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**A POST HOC ANALYSIS OF THE MICHIGAN STUDENT INFORMATION
SYSTEM IMPLEMENTATION PROCESS**

Michigan State University

Ph.D. 1981

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A POST HOC ANALYSIS OF THE MICHIGAN
STUDENT INFORMATION SYSTEM
IMPLEMENTATION PROCESS

By

Bruce Blanding

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
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ABSTRACT

A POST HOC ANALYSIS OF THE MICHIGAN STUDENT INFORMATION SYSTEM IMPLEMENTATION PROCESS

By

Bruce Blanding

The Michigan Department of Education makes significant commitments of federal and state funds to develop and disseminate various activities designed to benefit Michigan community colleges. All too frequently, the processes or products resulting from these projects either are never fully implemented by the community colleges or never gain the level of acceptance and use originally envisioned.

While most federally and state funded projects include a provision to measure their impact, the impact usually is focused upon outcome measures with little consideration given to the actual use and acceptance of the process/product involved in the project.

The central focus of this study was on evaluating the implementation of the Michigan Student Information System. Specifically, this study is a post hoc analysis of the Michigan Student Information System Implementation Efforts utilized by the Michigan Department of Education.

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The Michigan Student Information System is a statewide system designed jointly by the Michigan Department of Education and Michigan community colleges to collect standardized enrollment and follow-up information thereby enabling each community college to conduct qualitative and quantitative evaluation.

The procedures used to design this study began with the establishment of an advisory committee of community college personnel familiar with the implementation and use of the Michigan Student Information System. The role of the advisory committee was to participate in the development of the evaluative model used in this study. A modified Delphi technique was used to determine the specific information required in the study, the appropriate information sources, methodology for collecting information, and the format for presentation of the findings.

The basic design of this study was a multi-grouped, descriptive survey utilizing four populations: (1) MiSIS Implementors, (2) MiSIS Users, (3) Presidents, and (4) Data Processing Coordinators.

The major findings of this study were:

1. The support of key individuals was obtained.
2. Local liaisons were identified, selected, and trained.
3. Timely technical assistance was provided to implementors and users through the workshops for training MiSIS

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Liaison, coupled with a promulgation of Procedures Manuals, activities manuals, and other system documentation.

4. Appropriate data processing support was provided for processing and analyzing data from the Michigan Student Information System.

5. While the findings indicated that community colleges were aided in using data resulting from the Michigan Student Information System, two major areas of concern emerged.

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CHAPTER 1

THE PROBLEM

The Michigan Department of Education has made significant commitments of federal and state funds to develop and disseminate various activities designed to benefit Michigan community colleges. All too frequently, the processes or products resulting from these projects are either never fully implemented by the community colleges or never gain the level of acceptance and use originally envisioned. A National study on educational change conducted by the Rand Corporation found that successful projects have difficulty sustaining their success over several years (Berman & McLaughlin, 1978). The study noted that dissemination efforts were difficult and replication in new sites usually falls short of the performance in the original sites.

While most federally and state funded projects include a provision to measure their impact, the impact usually is focused upon outcome measures with little consideration given to the actual use and acceptance of the process/product involved in the project. In order to better understand the impact made by an educational innovation it is necessary to conceptualize, operationalize, and measure the implementation process (Fullan & Pomfret, 1977; Hall & Louckes, 1977). Through an examination of the process of

implementation, an understanding of the reasons why many educational change efforts do not succeed thereby enabling implementors of change to have a better opportunity to successfully introduce change (Fullan & Pomfret, 1977; Hall & Louckes, 1977). The central focus of this study was evaluating the implementation of the Michigan Student Information System. Specifically, this study was a post hoc analysis of the Michigan Student Information System Implementation process utilized by the Michigan Department of Education.

Background

The Michigan Student Information System is a statewide system designed jointly by the Michigan Department of Education and Michigan community colleges to collect standardized enrollment and follow-up information thereby enabling each community college to conduct qualitative and quantitative evaluation. The Michigan Student Information System was designed based upon the philosophical premise of locally autonomous community colleges having the option of choosing the level of implementation coupled with a systematic standardization of data to allow intra-institutional comparisons and/or statewide aggregations if desired by the colleges.

Perhaps the single most significant characteristic of the Michigan Student Information System is that it can provide data both for local analyses and for external reporting purposes. This dual function of enabling both formative and summative evaluation enhances the community college's ability to identify strengths and

weakness of the programs internally and to develop an appropriate data base for meeting state and federal reporting requirements. Formative evaluation provides continuous feedback which can be used to make appropriate modifications in a program as the program develops and is similar to institutional research (Michael Scriven, 1973; Robert Stake, 1967). Summative evaluation is concerned with overall program effectiveness and provides answers to educators about the merits and shortcomings of programs (Michael Scriven, 1973; Robert Stake, 1967).

Ogilvie and Raines (1971) have drawn the conclusion that the basic community college philosophy encompasses a commitment to change. A community's educational needs tomorrow will differ in many ways from those of today and therefore rigid commitments will thwart an institution's efforts to meet the educational needs of the community it is dedicated to serve.

Institutional renewal, which is essential for community colleges to survive, is dependent upon information as the basis for planning, managing, and evaluating efforts to accomplish the renewal (Richard Spencer, 1980).

