS OF
POSSIBLE INDICATORS OF ORGANIZATIONAL EFFECTIVENESS

Overall effectiveness	Control
Productivity	Conflict/cohesion
Efficiency	Flexibility/adaptiveness
Profit	Planning and goal setting
Quality	Goal consensus
Accidents	Role and norm consequences
Growth	Managerial interepersonal skills
Absenteeism	Managerial task skills
Turnover	Informational management
Motivation	Readiness
Morale	Utilization of environment

Not only was there uncertainty as to the criterion that should be used within a given organizational effectiveness study, there was question whether a set of criteria can be used for all organizations. Cameron found in his 1976 study of effectiveness within a college setting nine different criterion that were used to predict effectiveness. As stated earlier, these traits were: 1) student educational satisfaction; 2) student academic development; 3) student career development; 4) student personal development; 5) faculty and administrator employment satisfaction; 6) professional development and quality of the faculty; 7) systems openness and community interaction; 8) ability to acquire resources and 9) organizational health.

The manner in which the organizational criteria were developed differed for each researcher. The literature revealed that there were two distinct ways that criteria

could be formulated: inductively and deductively.

Effectiveness criteria that are deductively derived are the result of a particular definition or as a result of a particular theory. For example, Georgopoulos and Tannenbaum began by defining organizational effectiveness: " . . . as the extent to which an organization as a social system, given certain resources and means, fulfills its objectives without incapacitating its means and resources and without placing undue strain upon its members."[51] Based upon this approach, the researchers initiated a questionnaire study to examine determinants of the prior evaluation criteria.

Effectiveness criteria that are inductively derived are a result of the findings of a researcher. For example, Price reviewed fifty existing investigations that related in some fashion to the construct of effectiveness and then attempted to draw some meaningful generalizations concerning the construct. Price found that three characteristics- productivity, morale and adaptiveness were the key indicators in determinig the effectiveness of an organization.

Not only can inductive and deductive derivations be used to identify predictors of effectiveness, there is question as to whether single criterion can be used to measure effectiveness or whether multiple criteria are needed.

Studies using single criterion are limited in their ability to measure the effectiveness construct. First of all, it is difficult to defend the use of a single criterion to

measure a construct. Secondly, several of the criterion that have been used represent more of an expression of the researcher's values instead of objective measures of effectiveness. Boswell summarized the limitations of univariate studies when he stated that there were a large number of variables each capable of influencing effectiveness and there was little reason to believe that one variable would have a singular profound effect.

The literature reviewed revealed that most effectiveness studies used multiple variables to describe the construct of effectiveness. Cameron, for example, employed nine variables to measure the effectiveness of a college. As the study of organizational effectiveness has evolved from the writings of such authors as Weber and Taylor to more contemporary authors such as Zammuto and Steers, greater reliance has been given to describe the construct of organizational effectiveness in terms of multiple variables.

PROBLEMS WITH EFFECTIVENESS CRITERIA

Each researcher has tried in his own way to define effetiveness resulting in a large number of effectiveness models. There are a number of inherent problems faced by all effectiveness researchers.

Organizations, whether they are churches or schools,

are comprised of many individuals each of who has special interests and goals. As stated earlier: " Organizations are social units (or human groupings) deliberately constructed and reconstructed to seek specific goals."[52]

One problem that prevents the develpoment of a single set of effectiveness criteria is that effectiveness must be defined from someone's point of view. Researchers have argued for different groups within an organization to make these decisions. Cameron and Whetten stated: " . . . some have advocated using a dominant coalition as the source of criteria, others have argued for top managers, external resource providers, organizational members and so on."[53] Whoever decides as to what effectiveness criteria are used, there is evidence that someone else could and perhaps should have made the decision. For example, Miles and Cameron found that different groups within the U.S. tobacco industry had different preferences and desires. The consuming public wanted the industry not to harm a smoker's health while the industry itself was more concerned with producing cigarettes efficiently and thereby profitably. School administrators can profit from the Miles and Cameron research. When school administrators assess the opinions of their respective school communities, it is imperative they remember to sample a wide range of school community members. Different constituencies may have different opinions about their schools and consider some factors as more important

than others.

A second problem restricting the development of a single set of criteria is the matter of time. The level of effectiveness for an organization can be judged on a short-term or a long-term basis. The specific length of time that distinguishes a short-term from a long-term is unknown. For example, when judging the long-term effectivemess of a political campaign, one would use a different time frame than when judging the long-term effectiveness of the Roman Catholic Church. The level of effectiveness for a given organization can be different depending on the time frame. For example, Cameron and Miles found distinct differences as to the relative effectiveness of six tobacco companies depending whether short-term or long-term time frames were used. Phillip Morris was the least effective in the short-term but jumped to second most effective in the long-term. School administrators can profit from an understanding of how time can affect assessments of organizational effectiveness. The sudden increase in the level of student achievement on an annually administered standardized test may or may not be attributable to the newly instituted curriclum. It may be necessary for an administrator to assess the new curriculum over a period of several years. Steers summarized: " The problem for the student of organization is how to best balance short-run considerations with

long-term interests in an effort to maximize stability and growth over time."[54]

A third problem affecting the establishment of effectiveness criteria is the matter of what is being assessed. Organizations are comprised of a number of individuals each with particular special interests and preferences. Goals of one group may contradict and even be counterproductive to goals of another group. The existence of conflicting goals makes it most difficult to establish a single set of effectiveness criteria to measure the overall effectiveness of an organization. Schools are a prime example of how goals of one group may be counterproductive to the goals of another group. Schools budgets today are being tightened. One goal of most boards of education is to be financially prudent. All employees of a school district want to be compensated for their services at a rate that is commensurate with similar employees in other school districts and that will allow them to enjoy a comfortable standard of living. Each of these goals is important and relevant for its respective constituencies - boards of education and school employees. However, these goals when considered in isolation are essentially incompatable. Cameron and Whetten summarized the contradictory preference problem:

> When researchers attempt to assess organizational effectiveness , one cause for confusion is uncovering these contradictory preferences or criteria. Some writers have attempted to address contradictory criteria by distinguishing between doing good versus doing well . . . these distinctions are only partially helpful

> because the factors composing the performance defined as good, desirable, or focused on right things may be contradictory within the organization. [55]

A fourth barrier to the development of a single set of criteria is the problem of measurement. Questions as to level of analysis, standards of comparison and sources of data each must be answered. Organizations are dynamic groups of people interrelated in many complex levels of associations. Within an organization, subunits are found at the individual, small group and large group level. The criteria used at the various subunit levels may be significantly different. Steers capsulized the problem: "If we are to increase our understanding of organizational processes . . .(we must) attempt to specify or at least account for the relationships between individual processes and organizational behavior." [56] Cameron and Whetten further stated: " Without attention being paid to which level of analysis is most appropriate, meaningful effectiveness judgements cannot even be made." [57]

Whenever one measures, one is comparing. Whenever one attempts to assess effectiveness, one must compare the level of effectiveness of an organization against something. The establishment of standards will have an effect on the set of criteria used. Cameron and Whetten stated that there were at least five different ways to establish standards of comparison for organizational effectiveness. One way is to compare two organizations with the same set of criteria. A

second way is to choose a specific level of performance as the ideal level and then to measure an organization's performance against that ideal level. A third way is to establish specific goals for an organization and then to assess the degree of goal achievement after a specific period of time. A fourth way is to compare an organization to itself in terms of goal achievement after specific time periods. A fifth way is to determine specific desirable characteristics for an effective organization and then for that organization to take inventory of itself. Each of the five prcedures has relative strengths and weaknesses. The selection of standards as to how an organization is judged does make a difference. Cameron summarized:

> . . . it is important that evaluators select the appropriate referent against which to compare effectiveness criteria. It is conceivable that one organization may be effective when judged on one referent while it is ineffective when judged on another referent. 58

Assesssments of organizational effectiveness based on individual's opinions and preceptions can be different than assessments based on objective type records. If one is assessing the effectiveness of an automobile manufacturer in terms of how many autombiles that it produced and sold, one logical source of data would be found in objective records of production and sales. If one is determining the effectiveness of a high school in terms of how many students enter as freshmen and graduate with their class, it would be logical to examine objective records housed in the school's

offices. Objective records, as a general rule, provide statistical data quickly and accurately.

Objective type records, however, are not always precise. Subjectivity can enter into official records. For example, the examination of a high school's drop-out records may reveal that students who reportedly were going to transfer to another school never really enrolled in that school. Officially kept objective records frequently do not reflect the real story. Cameron commented on this dilemma:

> . . . my experience in gathering objective effectiveness data has led me to conclude that organization wide data are seldom kept information is often ambiguous or confidential (a strategy to buffer the organization from external criticism), and only partial data are kept in any one place. 59

School administrators should remember that assessments of school effectiveness are subject to measurement problems. When reports are issued stating that certain schools are among the best in the area, state, nation etc. school administrators should ask as to what was the basis for making the judgement. Were the schools' number of athletic champions, number of college scholarship recipients, or exactly what criterion was used for making the judgement? In addition, were school records based on objective data or were opinions of school personnel the source of information for making the judgements about how the schools ranked? Assessments of organizational effectiveness are an administrative responsibilty that can not be taken lightly.

The fifth obstacle to the development of one of effec-

tiveness criteria is determining for what reason an organization is being judged. The reason why an organization is being judged helps determine the nature of the criteria.

Brewer outlined six reasons for an organization to be assessed: 1) conflict management; 2) social change; 3) stimulate examinations of assumptions and behavior; 4) contribute to an image; 5) displace or assign responsibility and 6) contribute to knowledge.[60] " Conflict management" refers to the ability of an effectiveness assessment to help reduce the hostile reactions that members assert whenever changes and modification in policies must be instituted. The assessment serves as a scapegoat for the institution of change. " Social change" refers to the ability of effectiveness to help initiate social change. For example, assessment of an organization such as a school might reveal that an increased number of minority faculty members is needed in order to address the needs of the student population. The assessment serves as a catalyst for the organization to institute internal social changes. " Stimulate examinations of assumptions and behavior" refers to the ability of an effectiveness assessment to force members of an organization to critically self-examine goals and objectives. For example, the North Central Association examinations conducted by member high schools every seven years is a form of organizational effectiveness assessment. One byproduct of these examinations is for members of the school community - students, teachers, parents,

administrators, board of education members etc.- to more closely examine the behavior and goals of the high school. "Contribute to an image" refers to the ability of an effectiveness assessment to enhance the image of an organization. The common belief that an organization must be good if it is willing to examine itself is a popular perception. Organizations who do not participate in self-examinations may be weak or have something to hide. The image of an organization can be enhanced as a result of having enough courage to be examined. "Displace or assign responsibility" refers to the ability of an organizational effectiveness assessment to single out exceptional organizational members. Assessments may be used to assign blame. Organization members who have performed poorly can be identified and subsequently reprimanded and/or released. Assessments may be used to assign praise. Members who have distinguished themselves as exceptional can be identified and honored. The assigning of responsibility is a double edged sword. "Contribute to knowledege" refers to the ability of an organizational examination to increase the body of knowledge related to organizational effectiveness. For example, the conducting of each and every launching of the N.A.S.A. space shuttle crafts has contributed some meaningful information to the body of knowledge related to these activities. The same potential holds true for each and every effectiveness assessment.

The purpose of an organizational effectiveness examination plays an important role in the selection of effectiveness criteria. Cameron and Whetten pointed out:

> The purpose of the evaluation also helps determine appropriate constituencies, domains, levels of analysis, and so on, hence they must be clearly identified. Sometimes the evaluator can determine his or her own purposes, but frequently the purposes for judging effectiveness are presecribed by the client, the participants in the evaluation, or the external environment. Whatever the case, a clear conception of purpose is important in judging effectiveness. 61

Reviewing what has been said about the inherent problems as to why no single set of effectiveness criteria has been found, the questions of : 1) who; 2) when; 3) what; 4) what level and 5) how invariably must be answered. The manner in which each of these critical questions is answered influences the selection of effectiveness criteria. Every person, whether inside or outside of a particular organization, has certain prejudcies that influnece his choice of criteria for assessing effectiveness. There is reason to believe that a case can be made for any one individual or constituency to make the final decision. What the time frame should be for the effectiveness criteria is the second major problem. A number of different time frames are possible. The level of an organization's effectiveness may be different depending upon which time frame is used. The question of what asks the domain of activity that is being measured. What one is measuring does influence the selection of evaluation criteria. The question of how helps determine the

measurement techniques that will be used. The level of analysis that is desired will help define the measurement techniques and, therefore, the final choice of effectiveness criteria. Assessing organizational effectiveness at the individual, small group or large group level can influence the choice of measurement techniques. Assessing the effectiveness of an organization at multiple levels can even further complicate the choice of measurement methods. The choice of standards against which an organization is compared can influence the choice of criteria. The source of data for the measuring process influences the choice of criteria. If objective type records are used,quantifiable criteria may be desired. If the opinions of members of an organization are the source of data, qualifiable criteria may be the choice. The manner in which the measurement of effectiveness is conducted helps determine the final choice effectiveness criteria. The question of why asks for what purpose is the organizational examination being conducted. Examinations conducted for the purpose of determining blame for an organization's problems may select different criteria than if the purpose of the examination is to contribute to the organization's image. Examinations may be conducted for single or multiple reasons. Selection of effectiveness criteria will be influenced accordingly. The literature revealed that no one set of effectiveness criteria could fully explain, measure or predict the construct of

organizational effectiveness.

EFFECTIVENESS OF MICROCOMPUTER INSTRUCTION

> Computers are a pervasive force in our society. Has the computer revolution - just as the agricultural and industrial revolution before it - created a discontinuity in our society that our educational system is failing to meet? 62

Computers have greatly altered our lioves. Computers are found everywhere from the local bank to the check-out line at the grocery store. Information has become a prized commodity.

Microcomputers have significantly contributed to the information explosion. Microcomputers are used for business educational and personal purposes. Microcomputers were not even used before 1975. Since 1975, however, the use of microcomputers has grown by quantum leaps. A 1976 National Science Foundation study reported that microcomputers were not even in use in American schools.

Pressey developed the first teaching machine in 1924. his device employed programmed instruction for the learner. Teaching machines, however, did not receive much attention until the advent of computer technology.

The earliest users of computer-assisted instruction were members of the computer industry who trained their own personnel in the 1950's. These early computer users employ-

ed complicated computer programs that were understood primarily by computer industry people.

Suppes stated that the adoption of computer-assisted instruction in schools was pioneered by schools in the Soviet Union. In the 1950's, computers were used to help teach gifted Soviet students. The success of the Soviet educational system was alledgedly examplified by the many Soviet scientific achievements in the late 1950's. It was felt by educators through-out the world that the use of computer-assisted instruction by the Soviets may have had an influence on their many scientific achievements.

The use of computerized instruction in the United States began at Stanford University in the early 1960's. The Stanford project was established to provide tutorial assistance in elementary mathematics and language arts. The Stanford project was directed by Patrick Suppes of the Institute for Mathematical Studies in the Social Studies at Stanford University. Phase two of the project was directed toward the development and implementation of a computer-assisted instruction program for culturally disadvantaged students. It is reported, that by the end of the second of the project, that more than 400 students had received daily instruction. Other computer instructional programs developed during the 1960's included PLATO. PLATO(Programmed Logic for Automatic Teaching Operations) originated at the University of Illinois. Over a seven year period, a num-

ber of programs were written, tested and rewritten. A refined version of PLATO is still in use in some schools. PLATO allows the user to have access to a central lesson lesson library.

The growth of technology in American schools during the 1960's was influenced by the political climate that existed between the United States and the Soviet Union. President Johnson in 1967 directed the National Science Foundation to work with the United States Office of Education to study the role of computers in schools. The American Institute for Research in conjunction with the National Scinece Foundation surveyed the use of computers in American high schools. This survey found that in 1969 34% of all American high schools used computers for one reason or another.

The 1970's witnessed a continued growth of computer instruction. The Committee on Computer Education of the Conference Board of the Mathematical Sciences recommended in 1972:

> It is therefore essential that our educational system be modified in such a way that every student become acquainted with the nature of computers and the current and poilitical roles that they play in our society. 63

A broadening of the areas in which computer instruction was used occurred in the 1970's. Students with special learning problems due to physical and mental handicaps received computer instruction. Computer instruction was no longer the exclusive privilege of gifted students. The Ameri-

can Institute for Research reported that the use of computers grew to 58% of all American high schools by 1974. The annual rate of growth for this five year period was five percent. It was projected that almost all American high schools would be using computers for one reason or another by 1984.

Dennis reported that in 1976 that about half of the high schools in the State of Illinois had some kind of computer facility available to them. Dennis stated:

> As of 1976, about half of the secondary schools in the State of Illinois had some kind of computer facilities available to them. There has been a relatively steady growth in the number of Illinois schools using computers since 1967, but the growth has not been uniform through-out the state. 64

It is important to note that the primary use of computers in schools prior to the microcomputer was for administrative purposes. Duties such as payroll, student attendance and student scheduling were the chief reasons why schools used computers. Much of the use of computers by schools was on a time sharing bases. The costs associated with buying computers were too prohibitive. Justification for administrative-type tasks was normally easier for school districts than it was for instructional reasons. The arrival of microcomputers on the scene made it much easier for schools to justify their instructional use. The American Institute for Research report showed that 3.9% of all high schools used computers for instructional purposes in 1969.

In 1974, the American Institute for Research reported that instructional use of computers had grown to 4.9%. Instructional use of computers in the early 1970's was for most schools minimal.

Introduction of the microcomputer sent shock waves all over the world. Schools have very much felt their presence. Since their introduction, microcomputers have become less expensive and, therefore, more attainable for schools. The computing ability of the large time sharing computers of the 1970's can now be secured for $1,000-$2,000. Each year since their introduction, microcomputers have increased their computing capability. It has been said that the number of electronic components that can be placed on a single piece of silicon has doubled every year since the introduction of microcomputers. Annually, since their introduction, microcomputers have become more popular for home use. Komoski stated:". . . computers in the homes of children outnumber computers in the schools by a ratio of almost 10 to 1."[65] As a result, pressure has been exerted by a number of sources on the schools to computerize.

Schools have responded to this pressure to computerize in a big way. Lindelow stated:

> According to a telephone survey of all 15,442 U.S. school districts conducted between July and September 1981 by Market Data Retrieval of Westport, Conneticut, nearly 16,000 of the nation's 84,000 public schools (19 percent) utilized computers for instruction. An identical survey conducted in July and September 1982 showed that 25,000 schools, or 30 percent, were using computers. Conservative estimates predict that

> over 40,000 schools (50 percent) wikll have at least one computer by fall 1983, and that by 1985, 85 to 90 percent of the nation's schools will be utilizing computers for instructional purposes. 66

It is only fitting that a brief analysis of the benefits that students can receive from computer aided instruction be given at this time. Do the benefits that students receive from using microcomputers justify their use?

First of all, there are two major ways that microcomputers are used in the instructional process. Except for teaching students about computer literacy or information technology computers are used for computer-assisted instruction (CAI) and computer-managed instruction (CMI). Computer-assisted instruction allows a student to interact directly with the computer. Certain aspects of the student's instruction are computerized. The extent of the student's total instructional time spent on the microcomputer will vary. Computer- assisted instructed is employed primarily as a supplement or enrichment to the student's regular classroom instruction. Computer-managed instruction (CMI) is generally much broader in scope. Computer-managed instruction includes responsibility for many tasks: 1) monitoring student progress; 2) diagnosing student learning needs and 3) prescribing learning activities. CAI helps the regular classroom teacher. CMI serves as a form of a classroom teacher. Computer-assisted instruction has received much greater attention in the literature due to its much wider use by schools. Computer-managed instruction is

somewhat rare but may grow in popularity. Lindelow stated: " . . .it is still rare to find computers being used at the classroom level for the management of the instructional process. By the late 1980's, though, computer-managed instruction could become the norm in most of the nations' schools."[67]

Reports proclaiming the success of computer-assisted instruction have appeared in the literature for some time now. Vinsonhaler and Bass reported in 1971:

> The results indicate a substantial advantage for CAI augementation of traditional classroom instruction, where standardized achievement tests are used as a criteria for educational performance. Generally, CAI groups show performance gains of one to eight months over traditional instruction. [68]

Their report was based on an analysis of ten programs using CAI from as early as the 1966-67 school year. Hicks and Hunka reported in 1972 that: 1) CAI can liberate - can be patient, accurate and possesses a perfect memory; 2) CAI is powerful - can perform arithmetic and other computations accurately and rapidly; 3) CAI is flexible - can vary style and logic of teaching; 4) CAI is compatible with live teaching - used side by side or alternatively with person to person teaching and 5) CAI can provide immediate evaluations of student performance.

Not all reports on computer-assisted instruction, however, have been glowing. Jamison commented:

> . . . no simple uniform conclusion can be drawn about the effectiveness of CAI . . . CAI attempts to improve

> the quality of instruction by providing for its individualization along with one or more dimensions. Nonetheless, findings of no significant difference dominate the research in this area. 69

Edwards reported that when computer-assisted instruction was in part or in whole substituted for traditional instruction that the results were mixed. She found in nine studies CAI was more successful, but in eight studies little or no difference was found. Edwards found that the amount of learning time decreased if CAI was used as a supplement. Computer-assisted instruction's value as a singular instructional method was uncertain. The benefits of CAI according to Thomas were: ". . . CAI leads to achievement levels equal to or higher than traditional instruction, as well as favorable attitudes, significant time savings, and comparable levels of retention and cost."[70]

More recent research on the effectiveness of computer-assisted instruction has led to a few broad conclusions: 1) students learn more, retain more or learn the same amount faster using computers; 2) no study substantiated as to why computer instruction does what it does and 3) in addition to achievement gains, students often find computers to be more patient and less critical than classroom teachers.

The ability of computer-assisted instruction to help students learn more, retain more and/or learn the same amount faster has been frequently documented. Kulik in 1983 completed a meta-analysis of 51 objective, comparative studies of computer based instructional programs. Kulik

reported : "The average effect of computer based instruction in the 48 studies was to raise the student test scores by .32 standard deviations, or from the 50th to the 63rd percentile."[71] Another recent study by Niemiec and Walberg found that students using computer-assisted instruction performed 16 percentile points better than students not using computer-assisted instruction. Kulik's study also found two of the 51 studies reported considerable time savings. In one study, a 39 percent time savings was found for students who were subjected to computer-assisted instruction. The second study reported an 88 percent time savings for CAI students.

The inability of the research to explain why computer-based instruction does what it does is very perplexing. Explanations offered have included: 1) the Hawthorne Effect and 2) the sense of control that students often experience with CAI programs. The Hawthorne Effect is a possible explanation due to the uniqueness and relatively short life of most computer-based instructional programs. Ryba and Chapman stated that the sense of control that students experience in CAI programs may explain program successes.

> Our own experience lead us to speculate that feeling of personal control and effectiveness may yield psychological benefits ... whether the student is in reality able to exert control over instruction may not be so important as the internal sense he/she has of being in control. It is this inward state of control which appears to be vital for improving academic achievement.[72]

The finding that students often view computers as more patient and less critical than classroom teachers has been often discussed in the literature. The importance of student interest and motivation for successful learning is at the root of this computer-assisted instruction benefit. Ryba and Chapman found that the major advantages seen by teachers for computer-assisted instruction are primarily in terms of the social and emotional improvements rather in terms of academic performance. Fisher supported the claim that students view computer-assisted instruction favorably: " All studies that looked at student attitudes report a significant positive change, improved attendance, increased motivation and lengthened attention span."[73]

Other benefits for CAI include its almost limitless patience for students who are handicapped, learning disabled and/or emotionally disturbed. The recently released publication Computer Assisted Instruction (CAI): The Bottom Line also included as positive effects 1) teachers' attitudes toward using microcomputer technology in the classroom are improving and 2) teachers report that students appear to cooperate more with each other and teachers during academic tasks whenusing computers. It is safe to say that CAI has had a very profound effect on schools.

Finally, the benefits of computer-assisted instruction have been found in recent research studies to be most effective with certain groups. Although CAI can be beneficial for

all students, the limits of time and money often force many schools to be somewhat selective as to which students receive certain services. Fisher stated that as a result of his analysis of 20 computer-assisted instructional programs that basically four conclusions can be drawn: 1) student performance is highest in science and foreign language, followed by mathematics, and lastly by reading and language arts; 2) CAI appears most effective when aimed at specific student groups; 3) CAI is more effective when integrated into the curriculum and 4) CAI is more effective when the proper settings and scheduling are established.

In summary, computer-assisted instruction has demonstrated that it can improve student achievement and student attitudes. Reductions in student learning time are also accreditable to computer-assisted instruction. Attitudes of teachers can also be positively enhanced in schools where CAI is employed. Although there is a lack of research that can explain the why of CAI's successes, more and more educators are becoming convinced that schools should become more involved with computer instruction ranging from computer literacy programs for all students to computer-managed instruction for more select groups of students. Eisenrauch suggested:

> Clearly, the current research findings indicate that computer-assisted instruction can increase student achivement in certain areas where quality courseware is used, and when the programs are planned and implemented in an effective manner by school staff. Findings in studies which report CAI is not as effec-

> tive as conventional instruction also report that the conditions for effective implementation were inadequate or nonexistent. 74

The position that schools find themselves, in reference to implementing computerized instruction, is analogous to Alice's position in Wonderland. The reader recalls that Alice asked the Cat, "Would you tell me, please, which way I ought to go from here?" The Cat's response was: "That depends a good deal on where you want to get to." Similarly, many schools are seemingly lost in the wonderland of microcomputers. Schools must first ask themselves as to where they want to go with microcomputers.

The review of the literature showed that the key to open the door into the world of computers for schools was good and thorough planning. Planning must be a dynamic process for schools. Implementation of computer programs required schools to plan and then systematically implement their plan. Computer instruction, unlike some curricular programs, demanded strict adherence to the process. Cory stated that schools must take extra efforts for computer instructional programs to be successful:

> Full implementation of computer technology in a school system is a much more complex change than the full implementation of a new method for teaching reading or even restructuring of schools from open-space to self-contained. As such, the protocol for change relating to computers is necessarily different from the change model recommended for most changes in education. 75

Components of the change model for incorporating computer instructional programs are basically agreed upon by

reseachers. Anderson and Klassen stated that the model should include a plan that has: 1) an instructional philosophy; 2) ideas for full curricular integration; 3) a hierarchy of instruction; 4) costs for implementation; 5) estimates of teacher readiness; 6) estimates of student readiness; 7) provisions for the nature of the computer environment. Wilson suggested that an effective change model contains a plan that has: 1) an assessment of the computer facility; 2) an early establishment of instructional goals; 3) a determination of associated costs; 4) an identification of willing and qualified teaching personnel; 5) an avoidance of departmental and/or student exclusivity; 6) a plan to start small and testing student interest and 7) a desire to involve as many faculty members as possible. Cry summarizes: " There is no historical precedent with lots of prototypes to make it easy for a school to select the "best" plan for its particular situation."[76]

What is important to remember is that like all other curricular programs, computer instruction requires considerable planning before, during and after its successful implementation. Like other curricular programs, Tyler's advice that the questions of 1) what educational purposes; 2) what educational experiences; 3) how experiences should be organized and 4) how the educational purposes are to be attained must each be answered.

The review of the literature did reveal a number of

helpful suggestions as to how schools can more successfully implement a program of computer instruction. A well formulated plan must first be developed.

First of all, the importance of teacher involvement in the successful implementation of a computer instructional program was frequently cited. Dr. John Bristol, Superintendent of the Lyons Township Schools, LaGrange, Illinois has commented that:

> Teachers are the implementors of curriculum change. How could they design ways to use computers in their courses, and regularly give students "hands-on" experiences in "course-specific" computer drills and programming when they themselves were educated in a non-computerized era? 77

Dr. Bristol's comments warrant attention due to Lyons Township High School's nationally recognized leadership role in the field of computer instruction. The in-service training of teachers was also often mentioned in the literature. Grossnickle and Laird have pointed out that the in-service training of teachers should: 1) prepare teachers to perform the task and provide criteria for determining the teacher's degree of success; 2) should be sequential in nature; 3) should be individualized thereby allowing a teacher to progress at his own pace; 4) should take place during the day and make use of actual teaching situations; 5) should be adjusted to the instructional setting that will be used; 6) should provide incentives to motivate the teachers; 7) whenever possible, district personnel should be used as instructors in the in-service program; 8) practice

should be provided within the course of normal classroom duties; 9) should have access to trained technical assistance and 10) school administrators should recognize the accomplishments of the teachers.

Second, the importance of administrative leadership in the successful implementation of a computer instructional program was mentioned on numerous occasions. The primary responsibility for providing leadership at the building level is that of the building principal. In December, 1983, a group of the nation's most distinguished experts in the fields of technology, communications, education and trend analysis joined 46 high school principals in Orlando, Florida to examine the role of high tech in high schools. A number of recommendations were formulated by that committee to help modernize the nation's schools. They reported that the role of the high school principal should include : 1) at both the district and building level, principals may help solve the problems of financing educational technology; 2) principals can exercise a great deal of leadership by looking outside the immediate school community for allies; 3) actions which principals take in the area of professional development have an impact on their faculties; 4) the principal is viewed as a program manager and 5) the principal must exercise leadership in the area of planning and awareness. In other words, the building principal definitely has a responsibility for the implementation of

all high tech programs, including computer instruction, to provide instructional leadership.

In summary, successful computer-instructional programs are not the result of accidents. Instead, the literature substantiated that successful programs were the result of thorough planning, systematic implementation and cooperative efforts between members of the school community. Like other curricular programs, building and district leadership was needed to help insure successful computer- instructional programs. Computers were as effective as the people who used them. This meant that teachers and administrators must themselves become computer users. Without a doubt, the real key to a successful computer-instructional program was the school's staff: teachers and administrators. Equipment could be chosen. Software could be bought. A school's staff, though, must become involved. The knowledge, cooperation and expertise of teachers and administrators was what really differentiated a successful microcomputer instructional program from the others.

CHAPTER III

PROCEDURE AND METHODOLOGY

This study examined the organizational effectiveness of high schools with model microcomputer instructional programs. Specifically, the organizational effectiveness traits of student educational satisfaction, student academic development, employee satisfaction and the school's ability to acquire financial and human resources were compared for the high schools who had model microcomputer instructional programs.

Chapter I was an introduction to the study and it also presented the problem, the significance of the study, the limitations of the study, the research questions, and the population. Chapter II reviewed the related research and literature. This chapter gives a review of the research procedure and methodology used to gather the data needed for the study.

DEVELOPMENT OF THE QUESTIONNAIRES

Collection of the data for the study was divided into two parts. The first part of the study addressed identification of high schools with model microcomputer instructional

programs. The second part of the study addressed the organizational effectiveness of the five high schools who had been identified as having model microcomputer instructional programs.

The questionnaire used to assess and rank the microcomputer instructional programs was developed as result of a careful review of the literature and solicitation of suggestions from high school microcomputer instruction teachers. Seven broad areas of the microcomputer instructional programs were examined: 1) degree of use; 2) accessability of equipment; 3) level of teacher computer awareness; 4) level of principal's computer awareness; 5) supervision of the microcomputer instruction; 6) objectives of the microcomputer instruction and 7) evaluation of the microcomputer instruction. The questionnaire consisted of 15 closed form questions with each assigned point values, thereby allowing the researcher to rank the microcomputer instructional programs. Hillway points out that because of the relative ease of answering items in a closed form questionnaire, a researcher should use a closed form

questionnaire whenever possible.

The degree of use examined the various curricular and non-curricular uses for the microcomputers within the school. The degree of use was rated from 1 to 5 for each of the three related questions. One point was awarded for each different use with a maximum of five points.

The accessibility of equipment investigated the availability of microcomputers for students during and after the normal school day. One point was awarded if a school had microcomputers available for students. Additional points were awarded as the number of microcomputers per student ratio improved. A maximum of five points was awarded for this item. The question pertaining to the availability of microcomputers for students during after school hours had a point value ranging from a low of one point to a high value of five points.

The level of teacher computer awareness examined the degree of computer literacy for the school's teaching staff. these questions addressed this area of concern. One question surveyed the level of computer literacy for the entire teaching staff. Points were awarded ranging from one point if 20% of the staff was computer literate to five points if 80% or more of the staff was computer literate. Intermediate levels of staff computer literacy also earned points.

A second question evaluated the inservice efforts of the school to help make its staff computer literate. Five points were awarded if a school had an inservice program and zero points if it did not.

The third question examined the training of the teachers working in the microcomputer instructional program. Points were awarded ranging from one point if the teachers had participated in computer workshops at the local level to

five points if the teachers had master's degrees in computer science.

The level of the principal's computer awareness was investigated. Five points were awarded if the principal had considerable training, three points for some training and zero points for no microcomputer training.

Supervision of the microcomputer instructional program examined who besides the principal was in charge of the microcomputer instructional program. One point was awarded if classroom teachers were responsible ranging to five points if a central office administrator for computer instruction was responsible.

Objectives of the microcomputer instructional program questioned as to whether specific written objectives existed for the school's program. Each of the three questions awarded five points if written objectives were available and zero points if they were not. The questions related to: 1) instructional goals; 2) software adoption and 3) hardware adoption.

Evaluation of the microcomputer instructional program consisted of two questions. Each question awarded points ranging from one point for a minimal evaluative effort to five points for a more sophisticated level of evaluation. One question examined how students enrolled in microcomputer instruction were evaluated and the second question compared the microcomputer program evaluation to other curricular

program evaluations.

In summary, the questionnaire pertaining to the high schools' microcomputer instructional programs was a fifteen item closed form questionnaire addressing seven broad areas related to microcomputer instruction. Each item had a value of five points with each possible response assigned a particular point value. The schools' microcomputer instructional programs were ranked on the basis of the total scores earned by the respective schools on the 15 item questionnaire. For purposes of this particular study, the five high schools who received the highest total scores on the questionnaire were identified as having model microcomputer instructional programs.

The questionnaire on organizational effectiveness consisted of 52 closed form questions. The questionnaire used in this study was a modified version of Cameron's 57 item instrument that had been used successfully at the university level in 1976 and 1980.

Cameron's instrument was selected for use in this study for two reasons. First of all, Cameron's instrument was developed for the organizational effectiveness assessment of institutions within a school setting. A review of the literature revealed that many assessments of organizational effectiveness have been developed for non-school settings but considerably fewer have been developed for the organizational effectiveness assessments of schools. Second,

items on the questionnaire asked respondents to give descriptive information, not evaluative judgement. Cameron points out that emphasis on description rather than evaluation helps reduce the number of purposefully biased assessments by respondents.

Cameron developed his instrument as a result of interviewing top level administrators in six New England colleges. Nine categories of traits relating to effective schools were identified: 1) student educational satisfaction; 2) student academic development; 3) student career development; 4) student personal development; 5) faculty and administrator employment satisfaction; 6) professional development and quality of the faculty; 7) systems openness and community interaction; 8) ability to acquire resources and 9) organizational health. Cameron's instrument had reliability coefficients ranging from .628 to.924 for his nine traits in his first study. Reliability coefficients ranged from .72 to .92 for his nine traits in his second study.

Modifications in Cameron's instrument were limited to language and the appropriateness of questions for the high school population. For example, Cameron's questionnaire referred to "college" while this study referred to "high school." Five questions were deleted from Cameron's instrument for use in this study. Questions that referred to a college's ability to attract the country's leading high school graduates and a college's ability to help graduates

obtain employment in their first area of choice were not applicable for this study.

Consequently, a 52 item questionnaire was created. All nine organizational effectiveness traits identified by Cameron were addressed by this study's questionnaire. The focus of this study was with four traits: 1) student educational satisfaction; 2) student academic development; 3) employee employment satisfaction for administrators and teachers and 4) the school's ability to acquire financial and human resources. The author's personal interest was to examine the attitudes of students, teachers and administrators in regard to the school curriculum, employee job satisfaction and the financial condition of high schools who had model microcomputer instructional programs.

A third questionnaire was used in the study to secure objective data from each of the five high schools. This study, like Cameron's at the university level, obtained objective data to help validate the subjective data generated by the organizational effectiveness questionnaire. Questions in the third questionnaire addressed the following: 1) number of student drop-outs; 2) number of students going on to post-secondary education; 3) number of teachers leaving; 4) number of administrators leaving; 5) total school budget and 6) teachers' salary at the Bachelor's degree and no experience level.

DATA COLLECTION PROCEDURES

The questionnaire on microcomputer instruction was mailed to the principals of each of the twenty-seven high schools within the target population. A cover letter explaining the project and a self-addressed stamped enveloped were enclosed with the questionnaire. Initially nineteen questionnaires were returned within a two week period. A follow-up was conducted by forwarding a second copy of the questionnaire along with a second cover letter to those principals who did not respond. In total, twenty-two (81.4%) of the principals responded to the questionnaire on microcomputer instruction. The data for ranking the high schools' microcomputer instuctional programs were determined on the basis of the school's total score on the questionnaire. A profile of how the schools ranked is presented in Chapter IV.

Initially, a telephone interview was conducted with each of the principals whose schools had been identified as having a model microcomputer instructional program. Permission was asked of the principal for his school - students, teachers and administrators- to participate in the second part of the study. The interview provided an opportunity for the researcher more fully to explain the project. Each principal was informed of the sample size needed for the study based on his school's population of students, teachers

and administrators. Each principal was also assured that strict anonymity would be preserved through-out the research project. Finally, the interview provided an opportunity for each of the principals to ask questions and to accept/reject the invitation to participate further in the study.

The five high schools that participated in the study each ranked in the top eight of the schools who responded to the microcomputer questionnaire. Principals of the schools that ranked first, third and seventh declined to participate. Reasons given by the principals for not participating: 1) the high school's current involvement in a North Central Association evaluation - sufficient time was not available; 2) the high school's teachers' strike earlier in the school year-examination of the school's organizational effectiveness may reopen some old wounds and 3) the high school's frequent participation in research projects - the principal preferred that his school not participate in another research project.

Distribution of the organizational effectiveness questionnaire to the students and teachers at the five high schools was by a stratified sampling. A sample size of thirty percent of the teachers and fifteen percent of the students was used. All building administrators were surveyed at each of the five high schools. Table 3 summarizes the survey distribution:

TABLE 3

Survey Distribution

School No.	Student Enrollment	Teacher Membership	Administrator Membership
1	655	52	4
2	600	40	2
3	3,400	280	6
4	1,100	85	3
5	900	65	5
Total	6,655	522	20

A profile of the respondents' decriptions of their school's organizational effectiveness is presented in Chapter IV using the four broad areas: 1) student educational educational satisfaction; 2) student academic development; 3) employee satisfaction for administrators and teachers and 4) the school's ability to acquire financial and human resources.

The questionnaire used to collect the objective data related to the four broad areas of attention was given to the building principal to answer. A profile of the data collected from this questionnaire is also presented in Chapter IV.

SAMPLE

Twenty-seven high schools were identified in the target area. Twenty-two high schools (81.4%) responded to the questionnaire on microcomputer instruction. The sample was a stratified sampling from each of the five high schools who scored the highest on the microcomputer instuction questionnaire. The strata groups were students, teachers and administrators. Sample sizes of these groups were 15%, 30% and 100% respectively. Total population of these groups was 6655, 522 and 20 respectively.

The five high schools with model microcomputer instructional programs were identified from a targeted population of high schools who were located in DuPage County, Will County and Cook County outside of the city of Chicago. The high schools were limited to those schools that were the only high school in the district.

RESEARCH QUESTIONS

These questions focused on the students, teachers and administrators at the five high schools who had been identified as having model microcomputer instructional programs.

1. What is the level of student educational satisfis-faction for the five high schools and for the three major groups in the high schools?

2. What is the level of student academic development for the five high schools and for the three major groups in the high schools?

3. What is the school's level of ability to acquire financial and human resources for each of the five high schools and for the three major groups in the high schools?

4. What is the level of employee satisfaction for administrators and teachers for the five high schools and for the three major groups in the high school?

5. What are the differences among the five high schools in terms of the variables of organizational effectiveness?

STATISTICAL TREATMENT OF THE DATA

The data collected from the study are presented in two sections in Chapter IV. Section I presents the data and Section II offers an analysis of the findings.

Examination and analysis of the data collected are presented in Chapter IV in relation to the study's four research questions. The five high schools, who have been identified as having model microcomputer instructional programs, are compared in terms of the organizational effectiveness traits of student educational satisfaction, student academic development, employee satisfaction and ability to acquire financial and human resources.