Clearly, it is advantageous for community colleges to have the capability to conduct programmatic evaluation. However, the real impetus for developing a community college occupational evaluation system in Michigan arose from a legislative mandate. The Vocational Education Amendments of 1976, Public Law 94-482, expanded the responsibilities of state and local agencies offering federally

funded vocational education programs for qualitative and quantitative evaluation of those programs.

Malcolm Provus (1971) reminds us that a clause in the 1965 Elementary-Secondary Education Act established evaluation as a necessary building block in the design of American educational reform. Provus makes the point that the evaluation requirements of that act may eventually have greater impact on education than the program itself.

Michigan community colleges were faced with a significant responsibility to perform qualitative and quantitative evaluation of their vocational education programs with no evaluation system in place. In 1978, a steering committee consisting of community college personnel and Michigan Department of Education staff identified the essential components for a comprehensive local evaluation system for occupational education.

The components to be included in a comprehensive evaluation system included student flow, program evaluation, financial analysis, and a management plan. The Michigan Student Information System was developed from the conceptual paradigm of the student flow component envisioned by the steering committee. Development of the Michigan Student Information System occurred during the 1978-1979 academic year. A detail description of the developmental activities is presented in Appendix B.

Implementation of the Michigan Student Information System began in 1979-1980 and is also described in Appendix B.

The Study

It appeared, at least at a cursory level, that the diffusion efforts were succeeding. However, in order to ensure the continuing success of the Michigan Student Information System, to ensure that the information was being used for formative evaluation as well as summative evaluation, and to attempt to provide for the maximum utilization of resources in support of the system; it was desirable to develop methods for measuring the effectiveness of the diffusion process, conducting the assessment, and using the results to make system modifications designed to improve the process.

Purpose of Study

This study was concerned with examining the effectiveness of the diffusion process used in the implementation of the Michigan Student Information System in Michigan community colleges. It does not look at the resulting quantifiable data from the system. This study was primarily designed to evaluate the status of the implementation/acceptance of the Michigan Student Information System and the extent to which Michigan community colleges were using the system to ensure that the system was being accepted and used by Michigan community colleges, and that the system was meeting their needs. Additionally, a significant byproduct of this study was the development of an evaluative model, and resulting baseline data, for future use in measuring the continuing effectiveness of the Student Information System and other diffusion processes, and

the concomitant development of the capability for longitudinal analyses of the effectiveness of the Michigan Student Information System.

Research Questions

Accordingly, this study specifically addressed the following research questions:

1. Was the support of key individuals in each community college obtained?
2. Were local liaisons identified, selected, and trained?
3. Was timely technical assistance provided to implementors and users?
4. Was appropriate data processing support provided for processing and analyzing data from the Michigan Student Information System?
5. Were community colleges aided in using data resulting from the Michigan Student Information System?

Procedures

The procedures used to design this study began with the establishment of an advisory committee of community college personnel familiar with the implementation and use of the Michigan Student Information System. The role of the advisory committee was to participate in the development of the evaluative model used in this study. A modified Delphi technique was used to determine the specific information required in the study, the appropriate information

sources, methodology for collecting information, and the format for presentation of the findings.

The basic design of this study was a multi-grouped, descriptive survey utilizing four populations: (1) MiSIS Implementors, (2) MiSIS Users, (3) Presidents, and (4) Data Processing Coordinators.

Delimitations of the Study

This study was delimited to Michigan's 29 public community colleges and more specifically to the four interest groups surveyed. The four interest groups, listed above, provided data used in the development of institutional and statewide profiles indicating strengths and weaknesses of the Michigan Student Information System, constituencies reported to, decision-maker usage of data, and the desirability of alternative support services. These profiles can be used as a basis for planning modifications to the system and to the diffusion process to ensure the effectiveness of the Michigan Student Information System. The findings of this study are generalizable only as they apply to the use of the Michigan Student Information System in Michigan community colleges.

Definition of Terms

For the purpose of this study, the following definitions are used:

Community College is an institution that is established under the provisions of Act 331, of the Public Acts of 1966 of the Michigan Legislature. There are currently 29, public, two

year, postsecondary institutions that are within this definition in Michigan.

MiSIS is the Michigan Student Information System, a voluntary system for gathering student enrollment and follow-up information through the use of thirteen questionnaires in six subsystems.

MiSIS Implementor is an individual in a community college who is chiefly responsible for coordinating the college's data collection activities using the Michigan Student Information System.

MiSIS User is an individual in a community college who is chiefly responsible for interpreting the results of the Michigan Student Information System surveys.

President is the chief executive officer at each community college.

Data Processing Coordinator is an individual identified by the MiSIS Implementor as being chiefly responsible for the computerized data processing at each college.

CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter presents a review of literature having a bearing on the successful diffusion of the Michigan Student Information System. The chapter is divided into two main sections: (1) Legislation and (2) Diffusion.

Legislation

The Vocational Education Amendments of 1976, Public Law 94-482, expanded the responsibilities of state and local agencies offering federally funded vocational education programs for qualitatively and quantitatively evaluating those programs.

Qualitative Evaluation

The Vocational Education Amendments of 1976 very specifically delineated the aspects to be considered in qualitatively evaluating each program.

Elements of Evaluation. The elements of an evaluation process as identified in Section 104.401 of the Act include planning and operational processes; results of student achievement; results of student employment success; and results of additional services provided. Planning and operational processes include measurement of the quality and availability of instructional offerings; guidance,

counseling, and placement and follow-up services; capacity and condition of facilities and equipment; employer participation in co-operative programs; the ratio of teachers to pupils; and qualifications of teachers. Examples of measurement of the results could include standard occupational proficiency measures, criterion referenced tests, and other measures of students' skills, knowledge, attitudes, and readiness for successfully entering employment. Results of student employment success may be measured by such things as rates of employment and unemployment; wage rates for program leavers and completers; duration of employment; and employer satisfaction with the performance of vocationally trained workers. The last element of an evaluation plan as delineated in the Act is that the results of additional services to special populations shall be measured. Special populations include women, members of minority groups, handicapped persons, disadvantaged persons, and persons with limited ability to speak English.

Use of Evaluation Results. Section 104.402 of the Act identifies two primary uses of the results of evaluation of vocational education. One use of the evaluation results is as a basis to revise and improve the vocational education program. Another use of the evaluation results is to publish those results and make them available to state level advisory councils for review and reaction.

Special Completer and Leaver Data. Section 104.404 of the Act requires the collection of specific data for completers and leavers of vocational education programs. It is necessary to

evaluate the effectiveness of each vocational education program. The evaluation determines the extent to which both those students who complete a program and those who leave before completion find employment in occupations which are related to their training and are considered by their employer to be appropriately prepared for employment.

In discussing completers and leavers, the legislation provides the following definitions:

Program Leaver means a student who has been enrolled in and has attended a program of vocational education (which is part of a planned sequence of courses, services, or activities designed to meet an occupational objective and which purports to teach entry-level job skills) and has left the program without completing it, except that no student shall be counted as a program leaver who is still enrolled in another program of vocational education.

Program Completer means a student who finishes a planned sequence of courses, services, or activities designed to meet an occupational objective and which purports to teach entry-level job skills.

Quantitative Evaluation

The legislative foundation for the development and operation of a National Vocational Education Data Reporting and Accounting System is set forth in Title II, Section 161(a) of the Public Law 94-482, Education Amendments of 1976. The Act states that the Commissioner of Education and the Administrator of the National Center for Education Statistics shall jointly develop information elements and uniform definitions for a national vocational education data reporting system. The system shall include information resulting from required evaluation and specifically on vocational

students, programs, program completers and leavers, staff, facilities, and expenditures. The resulting Vocational Education Data System developed by the National Center For Education Statistics collects the above data through the following reports:

Program Enrollment and Completion Report; reporting data on programs, students, special needs, completions, head counts by legislative purpose, and cooperative enrollments.

Teacher-Staff Report; reporting staff by racial/ethnic designation.

Financial Status Report; reporting expenditures for vocational education at the two digit USOE level.

Computer/Leaver Follow-up Report; reporting the outcomes of vocational education.

Employer Follow-up Report; reporting employers' evaluation of training.

For the 1979-1980 academic year there were minor changes made to the Vocational Education Data System based upon issues raised by the postsecondary community. The postsecondary policy task force recommended separate forms for the secondary and postsecondary instructional settings. This differentiation allowed for a variety of modifications to the data elements in order to be more reflective of postsecondary efforts.

The Michigan Student Information System was developed in response to the legislative mandate previously described and to meet Michigan community colleges' needs to perform qualitative and quantitative evaluation on occupational education programs. The diffusion process for the Michigan Student Information System was begun in 1979-1980.

Diffusion

In order to adequately discuss the process of diffusion, it is important to first review some of the more common models.

Classical Diffusion Model

The theoretical framework that has guided most diffusion efforts is often referred to as the classical diffusion model (Rogers & Shoemaker, 1971). The classical diffusion model consists of: (1) the innovation, (2) communication through certain channels, (3) over time, and (4) through members of a social system.

Innovation. Innovation has become one of the most popular and fashionable areas of social science (Downs & Mohr, 1976). Rogers and Shoemaker (1971) defined innovation as being an idea, practice, or object perceived as new by an individual.

According to the classical model, an innovation's characteristics as perceived by the potential users will affect its rate of adoption. Five factors which affect adoption are (1) relative advantage (the perception of the adopters that the innovation is superior to the existing practice), (2) compatibility (the perception of the adopters that the innovation is consistent with existing values and experience), (3) complexity (the perception of the adopters regarding the relative difficulty of adoption), (4) trialability (the degree to which an innovation may be experimented with on a limited basis), and (5) observability (the degree to which the results of an innovation are visible to others).

Communication Channels. A communication channel is the means by which the message gets from the source to the receiver (Rogers & Agarwala-Rogers, 1976). A key element of the diffusion process is the interaction of one person communicating a new idea to another person. The communication channel through which the new idea reaches the receiver affects the adoption decision.

Communication Over Time. Rogers and Shoemaker (1971) indicate that the time dimension is involved in the decision process, the individual's acceptance to innovation, and to the innovation's rate of adoption. The classical model describes four steps in the innovation-decision process: (1) knowledge, (2) attitude formation, (3) decision to adopt or reject, and (4) confirmation.