A frequency distribution sorted each of the responses on the 52 item questionnaire. A mean score for each item for each of the three major groups: students, teachers and

administrators is reported for each of the schools. One underlying assumption of the study was that the choice of responses for each of the 52 questions on the effectiveness questionnaire were distributed on an equally scaled continuum. The difference of perception between a respondent's answer of a one and a two on a specific question was the same as between a six and a seven on the same question. Comparisons are made among the three major groups, students, teachers and administrators, and among the five high schools themselves.

CHAPTER IV

PRESENTATION AND ANALYSIS OF THE DATA

The purpose of the study was to compare the organizational effectiveness traits of student educational satisfaction, student academic development, employee satisfaction and ability to acquire financial and human resources for high schools who have model microcomputer instructional programs. This chapter presents the findings from the data collected and provides an analysis of those findings in order that comparisons can be made between the five high schools who were identified as having model microcomputer instructional programs.

Section I presents the data collected from the questionnaire on microcomputer instruction that was mailed to the principals of each of the twenty-seven high schools within the target population. Section I presents the data collected from the questionnaire on organizational effectiveness that was secured from the 20 administrators, 127 teachers and 688 students in the five high schools that participated in the study. In addition, Section I presents some objective data that were collected form the five high school principals. Section I contains a number of tables that outline the data collected in the study.

Section II also presents an analysis of the data collected from the questionnaire on microcomputer instruction and from the questionnaire on organizational effectiveness. The main focus of the analysis is how the five high schools compared in terms of their organizational effectiveness. Attention is also given as to how the three constituencies - administrators, students and teachers- compared in terms of their perceptions of the organizational effectiveness of their respective schools.

SECTION I : PRESENTATION OF THE DATA MICROCOMPUTER INSTRUCTION

Each of the high school principals in the target population was mailed a 15 item questionnaire pertaining to his school's microcomputer instructional program. The results of the survey are outlined in Table 4.

TABLE 4

Results of 15 Item Microcomputer Questionnaire for 22 High Schools

School	Total	School	Total
1	65 *	12	47
2	63	13	46
3	62 **	14	42
4	58	15	40
5	57	16	40
6	56	17	37
7	55 ***	18	33
8	54	19	30
9	52	20	26
10	52	21	25
11	48	22	15
Range of scores 0 - 75		Mean	45.6

*Elected not to participate in the study on effectiveness because of North Central involvement

**Elected not to participate in the study on effectiveness because of teacher strike earlier in school year

***Elected not to participate in the study on effectiveness because of school's frequent participation in research

As can be seen from Table 4, the scores on the microcomputer instruction questionnaire ranged from a high of 65 points to a low of 15 points out of the maximum 75 points. The distribution of scores within this range was fairly even. The mean score on the microcomputer instruction

questionnaire was 45.6 points.

The five high schools, the top 25% of the schools who responded to the microcomputer instructional questionnaire, who participated in the study on organizational effectiveness, each scored between 65 and 57 points on the microcomputer instruction questionnaire. The mean score for these five high schools was 57.6 points.

The five high schools who participated in the effectiveness study had identical responses to three items on the microcomputer instruction questionnaire. The five high schools' common charateristics were : 1) an in-service/ staff development program to assist teachers in becoming computer literate; 2) specific written instructional objectives for courses that incorporated microcomputer instruction and 3) the principal had some microcomputer training.

SECTION I : PRESENTATION OF THE DATA ORGANIZATIONAL EFFECTIVENESS

Each of the five high schools, who were identified as having model microcomputer instructional programs, and who agreed to participate, had 30% of its teachers, 15% of its students and 100% of its administrators participate in completing the 52 item questionnaire on organizational effectiveness. Table 3 outlined some general characteris-

tics about the five high schools who participated in the study.

A total of 1170 surveys were distributed at the five high schools: students - 1000, teachers - 150 and administrators - 20. The total useable surveys collected in this study numbered 834 : 688 students(68.8%), 127 teachers(84.6%) and 19 administartors(95%). Overall, 10.3% of the students, 24.3% of the teachers and 95% of the administrators completed the effectiveness survey satisfactorily. Some surveys were not returned: students -100(10%) and teachers -15(10%). Some surveys were not completed fully: students -212(21.2%), teachers -8(5.3%) and administrators -1(5%). Table 5 shows the distribution by the three groups at the five schools.

TABLE 5

Group Distribution

School No.	Useable Surveys Collected Student (%)	Teachers (%)	Administrators (%)
1	63 (9.6)	11 (21.1)	3 (75.0)
2	81 (13.5)	13 (32.5)	2 (100.0)
3	321 (9.4)	58 (20.7)	6 (100.0)
4	137 (12.4)	20 (23.5)	3 (100.0)
5	86 (9.5)	25 (38.4)	5 (100.0)
Total	688	127	19

For purposes of this study, the effectiveness question-

naire was sorted by a frequency distribution for each of the items that directly related to the organizational effectiveness traits of student educational satisfaction, student academic development, employee satisfaction and ability to acquire financial and human resources. In total, 16 items were given primary attention. Each of these 16 items had a mean score calculated for each school and for each of the three responding groups - students, teachers, and administrators.

Table 6 outlines the breakdown of each of the five schools as to how its respective membership compared to the total responding population of 834 participants. Table 6 also outlines the breakdown of each of the three groups as to how it compared to the 834 respondents.

TABLE 6

Groups By School Distribution

	SCHOOL					
Group	1	2	3	4	5	Total
Admin.	3	2	6	3	5	19
(%)	(15.8)	(10.5)	(31.6)	(15.8)	(26.3)	(2.3)
Teachers	11	13	58	20	25	127
(%)	(8.7)	(10.2)	(45.7)	(15.7)	(19.7)	(15.2)
Students	63	81	321	137	86	688
(%)	(9.2)	(11.8)	(46.7)	(19.9)	(12.5)	(82.5)
Total	77	96	385	160	116	834

STUDENT EDUCATIONAL SATISFACTION

Three questions asked for the respondents' perceptions as to the level of student educational satisfaction at their respective schools. The first question (#9) asked: "There seems to be a feeling that dissatisfaction is high among students in general at this school." Respondents had a choice of answers ranging from very true (7) to very untrue (1). The results of the respondents' answers to this question on a school-wide basis are outlined in Table 7.

TABLE 7

I- STUDENT EDUCATIONAL SATISFACTION

" There seems to be a feeling that dissatisfaction is high among students in general at this school."

	School				
Answer	1	2	3	4	5
Very Untrue(1)	6 (7.8)	3 (3.1)	57 (14.8)	1 (.6)	2 (1.7)
Small Minority(2)	10 (13.0)	10 (10.4)	115 (29.9)	26 (16.3)	20 (17.2)
Less Than Half(3)	6 (7.8)	14 (14.6)	50 (13.0)	14 (8.8)	18 (15.5)
Neither(4) Typ/Atyp.	21 (27.3)	18 (18.8)	67 (17.4)	34 (21.3)	22 (19.0)
More Than Half(5)	10 (13.0)	18 (18.8)	35 (9.1)	33 (20.6)	16 (13.8)
Large Majority(6)	13 (16.9)	22 (22.9)	42 (10.9)	25 (15.6)	19 (16.4)
Very True(7)	11 (14.3)	11 (11.5)	19 (4.9)	27 (16.9)	19 (16.4)
Total	77 (100%)	96 (100%)	385 (100%)	160 (100%)	116 (100%)
	Mean Score 4.32	Mean Score 4.54	Mean Score 3.29	Mean Score 4.59	Mean Score 4.41

As can be seen from Table 7, the most frequently chosen answer by the respondents was "neither." On a school-wide basis, respondents at Schools 1, 4 and 5 chose "neither" most frequently. On a percentage basis, 27.3% of the

respondents at School 1, 21.3% of the respondents at School 4 and 19.0% of the respondents at School 5 selected "neither" most frequently. More than 22.0% of the respondents at School 2 selected "large majority" and 29.9% of the respondents at School 3 chose "small majority." The results of the respondents' answers to the first question on student educational satisfaction on a group basis are outlined in Table 8.

TABLE 8

I- STUDENT EDUCATIONAL SATISFACTION

" There seems to be a feeling that dissatisfaction is high among students in general at this school."

Answer	Group: Administrator	Student	Teacher
Very Untrue(1)	4 (21.1)	54 (7.8)	11 (8.7)
Small Minority(2)	9 (47.4)	118 (17.2)	54 (42.5)
Less Than Half(3)	2 (10.5)	83 (12.1)	17 (13.4)
Neither(4) Typ./Atyp.	3 (15.8)	130 (18.9)	29 (22.8)
More Than Half(5)	0 (0.0)	103 (15.0)	9 (7.1)
Large Majority(6)	1 (5.3)	115 (16.7)	5 (3.9)
Very True(7)	0 (0.0)	85 (12.4)	2 (1.6)
Total	19 (100%)	688 (100%)	127 (100%)
	Mean Score 2.42	Maen Score 4.16	Mean Score 2.95

As can be seen from Table 8, both the administrators and teachers answered most often "small minority." Students selected "neither" most frequently. The mean scores for these groups of respondents were 2.42, 2.95 and 4.16,

respectively. One can see that more than 68% of the administrators and more than 50% of the teachers selected either very untrue or small minority as their response for question #9. On the other hand, the distribution of student responses was not concentrated. The perceptions of administrators and teachers were very different from the perceptions of the students as to the general level of student dissatisfaction.

The second question (#10) pertaining to student educational satisfaction asked: "There have been a relatively large number of students either drop out or not return because of dissatisfaction with their educational experiences here." Participants had a choice of answers identical to the choices to question #9. The results of this question on a school-wide basis are outlined in Table 9.

TABLE 9

II- STUDENT EDUCATIONAL SATISFACTION

" There have been a relatively large number of students either drop out or not return because of their dissatisfaction with their educational experiences here."

	School				
Answer	1	2	3	4	5
Very Untrue(1)	19 (24.7)	10 (10.4)	75 (19.5)	21 (13.1)	13 (11.2)
Small Majority(2)	14 (18.2)	23 (24.0)	126 (32.7)	30 (18.8)	26 (22.4)
Less Than Half(3)	11 (14.3)	18 (18.8)	48 (12.5)	32 (20.0)	21 (18.1)
Neither (4)	13 (16.9)	24 (25.0)	46 (11.9)	35 (21.9)	22 (19.0)
More Than Half(5)	8 (10.4)	16 (16.7)	36 (9.4)	24 (15.0)	13 (11.2)
Large Majority(6)	2 (2.6)	2 (2.1)	20 (5.2)	9 (5.6)	14 (12.1)
Very True(7)	10 (13.0)	3 (3.1)	34 (8.8)	9 (5.6)	7 (6.0)
Total	77 (100%)	96 (100%)	385 (100%)	160 (100%)	116 (100%)
	Mean Score 3.30	Mean Score 3.32	Mean Score 3.10	Mean Score 3.46	Mean Score 3.40

The reader can observe from Table 9, the most often selected response to question #10 was "small minority." More than 32% of the respondents at School 3 and more than 22% of the respondents at School 5 chose "small minority." Twenty-two percent of the respondents at School 4 chose

"about half." More than 24% of the respondents at School 1 selected " almost none." The responses of the administrators, teachers and students on a group basis to question #10 are outlined in Table 10.

TABLE 10

II- STUDENT EDUCATIONAL SATISFACTION

" There have been a relatively large number of students either drop out or not return because of their dissatisfaction with their educational experiences here."

	Group		
Answer	Administrators	Students	Teachers
Very Untrue(1)	7 (36.8)	93 (13.5)	38 (29.9)
Small Minority(2)	5 (26.3)	172 (25.0)	42 (33.1)
Less Than Half(3)	2 (10.5)	111 (16.1)	17 (13.4)
Neither (4)	3 (15.8)	121 (17.6)	16 (12.6)
More Than Half(5)	1 (5.3)	88 (12.8)	8 (6.3)
Large Majority(6)	0 (0.0)	42 (6.1)	5 (3.9)
Very True(7)	1 (5.3)	61 (8.9)	1 (.8)
Total	19 (100%)	688 (100%)	127 (100%)
	Mean Score 2.47	Mean Score 3.45	Mean Score 2.47

On a group basis, students and teachers selected "small minority" most frequently for question #10. Administrators most often selected "very untrue" or, in other words, they stated that students did not drop-out of their respective schools because of dissatisfaction with educational experiences at the schools. The mean score for the administrators and teachers was the same, 2.47. The mean score for students was 3.45. One can see that more than 63% of the administrators and more than 63% of the teachers selected either "very untrue" or "small minority" as their response to question #10. On the other hand, the distribution of student reponses to question # 10 was not concentrated. Administrators and teachers perceived that the level of student dissatisfaction with the educational experiences at the respective schools was less of a factor as to why students dropped out of school than did students.

The third question (#11) related to student educational satisfaction stated: "I am aware of a large number of student complaints regarding their educational experience here as registered in the school newspaper, meetings with faculty members or administrators, or other public forums." The choice of answers for the respondents was identical to the choices for questions #9 and #10. Table 11 reports the respondents' choices for question #11 for all respondents: students, teachers and administrators.

TABLE 11

III- STUDENT EDUCATIONAL SATISFACTION

" I am aware of a large number of student complaints regarding their educational experience here as registered in the school newspaper, meetings with faculty members or administrators, or other public forums."

	School				
Answer	1	2	3	4	5
Very Untrue(1)	12 (15.6)	15 (15.6)	66 (17.2)	26 (16.3)	14 (12.1)
Small Minority(2)	13 (16.9)	17 (17.7)	71 (18.5)	15 (9.4)	17 (14.7)
Less Than Half(3)	9 (11.7)	12 (12.5)	44 (11.5)	23 (14.4)	16 (13.8)
Neither (4)	190 (24.7)	240 (25.0)	860 (22.4)	300 (18.8)	250 (21.6)
More Than Half(5)	11 (14.3)	14 (14.6)	57 (14.8)	25 (15.6)	20 (17.2)
Large Majority(6)	3 (3.9)	10 (10.4)	27 (7.0)	21 (13.1)	14 (12.1)
Very True(7)	10 (13.0)	4 (4.2)	33 (8.6)	20 (12.5)	10 (8.6)
Total	77 (100%)	96 (100%)	385 (100%)	160 (100%)	116 (100%)
	Mean Score 3.69	Mean Score 3.53	Mean Score 3.54	Mean Score 3.98	Mean Score 3.88

At all five schools the respondents indicated that they were uncertain as to the number of student complaints in the school newspaper and other public forums regarding their educational experiences. "Neither typical or atypical" was

the most frequent choice for all repondents. The breakdown of the respondents' choices for question #11 on a group basis is reported in Table 12.

TABLE 12

III- STUDENT EDUCATIONAL SATISFACTION

" I am aware of a large number of student complaints regarding their educational experiences here as registered in the school newpaper, meetings with faculty members or administrators, or other public forums."

	Group		
Answer	Administration	Students	Teachers
Very Untrue(1)	7 (36.8)	91 (13.2)	35 (27.6)
Small Minority(2)	7 (36.8)	89 (13.0)	37 (29.1)
Less Than Half(3)	0 (0.0)	84 (12.2)	20 (15.7)
Neither (4)	4 (21.1)	163 (23.7)	17 (13.4)
More Than Half(5)	0 (0.0)	117 (17.0)	10 (7.9)
Large Majority(6)	0 (0.0)	70 (10.2)	5 (3.9)
Very True(7)	1 (5.3)	73 (10.6)	3 (2.4)
Total	19 (100%)	688 (100%)	127 (100%)
	Mean Score 1.89	Mean Score 3.91	Mean Score 2.66

As can be seen from Table 12, more than 73% of the administrators selected "small minority" or "very untrue" as their response for question #11. Teachers chose the same two responses to question # 11 more than 56% of the time.

In words, administrators and teachers stated that they were not aware of student complaints as registered through the student newspaper, etc. Students, however, did not express any particular viewpoint in a majority of cases for question # 11 as did administrators and teachers.

STUDENT ACADEMIC DEVELOPMENT

Six questions (#1, #12, #13, #15, #24 and #25) surveyed the participants regarding the level of student academic development at the respective schools. Question #1 asked: "This high school has the reputation of possessing a stimulating intellectual environment with high concern for student academic development." The selection of choices for the administrators, students and teachers ranged from Very True (7) to Very Untrue (1). Results of the responses to question #1 on a school-wide basis are highlighted in Table 13.

TABLE 13

I- Student Academic Development

" This high school has the reputation of possessing a stimulating intellectual environment with high concern for student academic development."

Answer	School 1	2	3	4	5
Very Untrue(7)	4 (5.2)	0 (0.0)	5 (1.3)	7 (4.4)	3 (2.6)
Small Minority(6)	1 (1.3)	5 (5.2)	9 (2.3)	4 (2.5)	9 (7.8)
Less Than Half(5)	17 (22.1)	8 (8.3)	7 (1.8)	23 (14.4)	23 (19.8)
Neither (4)	15 (19.5)	15 (15.6)	30 (7.8)	44 (27.5)	23 (19.8)
More Than Half(3)	15 (19.5)	35 (35.4)	66 (17.1)	45 (28.1)	31 (26.7)
Large Majority(2)	21 (27.3)	26 (27.1)	137 (35.6)	30 (18.8)	26 (22.4)
Very True(1)	4 (5.2)	8 (8.3)	131 (34.0)	7 (4.4)	1 (.9)
Total	77 (100%)	96 (100%)	385 (100%)	160 (100%)	116 (100%)
	Mean Score 4.49	Mean Score 4.96	Mean Score 5.80	Mean Score 4.46	Mean Score 4.31

At three of the schools, Schools 2, 4 and 5, the most frequent response was "more than half." At these schools the percentage breakdown was 35.4%, 28.1% and 26.7% for selecting "more than half." At the other two schools, Schools 1 and 3, the most common choice was " large majority." The percentage

breakdown was 27.3% and 35.6%, respectively. The mean scores for the high schools ranged from 5.80 to 4.31. Table 14 reports the respondents' perceptions on a group basis for question #1.

TABLE 14

I- STUDENT ACADEMIC DEVELOPMENT

" This high school has the reputation of possessing a stimulating intellectual environment with high concern for student academic development."

Answer	Group: Administrators	Students	Teachers
Very Untrue(1)	0 (0.0)	19 (2.8)	0 (0.0)
Small Minority(2)	0 (0.0)	24 (3.5)	4 (3.1)
Less Than Half(3)	1 (5.3)	71 (10.3)	6 (4.7)
Neither (4)	0 (0.0)	114 (16.6)	13 (10.2)
More Than Half(5)	4 (21.1)	174 (25.3)	13 (10.2)
Large Majority(6)	8 (42.1)	193 (28.1)	39 (30.7)
Very True(7)	6 (31.6)	93 (13.5)	52 (40.9)
Total	19 (100%)	688 (100%)	127 (100%)
	Mean Score 5.95	Mean Score 4.96	Mean Score 5.83

As can be observed from Table 14, administrators and students designated "large majority" as their preferred response. Teachers designated "very true" as their preferred choice. The mean scores for the groups were 5.95, 4.96 and 5.83 for the administrators, students and teachers, respectively. The mean score for the administrators and teachers was similar. Both groups expressed that a large majority of the students believed that their respective high schools had reputations for a stimulating intellectual environment with a high concern for student academic development. One can see that more than 73% of the administrators and more than 71% of the teachers selected either "large majority" or "very true" as their response for question # 1. Students, as a group, voiced that more than half of the students believed that their respective high schools had a high concern for student academic development.

The second question (#12) examining student academic development asked: "Think of last year's graduating class at this school. Please rate the academic attainment or academic level achieved by that class as a whole." The perceptions of the respondents could range from the very top in the state (1) to the very bottom in the state (7). Table 15 summarizes the participants' answers to question #12.

TABLE 15

II- STUDENT ACADEMIC DEVELOPMENT

" Think of last year's graduating class at this school. Please rate the academic attainment or academic level achieved by that class."