Social System Members. A diffusion process is also concerned with the members of social system(s) affecting the adoption of the innovation. The social system affects the rate of adoption through such individuals as change agents, opinion leaders, and linkage agents.

The classical diffusion model has been followed by several equally significant diffusion models including: Havelock's (1973) Linkage Model, Clark and Guba's (1974) Configuration Model, and Rand's Innovative Process Model (Berman & McLaughlin, 1978).

Havelock's Linkage Model

The conceptual universe within diffusion models appears to be largely dominated by the Linkage Model developed by Ronald Havelock (1971 & 1973). The three major strategies of innovation

which Havelock synthesized in his linkage model were: (1) the problem solving orientation; (2) the social interaction orientation; and (3) the research, development, and diffusion orientation.

Piele (1975) concisely summarized Havelock's major propositions as follows:

To be truly effective, resource persons must be able to stimulate the user's problem solving process. To get help from resources persons or systems, the user must be able to simulate resource system processes--for example, to appreciate research knowledge he must understand how it is generated and validated. Effective utilization requires reciprocal feedback between user and research systems. Resource systems need to develop reciprocal and collaborative relationships, not only with a variety of potential users, but also with a large diverse group of other resource systems. Users need to develop reciprocal and collaborative relations with a variety of resource systems (cosmopoliteness). A willingness to listen to new ideas (openness) is an important prerequisite to change. This applies to resource persons and to users.

Problem Solving Orientation. This strategy is based upon the assumption that innovation results from problem-solving process occurring inside the user. It is user oriented in the sense that it begins with a client need which is then translated into a diagnosed problem. Search and retrieval of information occur, followed by selection, adoption, try-out, and evaluation of the innovation.

Support for the processes hypothesized as part of the strategy can be found in the literature on information seeking behaviors and in the group dynamics human relations literature from social psychology. Rand's (1978) Innovative Process Model,

with its emphasis on local problem solving fits, generally, into the problem solving orientation. Three major phases of the innovation process are hypothesized in the Rand model: (1) initiation, (2) implementation, and (3) incorporation. Implementation is defined as the adoption of an innovation to local conditions. The most important factors affecting implementation success are the characteristics of the local institutional setting such as the organizational climate, the motivation of participants, and the local implementation strategy. Input from outside the local institution, such as characteristics of the innovation and the linkage, are seen as relatively unimportant to the success of the implementation. The problem solving orientation model argues that innovations originating outside the local institution should be left in a highly unfinished state to allow for local adoption and development.

Research, Development, and Diffusion Orientation. This model is similar to the Clark and Guba (1974) Configuration Model. Where the problem solving orientation sees change as centered on the user system, with relatively little emphasis on research and development, this orientation focuses on an active research and development establishment designing innovations for consumption by a passive client population.

The research, development, and diffusion orientation is essentially bureaucratic in that the impetus for innovation is ultimately external to the implementor. Information is communicated from the top administrative levels down to the user. Thus,

not only does this approach overload the need for exploiting psychological and social incentives for change (the strong point of the problem solving model), but it underestimates the organizational constraints that prevent the implementation of new ideas and practices.

Social Interaction Orientation.--This model reflects much of Roger's (1971) work and places emphasis on patterns by which innovations diffuse through a social system. The social interaction orientation expresses five generalizations about the processes of innovation and diffusion:

1. The individual user or adopter belongs to a network of social relations which largely influences his adoption behavior.
2. His place in the network (centrality, peripherality, isolation) is a good predictor of his rate of acceptance of new ideas.
3. Informal personal contact is a vital part of the influence and adoption process.
4. Group membership and reference group identification are major predictors of individual adoption.
5. The rate of diffusion through a social system follows a predictable S-curve pattern (very slow beginning followed by a period of very rapid diffusion, followed in turn by a long-late adopter or "laggard" period).

The key to the social interaction orientation is to spread the innovation through the natural communications media that exist within the educational system.

Another model of the change process is the Concerns Based Adoption Model (CBAM) proposed by Hall, et. al. (1973). Like Havelock's linkage model, the concerns based adoption model

assumes the inadequacy of the standard diffusion models. The concerns based adoption model assumes that a specific innovation will be adopted and that the key to facilitating adoption of the change is guiding the client through the levels of concern about the innovation, since those levels determine the extent of use.

While the temptation at this juncture is to continue the listing of various models for diffusion, it is valuable to note Sieber's (1974) plea to avoid the confusion resulting from favoring one model over another by leaving this behind us and getting out into the field, because only then will we be able to develop a conceptual framework that will both illuminate and reflect reality. Whatever diffusion model or hybrid thereof is used to diffuse an innovation, there are inevitable barriers to successful diffusion which must be overcome.

Barriers to Adoption

Barriers to adoption may be categorized in a variety of ways; but for the purposes of this study, barriers to adoption resulting from organizational environment factors will be the central focus for discussion.

The Rand study (Berman & McLaughlin, 1975) included an extensive analysis of policy and system practice relative to the implementation of federal change agents projects and identified a concept important to understanding implementation as a change variable. The authors defined the concept of mutual adaptation as, "an organizational process in which an innovative plan is

developed and modified in light of the realities of the instructional setting, and in which the organization changes to meet the requirements of the innovative project," (Berman & McLaughlin, 1975, p. 31). Prior to implementation, the selected users of the innovation will go through a process whereby they will incorporate or adopt the innovation into their existing organizational environment.