	School				
Answer	1	2	3	4	5
Very Top(1)	4 (5.2)	0 (0.0)	66 (17.1)	10 (6.3)	2 (1.7)
Well Above Average(2)	9 (11.7)	12 (12.5)	152 (39.5)	30 (18.8)	31 (26.7)
Above Average(3)	22 (28.6)	45 (46.9)	62 (16.1)	42 (26.3)	31 (26.7)
Average (4)	31 (40.3)	20 (31.3)	78 (20.3)	58 (36.3)	42 (36.2)
Below Average(5)	4 (5.2)	7 (7.3)	23 (6.0)	10 (6.3)	10 (8.6)
Well Below Average(6)	1 (1.3)	1 (1.0)	2 (.5)	6 (3.8)	0 (0.0)
Very Bottom(7)	6 (7.8)	1 (1.0)	2 (.5)	4 (2.5)	0 (0.0)
Total	77 (100%)	96 (100%)	385 (100%)	160 (100%)	116 (100%)
	Mean Score 3.64	Mean Score 3.41	Mean Score 2.62	Mean Scoree 3.39	Mean Score 3.23

Because of the reverse order value for question #12 School 3's mean score of 2.62 was the highest and School 1's was the lowest at 3.64. The most frequently chosen responses were "well above average" and "about average." More than

40% of all of the respondents at each of the schools selected one of these two reponses. The perceptions of the three groups, administrators, students and teachers, are reported in Table 16.

TABLE 16

II- STUDENT ACADEMIC DEVELOPMENT

" Think of last year's graduating class at this school. Please rate the academic attainment or academic level achieved by that class as a whole."

Answer	Group: Administrators	Students	Teachers
Very Top(1)	2 (10.5)	66 (9.6)	14 (11.0)
Well Above Average(2)	9 (47.4)	181 (26.3)	44 (34.6)
Above Average(3)	6 (31.6)	162 (23.5)	34 (26.8)
Average (4)	1 (5.3)	210 (30.5)	28 (22.0)
Below Average(5)	1 (5.3)	47 (6.8)	6 (4.7)
Well Below Average(6)	0 (0.0)	9 (1.3)	1 (.8)
Very Bottom(7)	0 (0.0)	13 (1.9)	0 (0.0)
Total	19 (100%)	688 (100%)	127 (100%)
	Mean Score 2.47	Mean Score 3.10	Mean Score 2.77

Because of the reverse order value for question #12, the mean score for the administrators was the highest at 2.47, while the lowest mean score was 3.10 for the students. The teachers' mean score was 2.77. One can see that almost 90% of the administrators ranked their schools to be above the state average. More than 72% of the teachers and more than 59% of the students rated their schools to be above the state average.

The third question (#13) analyzing student academic development asked: "Estimate what percent of graduates from this high school go on to obtain a bachelor's degree at a college or university." Choices ranged from 91%-100% (1) to 0-15% (7). Question #13 had a reverse order value for its responses as did question #12. A summary of the responses is outlined in Table 17.

TABLE 17

III- STUDENT ACADEMIC DEVELOPMENT

" Estimate what percent of graduates from this high school go on to obtain a bachelor's degree at a college or university."

	School				
Answer	1	2	3	4	5
91%-100%(1)	4 (5.2)	1 (1.0)	28 (7.3)	2 (1.3)	8 (6.9)
76%-90%(2)	11 (14.3)	12 (12.5)	144 (37.4)	31 (19.4)	9 (7.8)
61%-75%(3)	15 (19.5)	19 (19.8)	119 (30.9)	43 (26.9)	15 (12.9)
46%-60%(4)	21 (27.3)	35 (36.5)	55 (14.3)	43 (26.9)	21 (18.1)
31%-45%(5)	16 (20.8)	23 (24.0)	25 (6.5)	25 (15.6)	37 (31.9)
16%-30%(6)	9 (11.7)	6 (6.3)	10 (2.6)	11 (6.9)	22 (19.0)
0%-15%(7)	1 (1.3)	0 (0.0)	4 (1.0)	5 (3.1)	4 (3.4)
Total	77 (100%)	96 (100%)	385 (100%)	160 (100%)	116 (100%)
	Mean Score 3.84	Mean Score 3.89	Mean Score 2.87	Mean Score 3.69	Mean Score 4.31

The reader can observe from Table 17 that for Schools 1 and 2 that 46%-60% was the most freguent response to question #13. School 4 had two popular choices: 61%-75% and 46%-60%. School 3 respondents designated 76%-90% as their most frequent answer. Members of School 5 most often

selected 31%-45% as their choice. Table 18 outlines the group responses for question #13.

TABLE 18

III- STUDENT ACADEMIC DEVELOPMENT

" Estimate what percent of graduates from this high school go on to obtain a bachelor's degree at a college or unversity."

Answer	Group: Administrators	Student	Teachers
91%-100%(1)	0 (0.0)	38 (5.5)	5 (3.9)
76%-90%(2)	3 (15.8)	179 (26.0)	25 (19.7)
61%-75%(3)	4 (21.1)	172 (25.0)	35 (27.6)
46%-60%(4)	6 (31.6)	142 (20.6)	27 (21.3)
31%-45%(5)	5 (26.3)	96 (14.0)	25 (19.7)
16%-30%(6)	1 (5.3)	48 (7.0)	9 (7.1)
0%-15%(7)	0 (0.0)	13 (1.9)	1 (.8)
Total	19 (100%)	688 (100%)	127 (100%)
	Mean Score 3.53	Mean Score 3.38	Mean Score 3.57

Teachers and administrators had similar mean scores at 3.57 and 3.53, respectively. The mean score for students was higher at 3.38 because of the reverse order value of

question #13. More than 68% of the teachers and administrators estimated that between 31% and 75% of the graduates from their schools obtained a bachelor's degree at a college or university. More than 71% of the students estimated that between 46% and 90% of the graduates from their schools obtained a bachelor's degree at a college or university.

The fourth student academic development question was #15. It analyzed the degree of emphasis that activities outside of the classroom had on student development. Participants had a choice of responses ranging from "very high degree of emphasis" (7) to " no emphasis at all"(1). Results for this question are tabulated in Table 19.

TABLE 19

IV- STUDENT ACADEMIC DEVELOPMENT

" To what extent does the high school emphasize activities outside the classroom designed specifically to enhance students' academic development?"

Answer	School 1	2	3	4	5
No Emphasis(1)	2 (2.6)	1 (1.0)	9 (2.3)	8 (5.0)	8 (6.9)
Little Emphasis(2)	3 (3.9)	7 (7.3)	11 (2.9)	12 (7.5)	8 (6.9)
Slight. Mod. Emphasis(3)	7 (9.1)	9 (9.4)	28 (7.3)	25 (15.6)	15 (12.9)
Moderate Emphasis(4)	27 (35.1)	29 (30.2)	77 (20.0)	45 (28.1)	23 (19.8)
Slight. High Emphasis(5)	10 (13.0)	26 (27.1)	94 (24.4)	51 (31.9)	29 (25.0)
High Emphasis(6)	23 (29.9)	17 (17.7)	97 (25.2)	13 (8.1)	19 (16.4)
Very High Emphasis(7)	5 (6.5)	7 (7.3)	69 (17.9)	6 (3.8)	14 (12.1)
Total	77 (100%)	96 (100%)	385 (100%)	160 (100%)	116 (100%)
	Mean Score 4.68	Mean Score 4.57	Mean Score 5.09	Mean Score 4.14	Mean Score 4.47

As can be seen from Table 19, the most frequent choice for Schools 1 and 2 was the same, "moderate emphasis." More than 30% of the respondents at Schools 1 and 2 selected "moderate emphasis." Members of Schools 4 and 5 replied most

frequently "slightly high emphasis." More than 31% of the respondents at School 4 and 25% of the respondents at School 5 chose " slightly high emphasis." At School 3 more than 25% of the respondents selected " high emphasis."

Table 20 highlights the group answers to question #15.

TABLE 20

IV- STUDENT ACADEMIC DEVELOPMENT

" To what extent does the high school emphasize activities outside the classroom specifically designed to enhance students' academic development?"

Answer	Group: Administrators	Students	Teachers
No Emphasis(1)	0 (0.0)	25 (3.6)	3 (2.4)
Little Emphasis(2)	0 (0.0)	33 (4.8)	8 (6.3)
Slight. Mod. Emphasis(3)	1 (5.3)	74 (10.8)	9 (7.1)
Moderate Emphasis(4)	1 (5.3)	177 (25.7)	23 (18.1)
Slight. High Emphasis(5)	5 (26.3)	169 (24.6)	36 (28.3)
High Emphasis(6)	8 (41.1)	138 (20.1)	23 (18.1)
Very High Emphasis(7)	4 (21.1)	72 (10.5)	25 (19.7)
Total	19 (100%)	688 (100%)	127 (100%)
	Mean Score 5.68	Mean Score 4.65	Mean Score 4.97

The range for the mean scores for the three groups reflected a low score of 4.65 for the students, a median score of 4.97 for the teachers and a high score of 5.68 for the administrators. Administrators ranked their schools' emphasis on non-classroom activities designed to enhance student academic development as high whereas students and teachers rated the schools' efforts as slightly high. One can see that more than 67% of the administrators selected "slightly high emphasis" or " high emphasis" as their response to question # 15. Teachers selected "moderate emphasis" or "slightly high emphasis" more than 46% of the time as their choice for question # 15.

The fifth question (#24) examining student academic development asked: "How many students would you say engage in instructional work over and beyond what is specifically assigned in the classroom?" Respondents had a choice of answers ranging from " almost all" (7) to " almost none"(1). Question 24's responses are tabulated in Table 21.

TABLE 21

V- STUDENT ACADEMIC DEVELOPMENT

" How many students would you say engage in instructional work (i.e. reading, studying, writing, etc.) over and beyond what is specifically assigned in the classroom?"

	School				
Answer	1	2	3	4	5
Almost None(1)	5 (6.5)	7 (7.3)	25 (6.5)	18 (11.3)	10 (8.6)
Small Minority(2)	19 (24.7)	25 (26.0)	58 (15.1)	48 (30.0)	38 (32.8)
Less Than Half(3)	23 (29.9)	31 (32.3)	75 (19.5)	37 (23.1)	36 (31.0)
About Half(4)	15 (19.5)	24 (25.0)	89 (23.1)	27 (16.9)	19 (16.4)
More Than Half(5)	9 (11.7)	6 (6.3)	87 (22.6)	17 (10.6)	7 (6.0)
Large Majority(6)	6 (7.8)	3 (3.1)	45 (11.7)	9 (5.6)	6 (5.2)
Almost All(7)	0 (0.0)	0 (0.0)	6 (1.6)	4 (2.5)	0 (0.0)
Total	77 (100%)	96 (100%)	385 (100%)	160 (100%)	116 (100%)
	Mean Score 3.29	Mean Score 3.06	Mean Score 3.82	Mean Score 3.13	Mean Score 2.94

The most frequent reply for Schools 1 and 2 was the same, "less than half." Approximately 30% of the respondents at both of these schools selected "less than half" as their choice. The mean scores for these schools were 3.29 and

3.06, respectively. Schools 4 and 5 most frequently answered "small minority." Approximately 30% of the respondents at both of these schools selected "small minority" as their choice. The mean scores for these schools were 3.13 and 2.94, respectively. School 3 respondents replied "about half" or "more than half" more than 45% of the time. School 3 had a mean score of 3.82. The group breakdown for question #24 is summarized in Table 22.

TABLE 22

V- STUDENT ACADEMIC DEVELOPMENT

" How many students would you say engage in instructional work (i.e. reading, studying, writing, etc.) over and beyond what is specifically assigned in the classroom?"

Answer	Group: Administrators	Student	Teachers
Almost None(1)	0 (0.0)	64 (9.3)	1 (.8)
Small Minority(2)	4 (21.1)	145 (21.1)	39 (30.7)
Less Than Half(3)	4 (21.1)	161 (23.4)	37 (29.1)
About Half(4)	3 (15.8)	146 (21.2)	25 (19.7)
More THan Half(5)	5 (26.3)	104 (15.1)	17 (13.4)
Large Majority(6)	3 (15.8)	59 (8.6)	7 (5.5)
Almost All(7)	0 (0.0)	9 (1.3)	1 (.8)
Total	19 (100%)	688 (100%)	127 (100%)
	Mean Score 3.95	Mean Score 3.43	Mean Score 3.34

The mean score for students was 3.43. The administrators' mean was higher than the students' at 3.95. The teachers' mean score was lower than the students at 3.34. In other words, administrators expressed that "about half"

of the students engaged in instructional work over and beyond what was assigned in the classroom. Students expressed that the number was slightly less than half and teachers believed that the number was even smaller. In fact, almost 60% of the teachers selected either "small minority" or "less than half" as their response to question #24.

The sixth and final student academic question was #25. It compared the number of students attending school for academic reasons rather than for extra-curricular reasons. The choice of answers for question #25 was identical to the choices for question #24. Table 23 reports the respondents' choices for question #25.

TABLE 23

VI- STUDENT ACADEMIC DEVELOPMENT

" How many students would you say attend this high school to seek academic or occupational goals as opposed to attending for extracurricular or other reasons?"

	School				
Answer	1	2	3	4	5
Almost None(1)	1 (1.3)	3 (3.1)	15 (3.9)	6 (3.8)	4 (3.4)
Small Minority(2)	9 (11.7)	5 (5.2)	15 (3.9)	12 (7.5)	9 (7.8)
Less THan Half(3)	18 (23.4)	13 (13.5)	42 (10.9)	42 (26.3)	19 (16.4)
About Half(4)	25 (32.5)	33 (34.4)	56 (14.5)	37 (23.1)	32 (27.6)
More Than Half(5)	14 (18.2)	28 (29.2)	82 (21.3)	36 (22.5)	37 (31.9)
Large Minority(6)	10 (13.0)	11 (11.5)	128 (33.2)	21 (13.1)	37 (9.5)
Almost All(7)	0 (0.0)	3 (3.1)	47 (12.2)	6 (3.8)	4 (3.4)
Total	77 (100%)	96 (100%)	385 (100%)	160 (100%)	116 (100%)
	Mean Score 3.94	Mean Score 4.39	Mean Score 4.94	Mean Score 4.08	Mean Score 4.19

As can be observed from Table 23, the most frequently chosen response for Schools 1 and 2 was the same, "about half." Almost one-third of the respondents at both Schools 1 and 2 selected "about half." The mean scores for these

schools were 3.94 and 4.39, respectively. School 5 had a mean score of 4.19 and its most frequently chosen response was "more than half." More than 30% of the respondents at School 5 chose "more than half." School 3's most frequently chosen answer was "large majority" while its mean score was 4.94. Approximately one-third of the respondents at School 3 answered "large majority." School 4 had a mean score of 4.08 and its most frequently chosen response was "less than half." More than one-fourth of the respondents at School 4 selected "less than half" as their answer to question #25. Table 24 summarized the group breakdown for the responses to question #25.

TABLE 24

VI- STUDENT ACADEMIC DEVELOPMENT

" How many students would you say attend this high school to seek academic or occupational goals as opposed to attending for extracurricular or other reasons?"

Answer	Group: Administrators	Students	Teachers
Almost None(1)	0 (0.0)	29 (4.2)	0 (0.0)
Small Minority(2)	0 (0.0)	46 (6.7)	4 (3.1)
Less Than Half(3)	1 (5.3)	120 (17.4)	13 (10.2)
About Half(4)	4 (21.1)	153 (22.2)	26 (20.5)
More Than Half(5)	7 (36.8)	162 (23.5)	28 (22.0)
Large Majority(6)	5 (26.3)	126 (18.3)	50 (39.4)
Almost All(7)	2 (10.5)	52 (7.6)	6 (4.7)
Total	19 (100%)	688 (100%)	127 (100%)
	Mean Score 5.16	Mean Score 4.39	Mean Score 4.98

The most common response for administrators and students was "more than half" whereas their respective mean scores were 5.16 and 4.39, respectively. Almost 40% of the administrators and more than 23% of the students chose "more

than half." The most common response for teachers was "large majority" and the mean score for teachers was 4.98. Almost 40% of all teachers selected "large majority." Students reported that slightly more than half of the students attended school for academic rather than for extra-curricular reasons. Teachers indicated that the number of students attending school for academic reasons rather than for extra-curricular reasons was greater than did the students.

ABILITY TO ACQUIRE RESOURCES

Three questions (#4, #5 and #6) investigated the high schools' ability to acquire financial and human resources. The first question (#4) asked a participant to rate his high school's ability to obtain financial resources. Respondents had a choice of answers ranging from "very true" (7) to "very untrue" (1). Question 4 asked: "This high school has a very high ability to obtain needed financial resources in order to provide a high quality educational program." Table 25 reports the responses for question #4.

TABLE 25

I- ABILITY TO ACQUIRE RESOURCES

" This high school has a very high ability to obtain needed resources in order to provide a high quality educational program."

Answer	School 1	2	3	4	5
Very Untrue (1)	12 (15.6)	23 (24.0)	4 (1.0)	12 (7.5)	3 (2.6)
Untrue (2)	4 (5.2)	18 (18.8)	10 (2.6)	18 (11.3)	5 (4.3)
Slightly Untrue (3)	12 (15.6)	13 (13.5)	12 (3.1)	26 (16.3)	11 (9.5)
Neither True/Unt. (4)	20 (26.0)	25 (26.0)	56 (14.5)	36 (22.5)	36 (31.0)
Slightly True (5)	14 (18.2)	8 (8.3)	61 (15.8)	30 (18.8)	30 (25.9)
True (6)	10 (13.0)	6 (6.3)	123 (31.9)	22 (13.8)	20 (17.2)
Very True (7)	5 (6.5)	3 (3.1)	119 (30.9)	16 (10.0)	11 (9.5)
Total	77 (100%)	96 (100%)	385 (100%)	160 (100%)	116 (100%)
	Mean Score 3.78	Mean Score 3.07	Mean Score 5.61	Mean Score 4.15	Mean Score 4.63

The members of all schools except for School 3 answered most frequently "neither true or untrue." In fact, approximately one fourth of the respondents at each of these school selected "neither true/untrue" as their response for

question # 4. Members of School 3 answered "true" at a rate of more than 30% and "very true" at a similar rate. The mean scores ranged from a low of 3.07 for School 2 to a high of 5.61 for School 3. Table 26 tabulates the responses for the participants as administrators, students and teachers.

TABLE 26

I- ABILITY TO ACQUIRE RESOURCES

" This high school has a very high ability to obtain needed financial resources in order to provide a high quality educational program."

	Group		
Answer	Administrators	Students	Teachers
Very Untrue(1)	1 (5.3)	49 (7.1)	4 (3.1)
Untrue (2)	1 (5.3)	48 (7.0)	6 (4.7)
Slightly Untrue(3)	4 (21.1)	62 (9.0)	8 (6.3)
Neither True/Untrue(4)	2 (10.5)	150 (21.8)	21 (16.5)
Slightly True(5)	1 (5.3)	120 (17.4)	22 (17.3)
True (6)	7 (36.8)	138 (20.1)	36 (28.3)
Very True(7)	3 (15.8)	121 (17.6)	30 (23.6)
Total	19 (100%)	688 (100%)	127 (100%)
	Mean Score 4.79	Mean Score 4.66	Mean Score 5.20

The most frequent response for all three groups was "true." The mean score for students was the group low at 4.66. The administrators'mean score at 4.79 was the median and the teachers' mean score at 5.20 was the group high value. One can see that more than 52% of the administrators and more than 51% of the teachers selected either "true"or "very true" as their aswer for question #4.

The second question (#5) related to the schools' ability to acquire human resources. Specifically, the schools' ability to attract the most qualified personnel. Question #5 inquired: "When hiring new faculty members, this school can attract the most qualified people in their respective fields to take a job here." The choice of answers for question #5 was identical to the choices for question #4. A summary of the participants' perceptions is outlined in Table 27.

TABLE 27

II- ABILITY TO ACQUIRE RESOURCES

" When hiring new faculty members, this school can attract the most qualified people in their respective fields to take a job here."

	School				
Answer	1	2	3	4	5
Very Untrue(1)	14 (18.2)	17 (17.7)	12 (3.1)	15 (9.4)	6 (5.2)
Untrue (2)	12 (15.6)	10 (10.4)	12 (3.1)	18 (11.3)	13 (11.2)
Slightly Untrue(3)	15 (19.5)	22 (22.9)	18 (4.7)	24 (15.0)	18 (15.5)
Neither True/Unt.(4)	21 (27.3)	28 (29.2)	50 (13.0)	39 (24.4)	25 (21.6)
Slightly True(5)	8 (10.4)	11 (11.5)	84 (21.8)	36 (22.5)	20 (17.2)
True (6)	7 (9.1)	7 (7.3)	101 (26.2)	24 (15.0)	30 (25.9)
Very True(7)	0 (0.0)	1 (01.0)	108 (28.1)	4 (2.5)	4 (3.4)
Total	77 (100%)	96 (100%)	385 (100%)	160 (100%)	116 (100%)
	Mean Score 3.23	Mean Score 3.32	Mean Score 5.38	Mean Score 3.94	Mean Score 4.26

Respondents at School 1 and School 2 had a mean score of 3.23 and 3.32, respectively. The average rating at Schools 1 and 2 was "slightly untrue." The most frequent response at Schools 1 and 2 was "neither true/untrue." On a percentage comparison, more than 27% and 29% of the respon-

dents at Schools 1 and 2 chose "neither true/untrue" for question #4. Members at School 4 most frquently answered "neither true/untrue" and had a mean score of 3.94. On a percentage comparison, more than 24% of the respondents at School 4 selected "neither true/untrue." School 5 participants had a mean score of 4.26 and most often answered "true." On a percentage comparison, more than 25% of the respondents at School 5 chose "true." The highest mean score was 5.38 for School 3. More than 28% of the respndents replied " very true" for School 3. A summary of the responses for the three groups for question #5 is presented in Table 28.

TABLE 28

II- ABILITY TO ACQUIRE RESOURCES

" When hiring new faculty members, this school can attract the most qualified people in their fields to take a job here."

Answer	Group: Administrators	Students	Teachers
Very Untrue(1)	0 (0.0)	62 (9.0)	2 (1.6)
Untrue (2)	0 (0.0)	55 (8.0)	10 (7.9)
Slightly Untrue(3)	2 (10.5)	82 (11.9)	13 (10.2)
Neither True/Untrue(4)	2 (10.5)	144 (20.9)	17 (13.4)
Slightly True(5)	3 (15.8)	142 (20.6)	14 (11.0)
True (6)	9 (47.4)	122 (17.7)	38 (29.9)
Very True(7)	3 (15.8)	81 (11.8)	33 (26.0)
Total	19 (100%)	688 (100%)	127 (100%)
	Mean Score 5.47	Mean Score 4.36	Mean Score 5.18

The mean scores for the administrators, teachers and students were 5.47, 5.18 and 4.36, respectively. Administrators and teachers most often chose "true" for question #5. More than 63% of the administrators and more than 55% of the teachers selected "true" or "very true" for their answer for

question # 5. More than 41% of the students chose either neither true/untrue" or "slightly true" for question # 5.

The third question pertaining to a school's ability to acquire resources was question #6. The choice of answers was the same as for questions #4 and #5. Question #6 asked: "This high school has a very high ability to obtain the resources it needs to be effective." The results to question #6 are tabulated in Table 29.

TABLE 29

III- ABILITY TO ACQUIRE RESOURCES

" This high school has a very high ability to obtain the resources it needs to be effective."

	School				
Answer	1	2	3	4	5
Very Untrue(1)	7 (9.1)	8 (8.3)	3 (.8)	10 (6.3)	2 (1.7)
Untrue (2)	6 (7.8)	13 (13.5)	3 (.8)	12 (7.5)	8 (6.9)
Slightly Untrue(3)	12 (15.6)	21 (21.9)	14 (3.6)	20 (12.6)	17 (14.7)
Neither True/Unt(4)	18 (23.4)	28 (29.2)	47 (12.2)	41 (25.8)	23 (19.8)
Slightly True(5)	18 (23.4)	18 (18.8)	75 (19.5)	40 (25.2)	30 (25.9)
True (6)	12 (15.6)	8 (8.3)	131 (34.0)	30 (18.9)	27 (23.3)
Very True(7)	4 (5.2)	0 (0.0)	112 (29.1)	6 (3.8)	9 (7.8)
Total	77 (100%)	96 (100%)	385 (100%)	160 (100%)	116 (100%)
	Mean Score 3.60	Mean Score 3.60	Mean Score 5.67	Mean Score 4.28	Mean Score 4.62

The most frequent responses for the members of the five schools ranged from "true" for School 3 to "neither true/untrue" for Schools 1, 2 and 4. School 5 members most often selected " slightly true." On a percentage comparison, more than 46% of the respondents at School 1 and more than

51% of the respondents at School 4 selected either "neither true/untrue" or " slightly true." More than 51% of the respondents at School 2 selected either " neither true/ untrue" or "slightly untrue." At School 5, more than 49% of the respondents chose either "slightly true" or "true." At School 3, more than 63% of the respondents answered either "true" or "very true." The mean scores ranged from 3.60 for Schools 1 and 2 to 5.67 for School 3. School 4 and 5 had mean scores of 4.28 and 4.62, respectively. The group breakdown for question #6 is summarized in Table 30.

TABLE 30

III- ABILITY TO ACQUIRE RESOURCES

" This high school has a very high ability to obtain the resorces it needs to be effective."

Answer	Group Administrators	Students	Teachers
Very Untrue (1)	1 (5.3)	27 (3.9)	2 (1.6)
Untrue (2)	0 (0.0)	38 (5.5)	4 (3.1)
Slightly Untrue (3)	4 (21.1)	72 (10.5)	8 (6.3)
Neither True/Untrue (4)	1 (5.3)	139 (20.2)	17 (13.4)
Slightly True (5)	5 (26.3)	146 (21.3)	30 (23.6)
True (6)	6 (31.6)	171 (24.9)	31 (24.4)
Very True (7)	2 (10.5)	94 (13.7)	35 (27.6)
Total	19 (100%)	688 (100%)	127 (100%)
	Mean Score 4.84	Mean Score 4.79	Mean Score 5.38

The mean score for students was the group low at 4.79. Administators had a mean score of 4.84 and teachers had a mean score of 5.38. On a percentage comparison, more than 57% of the administrators and more than 46% of the students chose either "slightly true" or "true." More than 52% of the teachers, however, chose either " true" or " very true."

TEACHER EMPLOYMENT SATISFACTION

Two questions studied the perceptions of the administrators, students and teachers regarding employment satisfaction for teachers. Both questions provided a range of replies from "almost none"(1) to "almost all" (7).

The first question (#30) examining employment satisfaction for teachers asked: "Estimate how many faculty members at this high school are personally satisfied with their employment." Table 31 summarizes the respondents' answers to question #30.

TABLE 31

I- TEACHER EMPLOYMENT SATISFACTION

" Estimate how many faculty members at this high school are personally satisfied with their employment."

	School				
Answer	1	2	3	4	5
Almost None (1)	1 (1.3)	4 (4.2)	10 (2.6)	9 (5.6)	3 (2.6)
Small Minority (2)	12 (15.6)	12 (12.5)	20 (5.2)	13 (8.1)	11 (9.5)
Less Than Half (3)	21 (27.3)	22 (22.9)	22 (5.7)	21 (13.1)	17 (14.7)
About Half (4)	17 (22.1)	18 (18.8)	53 (13.8)	51 (31.9)	23 (19.8)
More Than Half (5)	14 (18.2)	23 (24.0)	100 (26.0)	32 (20.0)	34 (29.3)
Large Majority (6)	9 (11.7)	14 (14.6)	131 (34.0)	28 (17.5)	22 (19.0)
Almost All (7)	3 (3.9)	3 (3.1)	49 (12.7)	6 (3.8)	6 (5.2)
Total	77 (100%)	96 (100%)	385 (100%)	160 (100%)	116 (100%)
	Mean Score 3.91	Mean Score 4.02	Mean Score 5.03	Mean Score 4.20	Mean Score 4.41

As the reader can see from Table 31, the most frequent response for Schools 2 and 5 was "more than half." School 1 members' most often reply was "less than half." School 3 members' most frequent response was "large majority." School 5 members' most often answer was "more than half." On a

percentage comparison, more than 42% of the repondents at School 2, more than 49% of the respondents at School 5 and more than 51% of the respondents at School 4 chose either "about half" or "more than half" as their answer for question #30. On the other hand, more than 49% of the respondents at School 1 selected either "less than half" or "about half." At School 3, more than 56% of the respondents answered either" more than half" or "large majority" for question # 30. The mean scores ranged from a low of 3.91 for School 1 to a high mean score of 5.03 for School 3. Schools 2, 4 and 5 had mean scores of 4.02, 4.20 and 4.41, respectively. Tabulation of the three groups responses to question #30 is provided in Table 32.

TABLE 32

I- TEACHER EMPLOYMENT SATISFACTION

" Estimate how many faculty members at this high school are personally satisfied with their employment."

Answer	Group: Administrators	Students	Teachers
Almost None (1)	0 (0.0)	26 (3.8)	1 (.8)
Small Minority (2)	1 (5.3)	60 (8.7)	7 (5.5)
Less Than Half (3)	0 (0.0)	86 (12.5)	17 (13.4)
About Half (4)	1 (5.3)	143 (20.8)	18 (14.2)
More Than Half (5)	7 (36.8)	150 (21.8)	46 (36.2)
Large Majority (6)	8 (42.1)	163 (23.7)	33 (26.0)
Almost All (7)	2 (10.5)	60 (8.7)	5 (3.9)
Total	19 (100%)	688 (100%)	127 (100%)
	Mean Score 5.42	Mean Score 4.54	Mean Score 4.73

The perceptions of administrators, students and teachers as to the level of teacher job satisfaction were different. The most frequent response for administrators and students was the same, "large majority." The mean

scores for administrators and students provided the high and low values for the group range at 5.42 and 4.54, respectively. The most frequent response for teachers was "more than half." The mean score for teachers was 4.73. In addition, more than 78% of the administrators and 62% of the teachers selected "more than half" or "large majority" as their choice for question #30.

The second question investigating teacher employment satisfaction was question #32 which asked: "Estimate how many faculty members are personally satisfied with the way things are done around this school." A summary of the responses to question #32 is presented in Table 33.

TABLE 33

II- TEACHER EMPLOYMENT SATISFACTION

"Estimate how many faculty members are personally satisfied with the way things are done around this school."

	School				
Answer	1	2	3	4	5
Almost None (1)	2 (2.6)	7 (7.3)	11 (2.9)	10 (6.3)	7 (6.0)
Small Minority (2)	20 (26.0)	13 (13.5)	23 (6.0)	11 (6.9)	22 (19.0)
Less Than Half (3)	21 (27.3)	17 (17.7)	49 (12.7)	29 (18.1)	25 (21.6)
About Half (4)	16 (20.8)	31 (32.3)	85 (22.1)	48 (30.0)	24 (20.7)
More Than Half (5)	15 (19.5)	18 (18.8)	115 (29.9)	41 (25.6)	21 (18.1)
Large Majority (6)	2 (2.6)	7 (7.3)	81 (21.0)	18 (11.3)	13 (11.2)
Almost All (7)	1 (1.3)	3 (3.1)	21 (505)	3 (1.9)	4 (3.4)
Total	77 (100%)	96 (100%)	385 (100%)	160 (100%)	116 (100%)
	Mean Score 3.42	Mean Score 3.76	Mean Score 4.55	Mean Score 4.03	Mean Score 3.73

The mean scores ranged from 3.42 as the low for School 1 to 4.55 as the high for School 3. Schools 2, 4 and 5 had mean scores 3.76, 4.03 and 3.73, respectively. On a percentage comparison, more than 53% of the respondents at School 1 selected either "small minority" or "less than

half." At School 5, more than 42% of the respondents chose either "less than half" or "about half." The respondents at Schools 2, 3 and 4 answered either " about half" or "more than half" at the following rates: 51.1%, 52.0% and 55.6%, repsectively.

TABLE 34

II- TEACHER EMPLOYMENT SATISFACTION

" Estimate how many faculty members are personally satisfied with the way that things are done around this school."

Answer	Group: Administrators	Students	Teachers
Almost None (1)	0 (0.0)	33 (4.8)	4 (3.1)
Small Minority (2)	1 (5.3)	70 (10.2)	18 (14.2)
Less Than Half (3)	2 (10.5)	110 (16.0)	29 (22.8)
About Half (4)	3 (15.8)	174 (25.3)	27 (21.3)
More Than Half (5)	7 (36.8)	165 (24.0)	38 (29.9)
Large Majority (6)	6 (31.6)	107 (15.6)	8 (6.3)
Almost All (7)	0 (0.0)	29 (4.2)	3 (2.4)
Total	19 (100%)	688 (100%)	127 (100%)
	Mean Score 4.79	Mean Score 4.17	Mean Score 3.89

The mean scores for the teachers, students and administrators were 3.89, 4.17 and 4.79, respectively. The most frequent reply for administrators and teachers was the same, "more than half." Students chose most often "about half." Both students and teachers rated the level of teacher satisfaction with how their schools operated to be "about half." Administrators rated the level of teacher satisfaction to be "more than half." In addition, more than 68% of the administrators chose either "more than half" or "large majority" as their response to question # 32. The teachers' responses were not as narrowly focused.

ADMINISTRATOR EMPLOYMENT SATISFACTION

Two questions examined the views of the 834 participants in the study regarding the level of administrator employment satisfaction. The choice of responses for both questions #31 and #32 was the same. Replies ranged from "almost none "(1) to " almost all "(7).

The first question inquired: "Estimate how many administrators at this high school are personally satisfied with their employment." The results to questions #31 are tabulated in Table 35.

TABLE 35

I- ADMINISTRATOR EMPLOYMENT SATISFACTION

" Estimate how many administrators at this high school are personally satisfied with their employment."

Answer	School 1	2	3	4	5
Almost None(1)	0 (0.0)	4 (4.2)	13 (3.4)	11 (6.9)	0 (0.0)
Small Minority(2)	8 (10.4)	7 (7.3)	8 (2.1)	9 (5.6)	4 (3.4)
Less Than Half(3)	13 (16.9)	17 (17.7)	24 (6.2)	21 (21.9)	12 (10.3)
About Half(4)	19 (24.7)	25 (26.0)	80 (20.8)	35 (21.9)	32 (27.6)
More Than Half(5)	23 (29.9)	21 (21.9)	102 (26.5)	44 (27.5)	30 (25.9)
Large Majority(6)	9 (11.7)	15 (15.6)	108 (28.1)	24 (15.0)	28 (24.1)
Almost All(7)	5 (6.5)	7 (7.3)	50 (13.0)	16 (10.0)	10 (8.6)
Total	77 (100%)	96 (100%)	385 (100%)	160 (100%)	116 (100%)
	Mean Score 4.35	Mean Score 4.20	Mean Score 5.01	Mean Score 4.43	Mean Score 4.83

The most popular response for Schools 2 and 5 was "about half" and for Schools 1 and 4 was "more than half." School 3 respondents chose "large majority" most often. The mean scores ranged from 4.20 as the low for School 2 to 5.01 as the high for School 3. Schools 1, 4 and 5 had mean

scores of 4.35, 4.43 and 4.83, respectively. On a percentage comparison, respondents at Schools 1, 2, 4 and 5 selected either" about half" or "more than half" at the following rates: 54.6%, 47.9%, 49.4%, and 53.5%, respectively. At School 3, 54.6% of the respondents answered either "more than half" or "large majority". A summary of the group replies to question #31 is presented in Table 36.

TABLE 36

I- ADMINISTRATOR EMPLOYMENT SATISFACTION

" Estimate how many administrators at this high school are personally satisfied with their employment."

Answer	Group: Administrators	Students	Teachers
Almost None (1)	0 (0.0)	25 (3.6)	3 (2.4)
Small Minority (2)	0 (0.0)	34 (4.9)	2 (1.6)
Less Than Half (3)	2 (10.5)	67 (9.7)	18 (14.2)
About Half (4)	5 (26.3)	160 (23.3)	26 (20.5)
More Than Half (5)	7 (36.8)	177 (25.7)	36 (28.3)
Large Majority (6)	3 (15.8)	153 (22.2)	28 (22.0)
Almost All (7)	2 (10.5)	72 (10.5)	14 (11.0)
Total	19 (100%)	688 (100%)	127 (100%)
	Mean Score 4.89	Mean Score 4.71	Mean Score 4.81

The most frequent response for the administrators, students and teachers was "more than half." The mean score for the students was the low value of the group range at 4.71. The teachers' mean score was 4.81 and the administrators' mean was the high value of the group range at 4.89. In

other words, the administrators rated their job satisfaction higher than did students or teachers.

On a percentage comparison, more than 63% of the administrators and 49% of the students selected either " about half " or " more than half." More than 50% of the teachers selected either " more than half " or " large majority."

The second question dealing with administrators employment satisfaction asked: " Estimate how many administrators are personaaly satisfied with the way things are done around this school." The results to this question are summarized in Table 37.

TABLE 37

II- ADMINISTRATOR EMPLOYMENT SATISFACTION

" Estimate how many administrators are personally satisfied with the way things are done around this school."

Answer	School 1	2	3	4	5
Almost None(1)	1 (1.3)	2 (2.1)	6 (1.6)	5 (3.1)	1 (.9)
Small Minority(2)	8 (10.4)	6 (6.3)	20 (5.2)	8 (5.0)	7 (6.0)
Less Than Half(3)	10 (13.0)	15 (15.6)	31 (8.1)	23 (14.4)	13 (11.2)
Almost Half(4)	27 (35.1)	31 (32.3)	74 (19.2)	38 (23.8)	20 (17.2)
More Than Half(5)	7 (9.1)	22 (22.9)	114 (29.6)	42 (26.3)	33 (28.4)
Large Majority(6)	7 (9.1)	16 (16.7)	110 (28.6)	29 (18.1)	29 (25.0)
Almost All(7)	7 (9.1)	4 (4.2)	30 (7.8)	15 (9.4)	13 (11.2)
Total	77 (100%)	96 (100%)	385 (100%)	160 (100%)	116 (100%)
	Mean Score 4.30	Mean Score 4.34	Mean Score 5.08	Mean Score 4.51	Mean Score 4.86

The most frequent response for the members of Schools 3,4 and 5 was "more than half." More than 29% of the respondents at School 3, more than 23% of the respondents at School 4 and more than 28% of the respondents at School 5 selected "more than half." The most popular reply for Schools 1 and 2 was "almost half." More than 35% of the

respondents at School 1 and more than 32% of the respondents at School 2 selected "about half." The mean scores ranged from 4.30 at School 1 to 5.08 at School 3. Schools 2, 4 and 5 had mean scores of 4.34, 4.51 and 4.86, respectively. Table 38 presents a summary of a group breakdown for the responses to question #33.

TABLE 38

II- ADMINISTRATOR EMPLOYMENT SATISFACTION

" Estimate how many administrators are personally satisfied with the way things are done around this school."

Answer	Group: Administrators	Students	Teachers
Almost None(1)	1 (5.3)	13 (1.9)	1 (.8)
Small Minority(2)	1 (5.3)	41 (6.0)	7 (5.5)
Less Than Half(3)	1 (5.3)	74 (10.8)	17 (13.4)
Almost Half(4)	4 (21.1)	160 (23.3)	26 (20.5)
More Than Half(5)	5 (26.3)	179 (26.0)	44 (34.6)
Large Minority(6)	6 (31.6)	159 (23.1)	26 (20.5)
Almost All(7)	1 (5.3)	62 (9.0)	6 (4.7)
Total	19 (100%)	688 (100%)	127 (100%))
	Mean Score 4.74	Mean Score 4.71	Mean Score 4.63

As can be seen from Table 38, the mean score for administrators (4.74) was higher than the mean score for the students (4.71) and the mean score for the teachers (4.63). On a percentage comparison, almost 60% of the administrators selected either " more than half" or "large minority." More than 55% of the teachers chose either "more than half" or "large minority." Almost 50% of the students answered either " almost half" or "more than half." In other words, all three groups reported that more than half of the administrators were satisfied with how their respective schools were operated.

SECTION II:
SUMMARY OF GENERAL FINDINGS

As stated earlier, the purpose of the study was to compare the organizational effectiveness traits of student educational satisfaction, student academic development, faculty and administrator employment satisfaction and the school's ability to acquire human and financial resources for high schools who had model microcomputer instructional programs. The following series of tables summarizes the study's findings for each of the organizational traits as the grand means of their individual questions. Table 39 shows how the five high schools' grand mean scores compared whereas Table 40 shows how the three major groups compared.