The organizational environment's importance to successful adoption was also examined by Hage & Aiken (1970). Their research found that, "structural properties were much more highly associated with the rate of program change than attitudes toward change." This implies that the structure of an organization may be more crucial for the successful implementation of change than the particular blend of personality types in an organization.

The systems view of educational innovation appears to recognize innovations as being conditioned by the organizational environment of the local community college. The community college adoption process would include adaptation of the innovation to conform with the institutional environment. House (1974) takes exception to the assumption that a given innovation has a universal and unchanging applicability. He states that, "there is no single innovation what will work in all local settings, for those settings are not only different and unpredictable, in specifics, but they are constantly changing." (House, 1974, p. 245.)

Wayland (1964) indicates that it is often difficult to introduce innovation into a school unless that change is introduced

simultaneously into many schools. The contention is that schools are so enmeshed one with another that there is great peer pressure to conform to a common level. Carlson (1965) goes even further by stating that schools are domesticated organizations whose supply of clients and economic survival are insured by society. Unlike wild organizations, which must compete for financial and client support, their motivation to innovate is low. Sieber (1968) has also noted that schools might be vulnerable to pressures and control from local groups and institutions to a greater extent than most organizations. Since organizations normally seek to protect themselves against external intrusions in order to maintain stability, schools have an additional interest in keeping a low profile and in avoiding controversy.

In addition to local pressures and controls, schools are faced with external influences from the federal and state level of the educational system. While Michigan community colleges are based upon the premise of local autonomy, federal and state funding of education presents an external influence that impinges upon that local autonomy.

While the power potential of the federal and state level bureaucracy is very great due to legal and financial impact, interviews of local school and university administrators by Barbe & Hall (1966) indicated an intolerance of federal or state intervention in local school activities. This could explain, to some extent, the myriad of unsuccessful diffusion efforts attempted by federal and state education agencies.

Although there is little literature specifically aimed at state education agencies in their diffusion efforts, Clark & Guba (1974, p. 2) describe the federal level inability to successfully effectuate diffusion efforts as:

"A cycle of failure in educational KPU productivity by: (1) establishing unachievable aspirations; (2) ignoring the goals of individual KPU practioners and individual KPU agencies in the total educational KPU community; (3) changing signals persistently (and frequently) in attempts to overcome evaluative failures; and finally (4) overcontrolling and overcentralizing programs which have been disappointing."

The abbreviation KPU in the above discussion was used by the authors to refer to knowledge production and utilization.

The perspective of Clark & Guba is reiterated in a Report on an Interstate Project on Dissemination (1976) sponsored by the National Institute of Education which stated that while many alternative solutions to educational problems have been developed, few of these solutions have been implemented in schools across the nation.

The previous discussion is endemic to the successful diffusion effort of the Michigan Department of Education involving the implementation of the Michigan Student Information System. The process developed and used to measure the effectiveness of these diffusion efforts is a vital link in providing appropriate feedback to these diffusion efforts.

CHAPTER III

METHODOLOGY

This chapter describes the methodology which was used in this study. This study is primarily designed to examine the efficacy of the Michigan Department of Education's efforts in the diffusion of the Michigan Student Information System to community colleges. This study provided useful information for decision-makers in determining future directions of the Michigan Student Information System. A significant by-product of this study was the development of a model for measuring the effectiveness of the diffusion strategies, and resulting baseline data, for future use in measuring the continuing effectiveness of the Michigan Student Information System.

In order to ensure the effectiveness of the diffusion strategies for the Michigan Student Information System (i.e., that the development and implementation met the needs of the community colleges), it was necessary to have, as an integral part of the diffusion process, a methodology for measuring both process and outcome factors. The evaluation process discussed in this chapter served as the basis for identifying and collecting information appropriate for improving the Michigan Student Information System from both a process and an outcome perspective.

The Michigan Student Information System Diffusion Flow Chart delineates the conceptual paradigm envisioned in the diffusion process utilized. The specific steps taken are discussed in detail in Appendix B. The development of the Diffusion Flow Chart was a culmination of a synthesis of Havelock's (1973) six stages of planned change (building a relationship, diagnosis, acquiring relevant resources, choosing the solution, gaining acceptance, and stabilizing the innovation and generating self-renewal), coupled with an experimental post hoc perspective of Michigan community colleges' receptiveness to change.