For the purposes of comparison, the linearity of all questions has been made uniform. Specifically, the values for the Student Educational Satisfaction questions have been recomputed for Tables 39 and 40. A uniform rank order of a value of one being the low value and a value of seven being the high value for all questions has been established.

TABLE 39

SUMMARY OF FINDINGS
SCHOOL - WIDE

School Mean Score

Question	1	2	3	4	5	$\bar{X}$
Ed. Satis.	4.14	4.17	4.70	3.96	4.05	4.36
Academic Dev.	4.65	4.71	5.52	4.48	4.24	4.92
Acquire Res.	3.54	3.33	5.55	4.12	4.49	4.69
Teach. Satis.	3.67	3.89	4.79	4.12	4.07	4.22
Admin. Satis.	4.33	4.27	5.05	4.47	4.85	4.75

TABLE 40

SUMMARY OF FINDINGS

GROUP - BASIS

Group Mean Score

Question	Administrators	Students	Teachers
Ed. Satis.	5.60	4.16	5.31
Academic Dev.	5.46	4.65	5.24
Acquire Res.	5.03	4.60	5.25
Teach. Satis.	5.11	4.36	4.31
Admin. Satis.	4.82	4.71	4.72

STUDENT EDUCATIONAL SATISFACTION

As can be seen from Table 39, the mean score for each of the schools was different. The mean of the mean scores ranged from a low value of 3.96 for School 4 to a high value of 4.70 for School 3. Schools 1, 2 and 5 had a mean score for the three questions of 4.14, 4.17 and 4.05, respectively.

The mean score for the three responding groups, administrators, students and teachers, for the three student educational satisfaction questions varied. The administrators had a grand mean of 5.60 for the high value of the range. Students had the low grand mean at 4.16. Teachers had a grand mean of 5.31.

STUDENT ACADEMIC DEVELOPMENT

As can be seen from Table 39, each of the schools had grand mean scores that ranged from 4.24 to 5.52 on the student academic development questions. In the calculation of the value for the student academic development grand mean, questions # 12 and # 13 were recomputed due to their reverse order of rank value. Schools 1, 2, and 5 had grand mean scores of 4.65, 4.71 and 4.48, respectively. School 3 had the high grand mean score whereas School 5 had the low grand mean score at 4.24.

The grand mean score for administrators on the student

academic development questions was 5.46. Students had a grand mean score for the four questions of 4.65. Teachers had a grand mean score of 5.24.

ABILITY TO ACQUIRE RESOURCES

As the reader can see from Table 39, the grand mean score for each of the schools on their ability to acquire resources varied. The grand mean values for the three questions were: School 1 - 3.54, School 2 - 3.33, School 3 - 5.55, School 4 - 4.12 and School 5 - 4.49. Schools 2 and 3 had the low and high values of the range. Table 40 showed that the grand mean scores for the administrators, students and teachers were 5.03, 4.60 and 5.25, respectively, on questions pertaining to the school's ability to acquire resources.

TEACHER EMPLOYMENT SATISFACTION

The grand mean score for the two teacher employment satisfaction questions ranged from 4.79 to 3.67 for the five high schools. The grand mean scores were: School 1 - 3.67, School 2 - 3.89, School 3 - 4.79, School 4 - 4.12 and School 5 - 4.07. The grand mean scores for administrators,

students and teachers were 5.11, 4.43 and 4.31, respectively, on the teacher employment satisfaction questions.

ADMINISTRATOR EMPLOYMENT SATISFACTION

The grand mean score for the two administrator employment satisfaction questions ranged from 5.05 to 4.27 for the five high schools. The grand mean scores were: School 1 - 4.33, School 2 - 4.27, School 3 - 5.05, School 4 - 4.47 and School 4 - 4.85. As can be seen from Table 40, the grand mean score for administrators, students and teachers were 4.82, 4.71 and 4.72, respectively, on the administrator employment satisfaction questions.

OBJECTIVE DATA FINDINGS

Objective data were collected from each of the five high schools in relation to the organizational effectiveness traits of student educational satisfaction, student academic development, ability to acquire financial and human resources resources, teacher employment satisfactionand administrator employment satisfaction. The high school principals provided answers to the following questions:

1. How many students dropped-out of your high school during the 1984-85 school year?

2. How many graduates from the Class of 1985 have indicated that they will continue their education at a trade school, junior college or university?

3. How many teachers did not return to your staff for the 1984-85 school year who were on staff during the 1983-84 school year? (Retirements and reduction in force non-returnees should not be included).

4. How many administrators did not return to your staff for the 1984-85 school year who were on staff during the 1983-84 school year? (Retirements and reduction in force non-returnees should not be included).

5. What is your school's total budget?

6. What is the teacher's salary at your school at the Bachelor's level with no experience?

A summary of the responses by the high school principals to the objective-data questions is presented in Table 41.

TABLE 41

OBJECTIVE DATA

1. Number of student drop-outs.

School 1 - 1%	School 4 - 1.5%
School 2 - 8%	School 5 - 4.8%
School 3 - 13%	

2. Number of students going on to post-secondary education.

School 1 - 80%	School 4 - 85%
School 2 - 60%	School 5 - 65%
School 3 - 85%	

3. Number of teachers leaving.

School 1 - 1	School 4 - 1
School 2 - 2	School 5 - 2
School 3 - 8	

4. Number of administrators leaving.

School 1 - 0	School 4 - 0
School 2 - 0	School 5 - 2
School 3 - 1	

5. Total school budget.

School 1 - $ 3,980.000.00
School 2 - $ 2,767,220.00
School 3 - $19,047,525.00
School 4 - $ 5,567,387.00
School 5 - $ 4,654,800.00

6. Teachers' salary at the Bachelor's degree and no experience level.

School 1 - $16,656.00
School 2 - $14,720.00
School 3 - $18,160.00
School 4 - $16,982.00
School 5 - $17,388.00

CHAPTER V

ANALYSIS, SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This section provides an analysis of the data that were collected in the study of the organizational effectiveness of high schools who have model microcomputer instructional programs. First of all, attention is given to the microcomputer instructional programs at the five high schools. Second, analysis of the data collected from the 52 item questionnaire on organizational effectiveness is provided. Comparisons of the mean scores registered by the respective schools and groups within the schools on the questionnaire are conducted through a series analyses of variance.

MICROCOMPUTER INSTRUCTION

As stated earlier, the five high schools, who participated in the effectiveness study, each ranked in the top eight of the responding school population in terms of their microcomputer instructional programs. The microcomputer questionnaire consisted of 15 questions each worth five points. The mean score for the 22 high schools, who responded to the questionnaire, was 45.6, while the mean

score for the five high schools, who participated in the organizational effectiveness study, was 57.6. On three questions (#4, #7, and #11) the five high schools responded the same.

Question #4 asked: "Is there an in-service/staff development program in your high school to assist your teachers in becoming computer literate?" The choice of answers was limited to "yes" or "no." All five high schools indicated that they had an inservice program.

The review of the literature showed that teacher involvement was an important characteristic in the successful implementation of a computer instructional program. The presence of an in-service/staff development program at a school was an important factor in helping teachers become involved.

Item #3 on the questionnaire also related to teacher involvement. Question #3 inquired: "What percentage of your teachers would you consider as being computer literate?" The mean score for the 22 responding schools on question #3 was 2.73. In other words, somewhere between two-fifths and three-fifths of the teachers in the responding school population were considered as being computer literate. The mean score for the five high schools with model programs indicated that between three-fifths and four-fifths of their teachers were considered computer literate.

In summary, the five high schools, who were defined as

having model microcomputer instructional programs, each had an in-service program to help their teachers become computer literate. As a result, each of the five schools had teaching staffs that were more computer literate than the average teaching staff.

The second question (#7) that the five high schools with model microcomputer instructional programs answered identically pertained to instructional objectives. Question #7 asked: "Are there specific written objectives for your courses that incorporate microcomputer instruction?" The choice of responses was limited to "yes" and "no." All five high schools indicated that they had specific written instructional objectives.

The establishment of specific written instructional philosophy helps define a school's instructional program. Anderson and Klassen pointed out in the literature that an instructional philosophy was a necessary ingredient for a successful instructional program.

Item #8 on the questionnaire also related to instructional planning. Question #8 asked: "Are there specific written guidelines that must be followed in the selection of microcomputer hardware for your high school?" The mean score for the five schools with model programs was 3.0 on question #8. The mean score for the 22 responding schools was 1.59 with 15 of the schools not having written guidelines for the selection of microcomputer hardware.

Item #9 on the questionnaire also pertained to instructional planning. Question #9 asked: "Are there specific written quidelines that must be followed in the selection of microcomputer software for your high school?" The mean score for the five schools with model programs was 3.0. The 22 responding schools had a mean score of 1.36. Written guidelines for the selection of microcomputer software did not exist for 16 of the schools.

The review of the literature revealed that thorough planning was required for a microcomputer instructional program to be successful. Planning must be an on-going process from before a microcomputer instructional program is implemented to long after the program is in place. The five high schools involved in the effectiveness study conducted considerable planning with their microcomputer instructional programs as evidenced by the existence of written objectives for instruction and software/hardware selection.

The third question each of the five high school principals answered the same was #11. It asked: "What microcomputer training have you had as the high school principal?" The choice of responses was: 1) none at all; 2) some training and 3) considerable training. All five principals indicated that they had some training. More than one-third of the 22 responding principals indicated that they had no training.

The review of the literature showed that strong leadership, primarily at the building level, was necessary for the

successful implementation of all curricular programs. Lipham reported: "The single most important factor in determining the success or failure of a school is the ability of the principal to lead the staff in planning, implementing, and evaluating improvements in the school's curricular, co-curricular, and extracurricular programs."[78] The five five schools, identified as having model microcomputer instructional programs, had principals who had some training with microcomputers and, therefore, could be used as a resource person for teachers. The exact degree of the principals' training with computers was, however, unknown.

Other characteristics of the five high schools that were identified as having model microcomputer instructional programs included: 1) a high degree of microcomputer acessability during after-school hours; 2) a high percentage of student involvement in microcomputer instruction and 3) a high level of training for the teachers working in the microcomputer instructional programs. Students who attended the five high schools with model programs had a higher degree of access to microcomputers during after-school hours. Question #5 examined the percentage of students who had access to microcomputers during after-school hours. The mean score for all 22 responding schools was 3.36. The mean score for the five high schools with model programs was 4.4. In three of the five schools, more than 80% of the students had access to microcomputers during after-school hours.

Students who attended the five high schools with model programs were very involved with microcomputer instruction. Question #6 asked:"What percentage of your students in your high school are involved in some type of microcomputer instruction before they graduate?" The mean score for the 22 responding schools was 3.77. The mean score for the five high schools with model programs was 4.4. More than 80% of the students in three of the five schools were involved in microcomputer instruction before they graduated.

The special training of the teachers in the computer instructional programs at the five high schools with model programs was more extensive than the training of the computer instructors in the average responding high school. Question #12 asked the principals to describe the special training that their teachers working in the microcomputer instructional programs had received. The mean score for the 22 responding schools on question #12 was 3.14. In words, the average computer instructor had participated in computer workshops at the state or national level. At the five high schools with model programs, the computer instructors had participated in workshops at the state or national level. In addition, at three of the five schools, the computer instructors had a master's degree in computer science.

In summary, the five high schools, that were identified as having model microcomputer instructional programs for the purposes of this study, had many characteristics of

model programs as defined in the literature. Specifically, the review of the literature showed teacher involvement, thorough planning and strong administrative leadership were needed for a microcomputer instructional program to be successful. The five high school that participated in the organizational effectiveness study each rated highly in these areas. The review of the literature indicated that no one best model program for microcomputer instruction existed. As a result, it appears that the microcomputer instructional programs at the five high schools approached the model program level.

ORGANIZATIONAL EFFECTIVENESS

It must be remebered that the focus of this study was to examine the organizational effectiveness of certain aspects of high schools who had model microcomputer instructional programs. As a result, from the data collected only the responses for the 16 questions that pertained to four of Cameron's effectiveness traits will be analyzed in any depth. The data that were collected from the respondents at the five high schools will now be analyzed in relation to the effectiveness traits of student educational satisfaction, student academic development, the school's ability to acquire resources, teacher employment satisfaction and administrator employment satisfaction. Table 42 summarizes

the analyses of variance on the sums or grand means for the research questions. The Appendix contains the ANOVA tables for each of the individual research questions pertaining to student educational educational satisfaction, student academic development, the school's ability to acquire resources, teacher employment satisfaction and administrator employment satisfaction.

TABLE 42

Analyses of Variance

	School		Group	
Question	F	p	F	p
SESTOT	15.340	0.000	46.434	0.000
SADTOT	48.241	0.000	14.489	0.000
ATARTOT	114.295	0.000	12.128	0.000
TSTOT	27.530	0.000	3.370	0.035
ASTOT	9.538	0.000	0.070	0.932

STUDENT EDUCATIONAL SATISFACTION

Using a 95% confidence level (.05) as a discriminator, the results, as outlined in Table 42, suggest that the discriminating ability of the three student educational satisfaction questions as a sum was significant on both a school-wide and group basis. SESTOT (the three student educational questions as a sum) had an F value of 15.340 on a school-wide basis and an F value of 46.434 on a group

basis. The level of significance for SESTOT was 0.000 on both a school-wide and group basis.

The results of the various analyses of variance suggest that there were differences among the five high schools and among the administrators, students and teachers in terms of their perception of the level of student educational satisfaction. Institutional and group affiliations did have a significant influence on the responses.

As summarized in Table 39, the mean scores for the five high schools on SESTOT were: School 1 - 4.14, School 2- 4.17, School 3 - 4.70, School 4 - 3.96 and School 5 - 4.05. The level of student educational satisfaction was: first - School 3, second - School 2, third - School 1, fourth - School 5 and fifth - School 4.

As summarized in Table 40, the mean scores for the three groups on SESTOT were: administrators - 5.60, students - 4.16 and teachers - 5.31. In words, administrators rated the level of student satisfaction to be higher than did teachers and students. Students reported that their level of educational satisfaction was lower than what the administrators and teachers thought.

Cameron found significant differences between the responses of respondents on the institutional level for all nine effectiveness traits. He stated: " Using univariate ANOVA procedures for each seperate effectiveness dimension showed that the employing institution had a significant

effect in determining the perceptions of the respondents for every dimension."[79] In other words, this study on the organizational effectiveness of high schools with model microcomputer instructional programs had results similar to Cameron's findings. The respondents' perceptions at the five high schools were different as to the level of student educational satisfaction.

Cameron found significant differences between the job or position of the respondent for student educational satisfaction only in his second study. The results of this study regarding the differences among administrators, students and teachers - job/position - on the level of student educational satisfaction are similar to Cameron's research findings. The observed differences among the respondents' perceptions on the level of student educational satisfaction on a school basis do not appear to be supported by the objective data. Table 43 compares the mean score for each of the five high schools on the sum of the student educational satisfaction questions (SESTOT) with the student drop-out rate at each school.

TABLE 43

Student Educational Satisfaction
Compared To
Student Drop-out Rate

	School				
	1	2	3	4	5
SESTOT	4.14(3)	4.17(2)	4.70(1)	3.96(5)	4.05(4)
Drop-out	1.0%(1)	8.0%(4)	13.0%(5)	1.5%(2)	4.8%(3)

As reported in Table 43, the number of student drop-outs differed for the schools. The objective data provided by the high school principals showed the following rates: School 1 - 1%, School 2 - 8%, School 3 - 13%, School 4 - 1.5% and School 5 - 4.8%. The levels of student educational satis-satisfaction based on the student drop-out rate would be first - School 1, second - School 4, third - School 5, fourth - School 2 and fifth - School 3. Using a 95% confidence level(.05) as a discriminator, computation of a Spearman correlation coefficient reveals a value of -.7000. In other words, the perceived level of student educational satisfaction as reported by the respondents and the student drop-out rate as reported by the principals shared approximately 49% of their respective variance. This relationship for this study was a moderate inverse one.

STUDENT ACADEMIC DEVELOPMENT

Analysis of the discriminating ability of the student academic development questions as a sum demonstrated that it was significant on both a school-wide and on a group basis. An analysis of variance for the academic questions(#"s 1, 12, 13, 15, 24 and 25) as a sum had an F value of 48.241 on a school-wide basis and an F value of 14.989 on a group basis. The level of significance for SADTOT was 0.000 on both the school-wide and group basis. The results of the various analyses of variance imply that differences did exist among the five high schools and among administrators, students and teachers in terms of their views on the level of student academic development.

Table 39 outlined that the mean scores for the five schools on SADTOT were: School 1 - 4.65, School 2 - 4.71, School 3 - 5.52, School 4 - 4.48 and School 5 - 4.24. As a result, the ranking among the schools on student academic development was: first - School 3, second - School 2, third - School 1, fourth - School 4 and fifth - School 5.

Table 40 reported that the mean scores for the administrators, students and teachers on SADTOT were 5.46, 4.65 and 5.24, respectively. Consequently, the administrators perceived the level of student academic development to be higher than did the teachers. Teachers considered the level of student academic to be higher than did the students.

Students reported that their level of educational satisfaction was even lower than what the administrators and teachers thought.

As stated earlier, Cameron found that the perceptions among institutions on all nine organizational effectiveness traits to be satistically different. The findings of this study were similar to Cameron's work. The level of perceived student academic development was different at each of the five high schools.

Cameron found in his first study that the differences between the job or position of the respondent for student academic development to be significant. Cameron stated: "...the job or position of the respondent had significant effects at the $p < .05$ level for only two effectiveness dimensions: Student Academic Development and Student Personal Development in the first study. . ."[80] The results of this study are analogous to Cameron's findings in his first study regarding job position and a respondent's views on student academic development.

The observed differences among the respondents' perceptions on the level of student academic development on a school-wide basis do appear to be supported by the objective data. Table 44 compares the mean score for the student academic development questions as a sum (SADTOT) for each of the five schools with their number of students who intend to continue their education after high school.

TABLE 44

Student Academic Development
Compared To
Number Of Post Secondary Students

	School				
	1	2	3	4	5
SADTOT	4.65(3)	4.71(2)	5.52(1)	4.48(4)	4.24(5)
Post. Sec.	80%(3)	60%(5)	85%(1.5)	85%(1.5)	65%(4)%

As can be seen from Table 44 the number of post-secondary students differed at the five high schools. The objective data provided by the high school principals showed the following: School 1 - 80%, School 2 - 60%, School 3 - 85%, School 4 - 85% and School 5 - 65%. The objective-data suggests that the schools would rank on the student academic development trait in the following order: first - School 3, first - School 4, third - School 1, fourth - School 5 and fifth - School 2. Using a 95% confidence level(.05) as a discriminator, computation of a Spearman correlation coefficient reveals a value of +.8625. In other words, the number of post-secondary students as reported by the principals and the perceived level of student academic development as reported by the respondents shared approximately 74% of their respective variance. This relationship for this study was a strong and positive one.

Cameron reported that he had a positive relation between the objective data and the perceptual measures for student academic development. However, he pointed out that his objective measures for student academic development and his perceptual measures for student academic development seemed to measure different traits. The perceptual measures addressed the level of student academic development within the school whereas the objective measures seemed to emphasize continued academic development after leaving the school. The objective measures and perceptual measures of this study could have also examined the effectiveness trait of student academic development in a similar or, perhaps, even less successful manner than did Cameron.

ABILITY TO ACQUIRE RESOURCES

Analysis of the discriminating power of the three ability to acquire resource questions as a sum demonstrated that it was significant on both a school-wide and on a group bases. An analysis of variance for the ability to acquire resource questions as a sum - ATARTOT - had an F value of 114.295 on a school-wide basis and an f value of 12.128 on a group basis. The level of significance for ATARTOT was 0.000 for both the school-wide and group bases. The findings of the different analyses of variance imply that there were differences among the respondents in terms of their viewpoints on the ability to acquire human and financial

resources.

The reader can see from Table 39 that the mean scores for the five high schools on ATARTOT were: School 1 - 3.54, School 2 - 3.33, School 3 - 5.55, School 4 - 4.12 and School 5 - 4.49. Consequently, the schools' ability to acquire resources were in the following order: first - School 3, second - School 5, third - School 4, fourth - School 1 and fifth - School 2.

The reader can also see from Table 40 that the mean scores for administrators, students and teachers were 5.03, 4.60 and 5.25, respectively. In other words, teachers believed that their respective schools' ability to secure human and financial resources to be greater than did administrators or students respectively.

As declared previously, Cameron's research has shown that the differences among colleges in terms of their members' perceptions on organizational effectiveness traits to be significant. The results of this study agree with Cameron's findings. The degree of ability to acquire resources was judged differently at each of the five high schools.

Unlike Cameron's research findings, this study's results suggest that differences did exist between the job/position that an individual had and his perception on the school's ability to acquire resources. An explanation for this variance from Cameron's research results may be due to

the structure of the respondent population. Cameron's respondents were college administrators and college teachers. In other words, all of Cameron's respondents were college educated adults. The respondents in this study included a much wider range of age, educational and experience levels.

The observed differences among the perceptions of the respondents as to the level of ability to acquire resources on a school- wide basis appears to be substantiated by the objective-data. Table 45 compares the mean score on the school's ability to acquire resource questions as a sum (ATARTOT) for each of the five schools with their total school budget and with the beginning teachers' salary.

TABLE 45

School Ability To Acquire Resources
Compared To
Total School Budget And Teachers' Salary

	School				
	1	2	3	4	5
ATARTOT	3.54(4)	3.33(5)	5.55(1)	4.12(3)	4.49(2)
Budget ($)	3,980,000 (1)	2,767,220 (5)	19,047,525 (2)	5,567,387 (4)	4,654,800 (3)
Salary ($)	16,656(4)	14,720(5)	18,160(1)	16,982(3)	17,388(2)

Examination of the total budgets at the five high schools revealed that the number of dollars expended per student had a correlation to the respondents' perception on the schools'

ability to acquire resources. Except for School 1, there was a relationship between the number of dollars expended per student by school and the perceived ability to acquire resources by the respondents at the school.

A strong correlation existed between the teachers' salary at the Bachelor's degree and no experience level and the respondents' perception on the ability to acquire resources. As can be seen from Table 45, the schools ranked in the following order in relation to teachers'salaries: first - School 3, second - School 5, third - School 4, fourth - School 1 and fifth - School 2. The rank order for the schools on teachers' salary at the Bachelor's degree and no experience level matched the rank order for the respondents' perception as to the schools' ability to acquire human and financial resources. Using a 95% confidence level (.05) as a discriminator, computation of a Spearman correlation coefficient reveals a value of + 1.00. In other words, the teachers' salary at the Bachelor's degree level and the respondents' perception as to the ability to acquire human and financial resources shared approximately 100% of their respective variance.

The rank order for the five high schools on their dollar expenditure per student as reported by the principals and the respondents' perception as to the schools' ability to acquire human and financial resources did not match as well. Using a 95% confidence level(.05) as a discriminator,

computation of a Spearman correlation coefficient reveals a value of +.4000. In other words, the dollar expenditure per student as reported by the principals and the respondents' perceptions as to the schools' ability to acquire human and financial resources shared approximately 16% of their respective variance. In summary, the relationship between the teachers' salary and the respondents' perception was a very high and positive correlation whereas the dollars expenditure per student and the respondents' perception was a weak positive relationship for this study.

Cameron found a moderate to a high positive correlation for all but two of his nine effectiveness traits between the objective data and the subjective data. The ability to acquire resources had a high positive correlation. The findings of this study are similar to the findings of Cameron.

TEACHER EMPLOYMENT SATISFACTION

Analysis of the two questions as a sum to predict teacher employment satisfaction revealed that it was a significant discriminator on the school and group bases. Analysis of variance for the sum - TSTOT - had an F value of 3.37 on a group basis. The level of significance for TSTOT on a school basis was 0.000 and on a group basis was 0.035.

The findings of this study suggest that differences existed among the five high schools and among the three constituencies within the schools regarding their perceptions on teacher employment satisfaction.

The mean scores for the five high schools on TSTOT, as outlined in Table 39, were: School 1 - 3.67, School 2 - 3.89, School 3 - 4.79, School 4 - 4.12 and School 5 - 4.07. The levels of teacher satisfaction at the five schools were ranked: first - School 3, second - School 4, third - School 5, fourth - School 2 and fifth - School 1.

The mean scores for the administrators, students and teachers on TSTOT were 5.11, 4.36 and 4.31, respectively. Administrators perceived the level of teacher satisfaction to be higher than did students. Teachers reported their satisfaction to be lower than what the other constituencies thought.

Cameron's research pertaining to employment satisfaction dealt with faculty/administrator satisfaction as a sum. He found that the perceptions among institutions as to the level of faculty/administrator satisfaction to be statistically different. The results of this study were analogous to Cameron's results. The level of teacher employment satisfaction as judged by the respondents at each of the schools was different. Unlike Cameron's findings, this study's results imply that differences did exist between the job/position that an individual had and his view on teacher

satisfaction.

The differences among the perceptions of the respondents on the level of teacher job satisfaction at the five high schools were not substantiated by the collected objective-data. Each of the building principals was asked to indicate the number of teachers that did not return to their teaching staffs for the 1984-85 school year who had been on staff during the 1983-84 school year. Teachers who had retired or had been released due to a reduction in force were not included in the total number of non-returning teachers. Cameron had used successfully the number of non-returning faculty members/administrators at the college level in both of his studies as a basis for comparison. The objective data provided by the high school principals regarding the number of non-returning teachers indicated that a minimum number of teachers did not return for the 1984-85 school year. Using a 95% confidence level(.05) as a discriminator, computation of a Spearman correlation coefficient reveals a value of -.4500. In other words, the number of teachers leaving as reported by the principals and the level of teacher employment satisfaction as reported by the respondents shared approximately 20% of their respective variance. The relationship was a weak and inverse one for this study. Table 46 illustrates the relationship between the objective and subjective findings for the teacher employment satisfaction trait.

TABLE 46

Teacher Employment Satisfaction
Compared To
Number Of Teachers Leaving

	School				
	1	2	3	4	5
TSTOT	3.67(5)	3.89(4)	4.79(1)	4.12(2)	4.07(3)
# Leaving	1(1.5)	2(3.5)	8(5)	1(1.5)	2(3.5)

Cameron found a moderate to high positive correlation for all but two of his nine effectiveness traits between the perceptions of the respondents at the colleges and his collected objective data. Cameron's findings reported a moderate relation between the perceptions of the respondents and the objective data for the effectiveness trait of faculty member/administrator employment satisfaction. The results of this study imply that additional consideration was needed in the seleçtion of a criterion used as an objective measure of teacher employment satisfaction.

ADMINISTRATOR EMPLOYMENT SATISFACTION

Analyses of the two questions as a sum - ASTOT - to predict administrator job satisfaction demonstrated that it was a significant discriminator only on the school basis.

The F value of ASTOT on a school basis was 9.538 with a significance level of 0.000. The F value of ASTOT on a group level was 0.07 with a significance level of 0.932.

The results of this study imply that differences did exist among the five high schools regarding their perceptions on administrator job satisfaction. The results of the study also suggest that the differences in the perceptions among administrators, students and teachers were not significant.

The mean scores for the five high schools on ASTOT, as outlined in Table 39, were School 1 - 4.33, School 2 - 4.27, School 3 - 5.05, School 4 - 4.47 and School 5 - 4.85. The ranking of the schools in terms of the respondents' perceptions of administrator satisfaction would be: first - School 3, second - School 5, third - School 4, fourth - School 1 and fifth - School 2.

The differences among the respondents at the five high schools were not substantiated by the collected objective-data. As was the approach with assessing the level of teacher job satisfaction by means of an objective-data criterion, the number of administrators who did not return for the 1984-85 school year at each of the high schools was examined At each of the schools, the number of administrators who did not return for the 1984-85 school year was minimal. The findings of this study in relation to the perceptions of the respondents in terms of administator job satisfaction and

the collected objective data did not have a meaningful correlation. Using a 95% confidence level(.05) as a discriminator, computation of the Spearman correlation coefficient reveals a value of -.6000. In other words, the number of administrators leaving as reported by the principals and the perceived level of administrator employment satisfaction as reported by the respondents shared approximately 36% of their respective variance. The relationship was a weak inverse one for this study. Table 47 illustrates the relationship between the objective and subjective findings for the administrator employment satisfaction trait.

TABLE 47

Administrator Employment Satisfaction
Compared To
Number Of Administrators Leaving

	School				
	1	2	3	4	5
ASTOT	4.33(4)	4.27(5)	5.05(1)	4.47(3)	4.85(2)
# Leaving	0(1)	0(1)	1(4)	0(1)	2(5)

As stated earlier, Cameron's research has shown a moderate and positive relation between the perceptions of the respondents and the objective data for the level of faculty member/administrator employment satisfaction. Consequestly, the findings of this study suggest that additional thought

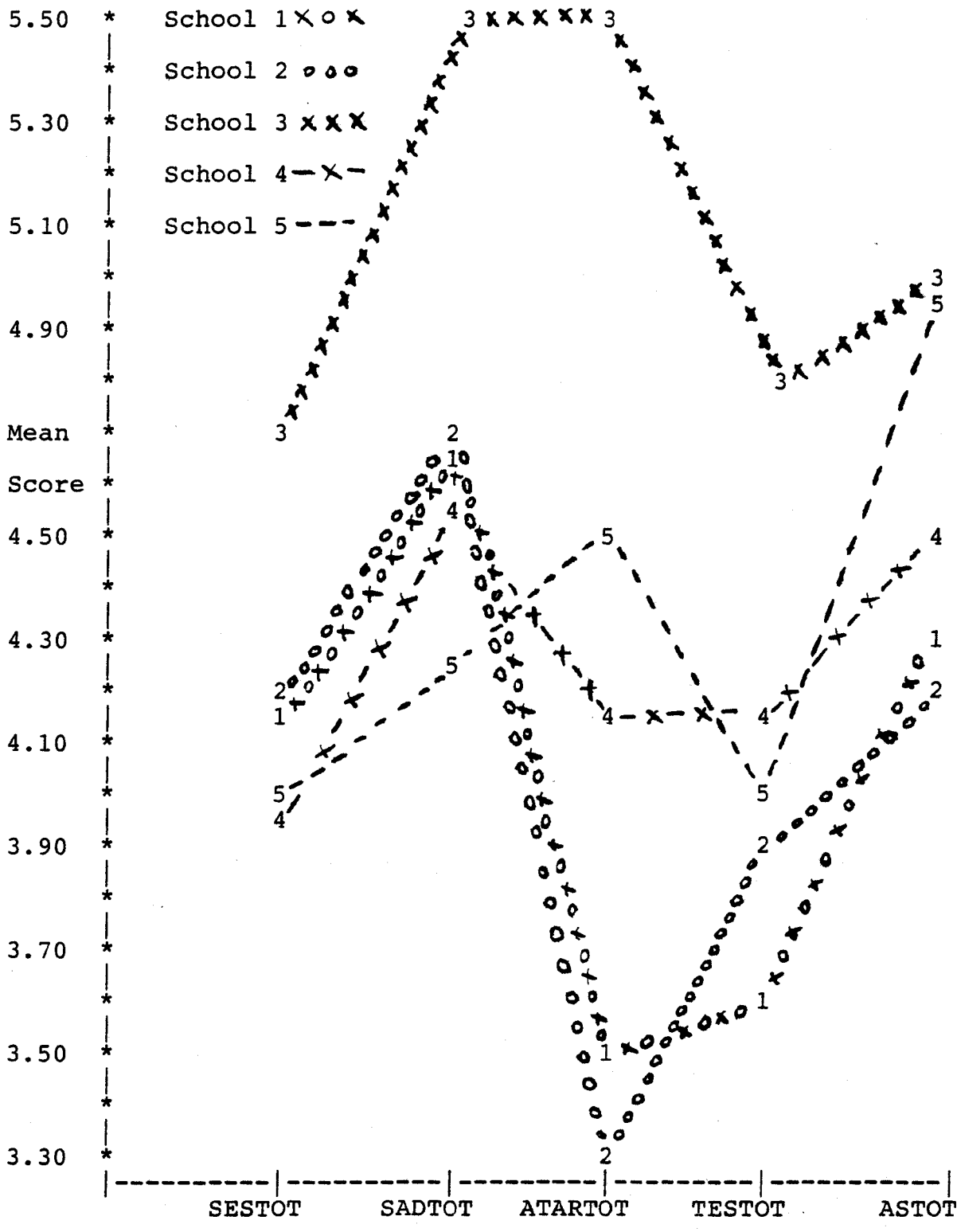
was needed in the selection of a criterion employed as an objective measure of administrator employment satisfaction.

SUMMARY OF ANALYSIS

The analyses of variance demonstrated that the 16 items on the organizational effectiveness questionnaire discriminated significanctly ($p < .05$) the differences among the responses of the members of the five high schools on an institutional level. The differences among the responses of the three groups - administrators, students and teachers - were differentiated to a satisfactory level for four of the effectiveness traits - student educational satisfaction, student academic development, ability to acquire resources and teacher employment satisfaction. Differentiation was conducted to a satisfactory level for the trait of administrator employment satisfaction on an institutional level but not on a group basis.

As a result, each of the five high schools had a unique profile in terms of the five effectiveness traits. Figure 1 provides a graphic analysis of the uniqueness of each school's organizational effectiveness profile.

FIGURE 1 Effectiveness Profile



Examination of Figure 1 revealed that certain patterns of organizational effectiveness could be distinguished. For example, School 3 ranked first on all traits. Schools 1 and 2 had similar organizational effectiveness profiles. For each of the five high schools, efforts could be initiated to improve its operation in terms of one or more of the organizational effectiveness traits.

The findings of this study are similar to the findings of Cameron in many respects. Cameron has found that the differences among respondents' perceptions of organizational effectiveness were distinguishable at the institutional level for all nine of his organizational effectiveness traits. This study found statistically significant differences among the 834 respondents' perceptions on all five of its effectiveness traits. Unlike Cameron's findings, this study found distinguishable differences at a satisfactory level of significance at the group level for four effectiveness traits.

The findings of this study, like Cameron's research findings, found that each school had a unique organizational effectiveness profile. Specific patterns of organizational effectiveness could be seen for each high school with certain areas of its operation needing improvement. The findings of this study, like Cameron's research findings, found that its collected objective data helped to validate some of the respondents' perceptions. The objective data for a

school's ability to acquire resources was apparently very related to the respondents' perceptions. The overall ability of the objective data of this study to help validate the respondents' perceptions was, however, much less than Cameron's rate of success. In summary, analysis of the findings of this study revealed that they were similar and yet different from the research findings of Cameron.

SUMMARY

The purpose of this study was to examine the organizational effectiveness of high schools who have model microcomputer instructional programs. Specifically, the effectiveness traits of student educational satisfaction, student academic development, ability to to acquire resources and employee satisfaction were compared for the high schools who have model microcomputer instructional programs. High schools who have model microcomputer instructional programs were the five high schools who scored the highest on the microcomputer instruction questionnaire.

As a result of the analysis of the collected data, the study was expected to provide assistance to the high school administrator who is interested in developing and implementing an effective program of microcomputer instruction. The findings of this study, hopefully, will serve as a catalyst for future research and be helpful in improving the study of

school administration.

Chapter II of this study presented a review of the literature pertaining to organizational effectiveness. The review of the literature revealed that assessments of an organization's effectiveness are a daily occurrence for individuals both inside and outside of an organization. School administrators are concerned with the effectiveness of their organizations - schools. The ability of students to achieve the educational and social goals established by the local and state boards of education helps determine the effectiveness of a school. Administrative performance is in a large measure determined by the effectiveness of schools.

The review of the literature reported that there are a number of models that have been used to help explain the organizational effectiveness construct. A construct was defined as a concept with added meaning having been deliberately and consciously invented for special purposes. Constructs have nonobservable characteristics but whose effects can be seen.

Models used to explain organizational effectiveness could be categorized into certain groups - goal achievement, systems - resource and means. The oldest and most popular model was the goal achievement model. Advocates of the goal achievement approach theorized that organizations were social groups established for the achievement of certain common goals.

The systems - resource approach measured the effectiveness of an organization on its ability to secure resources in order to survive. The systems - resource approach was seen as an alternative to the goal achievement approach - the need for determining the specific goals of an organization used to measure its effectiveness was avoided.

The means approach examined the interpersonal relationships within an organization and their influence on the effectiveness of an organization. Concepts such as organizational health were judged to be measurable traits that could be used to assess an organization's effectiveness. Likert's System 4 approach was noteworthy as it applied to the organizational effectiveness of schools. Numerous studies have utilized Lickert's Profile of Schools diagnostic instrument in assisting the effectiveness of schools.

The review of the literature showed that there were a number of effectiveness models that were modified versions of one of the primary models. These models attempted to incorporate the strengths and avoid the weaknesses of the primary models. Authors such as Weick and Cameron presented theories that incorporated components from other effectiveness models.

Weick's "loosely coupled systems" model was applicable to schools. Schools have many indeterminate goals, large spans of control and employ an unclear technology. Weick's model attempted to address each of these characteristics of

schools.

Cameron's approach to the assessment of an organization's effectiveness was appropriate for schools. His approach addressed six concerns of all effectiveness studies: 1) domain of activity; 2) whose perspective; 3) level of analyses; 4) time frame; 5) type of data and 6) referent used. The six concerns were best handled argued Cameron through employment of a combination of the primary models. No effectiveness model was singularly able to address all six concerns.

The review of the literature demonstrated that the various approaches, theories and models attempting to measure and explain the organizational effectiveness construct have employed a variety of criteria. Use of a single criterion to measure effectiveness was once a popular technique. The limited ability of a singular criterion to assess effectiveness led to the use of multiple criteria. Multivariate studies are now the prevalent practice of researchers.

The review of the literature revealed that no single set of effectiveness criteria could ever be found to be all inclusive in defining the effectiveness construct. Certain problems were inherent to effectiveness assessments. These problems included: 1) perspective; 2) time frame; 3) domain of activity; 4) measurement and 5) reason. The manner in which each of these problems was answered invariably influenced the selection of effectiveness criteria. Each of the

problems had a number of ways that it could be answered, but no single way was always best.

In summary, the review of the literature presented in Chapter II of this study established that the study of organizational effectiveness was important to all individuals especially to the leaders of an organization, such as high school principals. No single theory or set of organizational characteristics could ever hope to explain or predict completely the effectiveness construct.

For purposes of this study, the research findings of Cameron provided the theoretical basis. Cameron's approach to assessing organizational effectiveness had been successfully employed in a variety of institutional settings ranging from schools to industrial organizations. Cameron's diagnostic instrument used at the university level in 1976 and 1980 identified nine traits common to effective universities. In other words, Cameron employed a multivariate approach in assessing effectiveness. Cameron's approach also incorporated the use of collecting objective data to help validate his subjective data findings. Comparisons between the objective data and subjective data findings were made thereby filtering out some of the personal biases of respondents. Four of Cameron's nine effectiveness traits were student educational satisfaction, student academic development, ability to acquire resources and faculty/administrator employment statisfaction. For purposes of

this study, Cameron's research approach was an appropriate and validated means to examine the organizational effectiveness of high schools who have model microcomputer instructional programs.

One questionnaire consisted of 15 items addressing seven broad areas related to microcomputer instruction. The review of the literature demonstrated that no single best model existed for an effective microcomputer instructional program, but that certain characteristics were common to effective programs. The principals of the 27 targeted high schools were asked to respond to the first questionnaire.

The second questionnaire consisted of 52 items investigating the perceived levels of organizational effectiveness as determined by administrators, students and teachers at the five high schools who were identified as having model microcomputer instructional programs. The second questionnaire was a modified version of Cameron's diagnostic instrument. For purposes of this study, analyses were conducted on the data collected from the 16 questions of the second questionnaire. These questions pertained to the effectiveness traits of student educational satisfaction, student academic development, the school's ability to acquire resources, teacher employment satisfaction and administrator employment satisfaction. Examination of these effectiveness traits related directly to the study's research questions.

The third questionnaire consisted of six items that

required objective answers. The six questions related to the four effectiveness traits under investigation in this study. The principals of the five high schools participating in this study completed the third questionnaire.

CONCLUSIONS

As a result of analyses of the data collected in this study, the following conclusions are offered:

What is the level of student educational satisfaction in high schools with model microcomputer instructional programs?