Diffusion Flow Chart

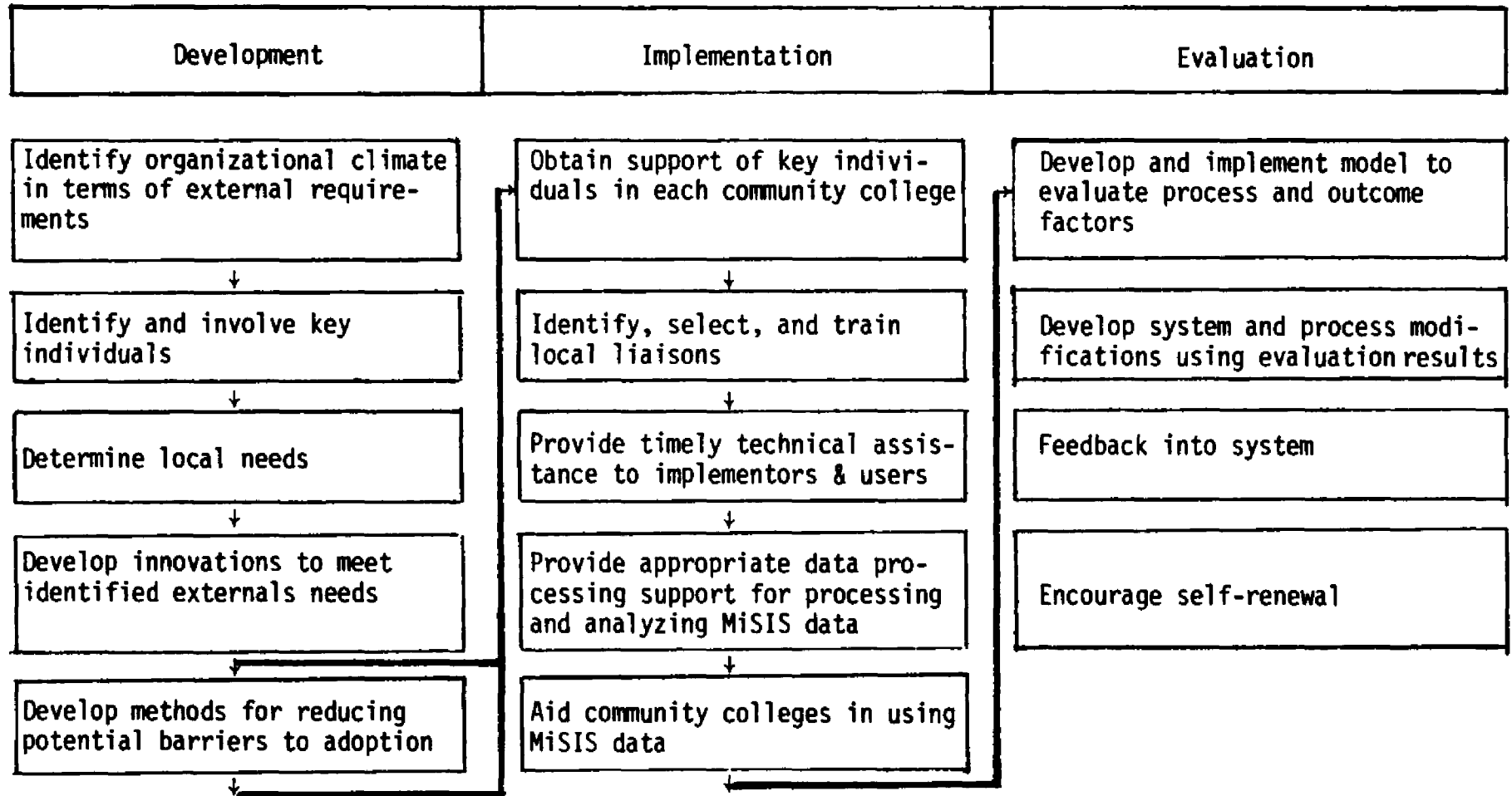
Development

The development of an innovation should include a number of considerations. The Michigan Student Information System Diffusion Flow Chart identifies five key steps to be accomplished in the development of an innovation.

Organizational Climate. Organizational receptivity to change is conditioned, to a large extent, on the organizational climate. An analysis of the organizational climate in Michigan community colleges in terms of external requirements represents the first step in the developmental process.

Key Individuals. The next step in the developmental process is the identification and involvement of key individuals from the community colleges to participate in the design of the

MICHIGAN STUDENT INFORMATION SYSTEM
DIFFUSION FLOW CHART



innovation. These individuals would serve as linkage agents, thereby ensuring credibility.

Local Needs. An innovation must be perceived to meet a local need in order to be adapted by a community college. The key individuals identified in the previous step would provide the primary input for determining local needs as they should be incorporated into the innovation.

Develop Innovation. Once the previous steps have been successfully taken, the actual development of the innovation can occur. During this development stage, potential barriers to adoption should be identified.

Barriers to Adoption. After the innovation has been developed and potential barriers to adoption have been identified, methods should be developed to reduce or eliminate the potential barriers to adoption. At this point the innovation is ready for the implementation stage.

Implementation

The central focus of this study is on evaluating the implementation of the Michigan Student Information System. Successful implementation usually includes several important steps.

Support of Key Individuals. Obtaining the support of key individuals in each community college is essential to gaining institutional acceptance of an innovation. Since the Michigan Student Information System was designed to be used by decision-makers, support from those individuals is particularly important.

Local Liaisons. The key individuals are utilized to identify and select a local liaison to facilitate the establishment of a communication network, both internally and externally, needed for diffusion of the innovation. The local liaisons then receive training specific to utilization of the innovation.

Technical Assistance. As the local liaisons effectuate the implementation of the innovation at the local institution, timely technical assistance should be provided to individuals responsible for particular operational aspects of the innovation.

Data Processing Support. A key step in ensuring successful implementation, especially with the Michigan Student Information System, is the provision of appropriate data processing support enabling processing and analyzing of appropriate data. The local institution needs access to the resources necessary to accomplish the activity in a timely, accurate fashion in keeping with institutional needs.