1. The overall perception of all respondents was that approximately half of the students were satisfied and approximately half of the students were dissatisfied. The presence of microcomputer instructional programs at the schools may explain the moderate level of student educational dissatisfaction.
   were dissatisfied.

2. Approximately 68% of the administrators and 51% of the teachers reported that a small minority of students were dissatisfied.

3. Approximately 37% of the students reported that less than

half of their classmates were dissatisfied whereas 39% reported that more than half of their classmates were dissatisfied.

4. The perceived level of student educational satisfaction on a school-wide basis differed at the five schools but to a lesser degree of variance than did other effectiveness traits.

5. The perceived level of student educational satisfaction at a given school may not be related to the structure of its microcomputer instructional program.

6. The relationship between the perceived level of student educational satisfaction and the student drop-out rate at a given school was a moderate and inverse corelation. Approximately 49% of the variance between these variables was shared.

What is the level of student academic development in high schools with model microcomputer instructional programs?

1. Approximately two-thirds of all respondents reported that more than a moderate emphasis was made on the academic development of students. The presence of microcomputer instructional programs at the schools may have influenced the attitudes of the respondents as research has indicated.

2. Approximately 73% of the administrators and 70% of the teachers reported that a large emphasis was made on the academic development of students.

3. Approximately 67% of the students reported that a moderate emphasis was made on the academic development of students.

4. The perceived level of student academic development on a school-wide basis differed at the schools. The results of this study suggest that the differences among the five schools were, however, more than the the schools' differences for student educational satisfaction.

5. The perceived level of student academic development at a given school may not be related to the structure of its microcomputer instructional programs.

6. The relationship bewteen the perceived level of student academic development and the percentage of students who indicated that they were going to continue their education after high school was a strong and positive correlation. Approximately 74% of the variance between these variables was shared.

What is the level of ability to acquire financial and human resources at high schools with model microcomputer instructional programs?

1. Approximately 57% of all respondents reported that it was slightly true that their respective schools had a very high ability to secure the needed financial and human resources.

2. Approximately 63% of all administrators reported that it was slightly true that their respective schools had a very high ability to secure the needed financial and human resources.

3. Approximately 72% of all teachers reported that it was slightly true that their respective schools had a very high ability to secure needed financial and human resources.

4. Approximately 57% of all students reported that it was slightly true that their respective schools had a very high ability to secure needed financial and human resources,

5. The perceived ability of the respective schools to secure resources differed at the five high schools as evidenced by the large degree of variance among the five schools.

6. The perceived ability of the respective schools to secure resources was not apparently related to the structure of its microcomputer instructional program.

7. The relationship between the perceived ability of a school to secure resources and its teachers' salary at the Bachelor's degree level was a very high and a positive correlation. Approximately 100% of the variance between these variables was shared.

8. The relationship between the perceived ability of a school to secure resources and its total budget was a weak and positive correlation. Approximately 16% of the variance between these variables was shared.

What is the level of employee satisfaction at high schools with model microcomputer instructional programs?

1. Approximately 54% of all respondents reported that more than half of all teachers were satisfied.

2. Approximately 58% of all respondents reported that more than half of all administrators were satisfied.

3. Approximately two-thirds of all teachers reported that they were satisfied.

4. Approximately 54% of all students reported that their teachers were satisfied.

5. Approximately 89% of all administrators reported that their teachers were satisfied.

6. The overall perception of each of the three groups inclu-

ded in this study, administrators, students and teachers, could not be made to a satisfactory level of significance on the employment satisfaction of school administrators.

7. The perceived level of teacher employment satisfaction on a school-wide basis differed at the five high schools. The results of this study suggest that the level of teacher employment satisfaction at a given school may be related to the school's ability to secure resources.

8. The perceived level of teacher employment satisfaction at a given school may not be related to the structure of its microcomputer instructional program.

9. The relationship between the perceived level of teacher employment satisfaction and the number of teachers leaving their positions was a weak and inverse correlation. Approximately 20% of the variance between these variables was shared.

10. The relationship bewteen the perceived level of administrator employment satisfaction and the number of administrators leaving their position was a weak and inverse correlation. Approximately 36% of the variance between these variables was shared.

11. The overall perception of administrative employment satisfaction on a school-wide basis differed at the five high schools but less than did the perceived levels of

teacher employment satisfaction at the schools.

ADDITIONAL CONCLUSIONS

1. Each high school had a unique profile in terms of its members' perceptions of its level of effectiveness for this study's four organizational effectiveness traits. The results of this study were similar to Cameron's findings at the university level.

2. The perceived level of effectiveness for a given school in terms of any one of this study's organizational traits under investigation had apparently no correlation with the structure of the school's microcomputer instructional program.

RECOMMENDATIONS

The following recommendations are made for future studies:

1. More research could be done on the selection of objective data criteria that should be used at the high school level to help validate the perceptions of the respondents regarding organizational effectiveness. For example, the number of employees leaving an organization may not be an accurate indicator of employee

disatisfaction during depressed economic conditions.

2. A comparative study could be conducted on the perceived level of organizational effectiveness for high schools who do have exemplary microcomputer instructional programs with high schools who do not have good microcomputer instructional programs.

3. A replica of this study could be conducted that expands its respondent population to include members of the board of education, parents of students, and community members. In this manner, the profile of the school's level of perceived effectiveness could be expanded.

4. A duplication of this study should be conducted at the five high schools in four years to reexamine the schools' organizational effectiveness profile.

5. Finally, a more qualitative follow-up study could be conducted at the five high schools for the express purpose of exploring the reasons for each school's effectiveness profile.

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APPENDIX A

March 12, 1985

Dear

I am conducting a survey as one part of my doctoral dissertation research at Loyola University of Chicago. My study is an examination of the organizational effectiveness of high schools who have model microcomputer instructional programs.

The purpose of this letter is to request your participation in the first phase of my research survey.

Enclosed, please find a copy of a brief survey instrument pertaining to microcomputer program effectiveness. I ask that you complete it and forward it to me in the enclosed self-addressed envelope at your earliest convenience.

If you are interested in the results of my survey, I will be most happy to forward a copy of it to you.

Thank you for your help. It is greatly appreciated.

Sincerely,

Chester A. Pulaski, Jr.
Assistant Principal
Bloom High School
Chicago Heights, IL 60411

CAP:bmt

APPENDIX B

SURVEY OF MICROCOMPUTER PROGRAM EFFECTIVENESS

1. How are microcomputers used in your high school? (Check any that apply)

_____ Computers are not used at all
_____ Administrative purposes
_____ Computer Literacy
_____ Computer programming
_____ Computer assisted instruction
_____ Tutorial assistance

2. In what teaching areas are microcomputers used in your high school? (Check any that apply)

_____ Computers are not used at all
_____ Communications (Foreign Language/ Language Arts)
_____ Fine Arts (Art/Music)
_____ Mathematics
_____ Science
_____ Other areas (list specific areas)

3. What percentage of your teachers would you consider as being computer literate?

_____ 0 - 19%
_____ 20 - 39%
_____ 40 - 59%
_____ 60 - 79%
_____ 80 - 99%

4. Is there an in-service/staff development program in your high school to assist your teachers in becoming computer literate?

_____ Yes
_____ No

5. What percentage of your students in your high school have access to microcomputers during after-school hours?

_____ 0 - 19%
_____ 20 - 39%
_____ 40 - 59%
_____ 60 - 79%
_____ 80 - 99%

6. What percentage of your students in your high school are involved in some type of microcomputer instruction before they graduate?

_____ 0 - 19%
_____ 20 - 39%
_____ 40 - 59%
_____ 60 - 79%
_____ 80 - 99%

7. Are there specific written instructional objectives for your courses that incorporate microcomputer instruction?

_____ Yes
_____ No

8. Are there specific written guidelines that must be followed in the adoption of microcomputer software for your high school?

_____ Yes
_____ No

9. Are there specific written guidelines that must be followed in the selection of microcomputer hardware for your school?

_____ Yes
_____ No

10. Other than yourself, who supervises your school's microcomputer instructional program?

_____ Classroom teacher
_____ Department chairperson for mathematics, science, etc.
_____ Central office administrator for instruction, etc.
_____ Department chairperson for computer instruction
_____ Central office administrator for computer instruction

11. What microcomputer training have you had as the high school principal?

_____ None at all
_____ Some training
_____ Considerable training

12. Please describe the special training that your teachers working in the microcomputer instructional programs have had.

_____ Participation in computer workshops/seminars at the local level
_____ Particiaption in computer workshops/seminars at the state or national level
_____ Bachelor's degree in computer science
_____ Master's degree in computer science

13. How are students who are enrolled in your microcomputer instructional programs evaluated?

_____ Each classroom teacher develops his/her own evaluation criteria for students
_____ Standardized criteria are developed by the computer program teachers and are used to evaluate all students
_____ Standardized criteria have been developed as a result of input from a number of sources including but not limited to the computer program teachers and are on a district wide basis
trict wide basis

14. What is your high school's microcomputer ratio per student student ratio for your total student body?

_____ 1 : 325-
_____ 1 : 250-176
_____ 1 : 175-101
_____ 1 : 100-26
_____ 1 : 25-1

15. Please rate the success of your microcomputer instructional program as compared to other instructional programs offered in your high school.

_____ Much better
_____ Better
_____ Same
_____ Worse
_____ Much worse

APPENDIX C

March 27, 1985

Dear

A couple of weeks ago I sent you a brief questionnaire pertaining to microcomputer program effectiveness. The results of this survey will be used to complete the first phase of my doctoral research.

I would deeply appreciate hearing from you in the near future. Your response to the brief survey will help make the research findings more reliable. I would like to have a one hundred percent return on the survey.

I have enclosed a copy of the brief survey instrument pertaining to microcomputer program effectiveness. I ask that you complete it and forward it to me in the self-addresed envelope at your earliest convenience.

Thank you for your help. It is greatly appreciated.

Sincerely,

Chester A. Pulaski
Assistant Principal
Bloom High School
Chicago Heights, IL 60411

APPENDIX D

SECTION I

TO WHAT EXTENT ARE THE FOLLOWING CHARACTERISTICS TYPICAL OF THIS HIGH SCHOOL? PLEASE MARK THE APPROPRIATE RESPONSE USING THE SCALE IMMEDIATELY BELOW

Very true, or highly typical of this school			Neither typical or atypical		Very untrue, or highly untypical of this school	
(7)	(6)	(5)	(4)	(3)	(2)	(1)

_____ 1. This school has the reputation of possessing a stimulating intellectual environment with high concern for academic development.

_____ 2. One of the outstanding features of this high school is the opportunity it provides students for personal development in addition to academic development.

_____ 3. This high school is highly responsive and adaptive to meeting the changing needs of the external high school community or environment.

_____ 4. This high school has a very high ability to obtain needed financial resources in order to provide a high quality educational program.

_____ 5. When hiring new faculty members, this school can attract the most qualified people in their respective fields to take a job here.

_____ 6. This high school has a very high ability to obtain the resources it needs to be effective.

_____ 7. In general, after students leave this high school, they maintain a strong commitment to the high school.

_____ 8. At activities or events where alumni are invited by the school to participate, a large showing of support generally occurs.

_____ 9. There seems to be a feeling that dissatisfaction is high among students in general at this school.

_____10. There have been a relatively large number of students either drop out or not return because of dissatisfaction with their educational experiences here.

_____11. I am aware of a large number of student complaints regarding their educational experiences here as registered in the school newspaper, meetings with faculty members or administrators, or other public forums.

SECTION II

PLEASE MARK THE APPROPRIATE ALTERNATIVE

12. Think of last year's graduating class at this school. Please rate the academic attainment or academic level acieved by that class as a whole.

_____ 1) That class is among the very top high school graduating classes in the state.
_____ 2) That class is well above average.
_____ 3) That class is slightly above average.
_____ 4) That class is about average.
_____ 5) That class is slightly below average.
_____ 6) That class is below average.
_____ 7) That class is near the bottom of high school graduating classes in the state.

13. Estimate what percent of graduates from this high school go on to obtain a bachelor's degree at a college or university.

_____ 1) From 91% to 100% of the students here go on to obtain a bachelor's degree.
_____ 2) From 76% to 90% go on.
_____ 3) From 61% to 75% go on.
_____ 4) From 46% to 60% go on.
_____ 5) From 31% to 45% go on.
_____ 6) From 16% to 30% go on.
_____ 7) From 0% to 15% go on.

14. How important is it to students here that opportunities for personal and non-academic development (i.e. social, emotional, cultural, etc.) are provided at this high school?

_____ 1) Personal development activities are very important to students here.
_____ 2) They are important.
_____ 3) They are somewhat important.

_____ 4) They are neither important nor unimportant.
_____ 5) They are somewhat unimportant.
_____ 6) They are unimportant.
_____ 7) They are very unimportant to students here.

SECTION III

TO WHAT EXTENT DOES THE HIGH SCHOOL EMPHASIZE OR ENCOURAGE THE FOLLOWING? PLEASE MARK THE APPROPRIATE RESPONSE USING THE SCALE BELOW

Very high degree of emphasis or encouragement here			Moderate degree of emphasis or encouragement			No emphasis or encouragement here
(7)	(6)	(5)	(4)	(3)	(2)	(1)

_____15. Activities outside the classroom designed specifically to enhance students' academic development.

_____16. Activities outside the classroom designed specifically to enhance students' personal non-academic development.

_____17. The engaging in professional activities outside the high school by faculty members and administrators.

_____18. High school-community or high school-environment relations.

SECTION IV

PLEASE MARK THE APPRORIATE RESPONSE USING THE SCALE BELOW

A very large number or amount			A moderate number or amount			None
(7)	(6)	(5)	(4)	(3)	(2)	(1)

_____19. How many career development opportunities are provided for students at this school?

_____20. How much would you say students develop and mature in non-academic areas (i.e. socially, emotionally, culturally, etc.) directly as a result of their experiences at this high school?

_____21. How many faculty members and administrators would you say serve in the community in government, on boards or commitees, as consultants, or in other capacities? (combine state and local level)

_____22. How many community oriented programs, workshops, projects, or activities would you say were sponsored by this school last year?

SECTION V

PLEASE MARK THE APPROPRIATE RESPONSE
USING THE FOLLOWING SCALE

7 - Almost all
6 - A large majority
5 - More than half
4 - About half
3 - Less than half
2 - A small minority
1 - Almost none

_____23. How many faculty members would you say have statewide reputations in their respective fields?

_____24. How many students would you say engage instructional work(i.e. reading, studying, writing, etc.) over and above what is specifically assigned in the classroom?

_____25. How many students would you say attend this high school to seek academic or occupational goals as opposed to attending for extra-curricular or other reasons?

_____26. Approximately what proportion of the course in this school are designed to be vocationally-related as opposed to general education, personal development?

_____27. Think of those students who have obtained employment after graduating from this high school. For how many of them was the vocational training received at this school important in helping them obtain their job?

_____28. If given the chance of taking a similar job at another high school of his/her choice, how many faculty members do you think would opt for leaving this school rather than staying?

_____29. If given the chance of taking a similar job at another high school of his/her choice, how many administrators do you think would opt for leaving this school rather than staying?

_____30. Estimate how many faculty members at this high school are personally satisfied with their employment.

_____31. Estimate how many administrators at this high school are personally satisfied with their employment.

_____32. Estimate how many faculty members are personally satisfied with the way that things are done around here.

_____33. Estimate how many administrators are personally satisfied with the way that things are done around here.

_____34. Approximately what proportion of the faculty members and administrators at this high school attended a conference or workshop specifically oriented toward professional and/or personal development lasy year.

_____35. How many of the faculty members at this high school would you say published an article in a professional journal, or spoke at a professional conference (i.e. local, regional, state workshop, etc.) last year?

_____36. What proportion of the faculty members would you estimate teach at the "cutting edge" of their field- i.e. revise syllable at least yearly, etc.

_____37. How many faculty members at this high school are actively engaged in professional development activities - i.e. staff development, getting an advanced degree, etc.

SECTION VI

THIS SECTION ASKS YOU TO RATE YOUR PERCEPTIONS OF THE GENERAL DAY TO DAY FUNCTIONING OF THIS HIGH SCHOOL. PLEASE RESPOND BY CIRCLING THE NUMBER THAT BEST REPRESENTS YOUR PERCEPTION OF EACH ITEM. IF YOU AGREE STRONGLY WITH ONE END OF THE SCALE, CIRCLE A NUMBER CLOSER TO THAT END OF THE SCALE. IF YOU FEEL NEUTRAL ABOUT THE ITEM, CIRCLE A NUMBER NEAR THE MIDDLE OF THE SCALE

For example:

*How is the weather in this town?

warm, bright and sunny	1	2	3	4	5	6	7	cold, wet and dismal

HOW DO YOU PERCEIVE THE FOLLOWING?

_____38. Student/faculty relationships

unusual closeness, lots, of informal interaction, mutual personal concern	1	2	3	4	5	6	7	no closeness, mostly instrumental relations

_____39. Interdepartmental relations in this school

lots of coordination, joint planning, no friction	1	2	3	4	5	6	7	no joint activity, lack of communication

_____40. General pattern of supervision and control

rigid control, stricy supervision	1	2	3	4	5	6	7	respect for differences

_____41. Equality of treatment and rewards

people treated fairly	1	2	3	4	5	6	7	favoritism and unfair treatment

_____42. Recognition and rewards received for good work from superiors

rewarded for success	1	2	3	4	5	6	7	no rewards for success

_____43. The amount of information or feedback you receive

information is always available	1	2	3	4	5	6	7	information is never available

_____44. Type of communication that is typical

guarded, formal	1	2	3	4	5	6	7	open personal

_____45. The general social environment

mutual concern for others	1	2	3	4	5	6	7	"every man for himself"

_____46. The flexibility of the administration

adaptable, flexible	1	2	3	4	5	6	7	rigid, unyielding

_____47. General levels of trust among people here

distrust	1	2	3	4	5	6	7	high trust

_____48. Conflicts and friction in the high school

large amount of conflict	1	2	3	4	5	6	7	no friction or conflicts

_____49. Resolution of disagreements or conflicts

imposition, avoidance	1	2	3	4	5	6	7	compromise, face to face

_____50. Use of talents and expertise of faculty members and administrators

competencies and talents used maximally	1	2	3	4	5	6	7	competencies not used, talents unused

_____51. Organizational health of the high school

healthy organization, productiive internal functioning	1	2	3	4	5	6	7	unhealthy organization, unproductive internal functioning

_____52. Long term planning and goal setting

long term planning, goal assessments	1	2	3	4	5	6	7	no planning, no goal assessments,

APPENDIX E

QUESTIONNAIRE

1. How many students dropped-out of your high school during the 1984-85 school year?

2. How many graduates from the Class of 1985 have indicated that they will continue their education at a trade school, junior college or university?

3. How mant teachers did not return to your staff for the 1984-85 school year that were on staff during the 1983-84 school year? (Retirements and reduction in force non-returnees should not be included)

4. How many administrators did not return to your staff for the 1984-85 school year that were on staff during the 1983-84 school year? (Retirements and reduction in force non-returnees should not be included)

5. What is your school's total budget?

6. What is the teacher's salary at your school at the Bachelor's degree level with no experience?

APPENDIX F

ANALYSES OF VARIANCE

Student Educational Satisfaction

Question	School F	School p	Group F	Group p
# 9	25.056	0.000	31.611	0.000
#10	2.190	0.068	18.710	0.000
#11	1.997	0.093	31.865	0.000

Student Academic Development

Question	School F	School p	Group F	Group p
# 1	23.060	0.000	22.706	0.000
#12	26.060	0.000	5.724	0.003
#13	37.784	0.000	1.645	0.194
#15	13.710	0.000	6.585	0.001
#24	14.466	0.000	1.457	0.233
#25	17.512	0.000	10.556	0.000

Ability to Acquire Resources

Question	School F	School p	Group F	Group p
# 4	72.872	0.000	5.064	0.007
# 5	63.782	0.000	14.781	0.000
# 6	66.968	0.000	7.633	0.001

Teacher Employment Satisfaction

Question	School F	School p	Group F	Group p
#30	22.162	0.000	3.734	0.024
#32	17.568	0.000	3.875	0.021

Administrator Employment Satisfaction

Question	School F	School p	Group F	Group p
#31	9.072	0.000	0.373	0.688
#33	5.419	0.000	0.180	0.835