Aid in Use of Data. The final step in ensuring successful implementation is the provision of assistance in using the data resulting from the innovation.

Evaluation

The third phase of a diffusion process should be the application of an evaluative model designed to measure the effectiveness of the diffusion efforts.

Evaluation Model. An evaluative model should be developed and implemented which measures both outcome and process and process factors.

Develop Modifications. The information resulting from the evaluation process should be utilized to develop both system and process modifications.

Feedback. The modifications should be the basis for providing feedback into the system to make appropriate revisions as needed.

Encourage Self-Renewal. The evaluative process should be designed in a fashion which encourages self-renewal of the innovation.

The Study

Process and Design

The process used to design this study began with the establishment of an advisory committee consisting of community college personnel familiar with the Michigan Student Information System. The membership of the advisory committee included:

Fanny Caranikas, MiSIS Project Director

Samuel Mazman, Dean of Students
Westshore Community College

William O'Mahoney, Dean, Applied Services and Arts
Oakland Community College

George Paulson, Registrar
Henry Ford Community College

Robert Steely, Director of Occupational Programs
Kellogg Community College

Carol Wolenberg, Consultant, Community College Services
Michigan Department of Education

The primary role of the advisory committee was to develop a basic model for evaluating the Michigan Student Information System which guided the development of this study.

The following general research questions were presented to the advisory committee at their initial meeting of February 18 and 19, 1981:

1. Was the support of key individuals in each community college obtained?
2. Were local liaisons identified, selected, and trained?
3. Was timely technical assistance provided to implementors and users?
4. Was appropriate data processing support provided for processing and analyzing data from the Michigan Student Information System?
5. Were community colleges aided in using data resulting from the Michigan Student Information System?

At the initial meeting, the advisory committee developed three broad objectives:

1. To ascertain the current level of utilization and recommended changes regarding the Michigan Student Information System.
2. To assess the awareness of the Michigan Student Information System from the president's perspective.
3. To identify and recommend alternatives for maximizing resources to meet Michigan community college student information needs.

The committee then began development of the types of information which would be sought. A modified Delphi technique

was used to determine the specific information required, the appropriate information sources, methodology for collecting information, and the format for presentation of the findings. The committee generated listings of useful information required and then prioritized those listings. The list of prioritized areas was:

- A. Information required to ascertain the current level of utilization and recommended changes for the Michigan Student Information System.
 - 1. How is data collected?
 - 2. What types of data are collected?
 - 3. How is the data used?
 - 4. How is the data disseminated?
 - 5. Who uses the data?
 - 6. How are MiSIS processes utilized?
 - 7. How does MiSIS interface with each community college's management information system?
 - 8. What changes are recommended for MiSIS instrumentation, administration of surveys, and processing?
 - 9. What additional uses of the data are recommended for the future?
- B. Information required to assess the awareness of the Michigan Student Information System from the president's perspective.
 - 1. For what purposes do community college presidents need MiSIS information?
 - 2. What kind of information needs do presidents have?
 - 3. What presidential information needs are met by MiSIS?

- C. Information required to identify and recommend alternatives for maximizing resources to meet Michigan Community College student information needs.
1. Analysis of information from the first two objectives.
 2. What are the possible methods of service delivery?
 3. What are the community college capabilities for data processing?
 4. What are the alternatives for data processing and data display?

After developing the listing of necessary information, the committee identified appropriate data sources. In addition, various methodologies for collecting the information were discussed and the committee recommended that telephone surveys be conducted. The use of telephone surveys is discussed further in the data collection process portion of this chapter.

The basic design for this study was a multi-grouped, descriptive survey utilizing four populations. Since each population will be providing different types of information, cross group analyses were unnecessary. Further, since the study focused on full population, rather than samples, the analysis techniques were descriptive and included means, percentages, and frequencies.

Populations

This study gathered participants' ratings from four groups of interests. Individual respondents were identified at each of Michigan's 29 public community colleges in the following four functional or position categories: (1) MiSIS Implementors, (2) MiSIS Users, (3) Presidents, and (4) Data Processing

coordinators. To develop specific lists of implementors and users, the advisory committee suggested contacting the person at each college identified as the MiSIS Liaison and asked that individual to identify the person at that college chiefly responsible for implementation and/or use of the Michigan Student Information System. To identify the Data Processing Coordinator, the MiSIS Implementor was asked to name the individual chiefly responsible for the processing of MiSIS data.

Instrumentation

The advisory committee agreed to serve and assist in the development of the instruments from a content perspective. The first step was to generate the basic survey questions for each of the four interest groups. Most items were close-ended to allow for quantification of responses, with several open-ended questions to allow for probing. Questions were written with assistance from an item writer well versed in survey design to ensure that they were unbiased and clear.

The resulting draft surveys were then presented to the advisory committee which reviewed for content and suggested appropriate modifications. Based upon the results of the modifications, a second draft of instruments was prepared. The second draft preparation included the structuring of the survey, and instructions.

A dual piloting program to pilot test the instruments was then conducted. The first pilot was an in-house pilot wherein the

researcher telephoned the item writer and conducted the survey. This enabled an identification of unclear questions and the development of a time frame. The first pilot test resulted in minor modifications to the instruments and to the structure which were incorporated prior to conducting the second pilot.

The second pilot was conducted with three community colleges selected on the basis of significant level of involvement with the Michigan Student Information System and diversity in size and geographical location. Each of the four populations of interest were identified and surveyed. Based upon the results of the second pilot test, final modifications were made to the questionnaires.

Data Collection Procedures

Once the questionnaires were in their final form, the data collection phase was begun. It was necessary to identify telephone survey personnel with a strong expertise in telephone survey techniques. The telephone survey personnel selected were subjected to a thorough training session which included: (a) an explanation of the instruments, (b) background of the different populations to be surveyed, (c) a review of telephone interview techniques, (d) a brief orientation to the particular pedagogy to be expected, (e) a brief review of the Michigan Student Information System, and (f) practice calls sessions with each individual playing the role of the interviewer and then the interviewee.

The telephone interviewers were then supplied with lists of community college personnel, as previously described, and proceeded with conducting the telephone interviews.

CHAPTER IV

ANALYSES AND RESULTS

The purpose of this study was to conduct a post hoc analysis to determine the efficiency of the Michigan Department of Education's efforts in the diffusion of the Michigan Student Information System to community colleges. This chapter delineates the results of interviews conducted with MiSIS Implementors, MiSIS Users, Presidents, and Data Processing Coordinators at Michigan community colleges as those results relate to the implementation of the Michigan Student Information System.

Development

Analysis of the effectiveness of the developmental phase provided insight into the likelihood that adoption of the Michigan Student Information System would be perceived by the Michigan community colleges as beneficial.

Organizational Climate

The Michigan Student Information System was designed based upon the philosophical premise of locally autonomous community colleges having the option of choosing the level of participation in a system that would provide both data for local analyses and data for external reporting purposes.

Key Individuals

A developmental subcommittee was formed during the 1978-1979 academic year to develop the student flow component of the evaluation system into a complete system. Members of the subcommittee in the developmental phase included representatives from seven community colleges and from the Michigan Department of Education.

Local Needs

Members of the Michigan Student Information System developmental subcommittee articulated the perceived needs of local community colleges and these needs were incorporated into the system.

Develop Innovation

The Michigan Student Information System was developed during the 1978-1979 academic year with and by community college personnel to meet locally focused needs and state and federal reporting requirements. The system consisted of six subsystems which gathered information on student enrollment and follow-up issues.

Barriers to Adoption

Major issues relating to potential barriers to adoption included the need for technical assistance, the need for data processing support, and control of the system and the resulting data. Strategies were developed to provide appropriate technical assistance when needed, to support centralized data processing, and to establish a statewide committee of users of the system to control changes to the system and any data which resulted.

Implementation

The central focus of this study is on evaluating the effectiveness of the implementation of the Michigan Student Information System. Responses to survey questions were presented dealing with both process and outcome issues. The process responses provided a data base for evaluating the effectiveness of the diffusion process for the Michigan Student Information System. Outcome responses provided a data base for improving the Michigan Student Information System.

Three types of analytical techniques were used to analyze the data obtained during the interviews. The first technique was a frequency analysis of the responses to the close-ended survey items. Secondly, responses provided to open-ended items were categorized and narrative summarizations of these responses were developed. Finally, several survey items asked respondents to rate various aspects of the Michigan Student Information System. Means for each of these items were calculated.

Percentage computations have been rounded to the nearest whole percent to facilitate the reading of this information.

Of Michigan's 29 public community colleges, only one did not respond to the survey. The non-responding community college has consistently chosen not to participate in the Michigan Student Information System.

Of the four groups of interest surveyed, there were 27 respondents to the MiSIS Implementor Survey, 26 respondents to the MiSIS Users Survey, 26 respondents to the President's Survey, and

26 respondents to the Data Processing Coordinator Survey. All computations were based upon N=27 for MiSIS Implementor Surveys and N=26 for the rest of the respondent groups, unless otherwise noted.

Support of Key Individuals

Presidential Awareness. The survey of community college presidents included a total of nine items. The first area of concern focused upon whether the president was aware of the Michigan Student Information System. All 26 of the respondent presidents indicated they were aware of the Michigan Student Information System. The presidents were then asked how committed they felt their community college was to using various types of student follow-up data and to institutionalizing the Michigan Student Information System as a student follow-up system. Using a four point scale where 1 = totally committed and 4 = not at all committed, respondents gave a mean rating of 1.4 to using student follow-up data and 1.8 to institutionalizing the Michigan Student Information System as a student follow-up system. Although both responses are on the committed side of the continuum, using student follow-up data does appear to be more of a commitment.

Subsystem Analysis. The first area of investigation referred to the six subsystems in the Michigan Student Information System. The first question asked of the MiSIS Implementors determined the number of community colleges using each subsystem. As Table 1 reveals, the three most commonly used subsystems were:

Student Educational Intent, Graduate Follow-up, and Employer Follow-up. The subsystem reported least used by the MiSIS Implementors was the Continuing Education Follow-up. The second question of interest related to the existence of other student data collection systems used by the community colleges to collect similar information to that collected in the Michigan Student Information System. These responses are also displayed in Table 1. As the data indicate, the areas in which the largest number of respondents indicated other data collection processes existed were in the Student Educational Intent, followed by the Graduate Follow-up area, and then the Withdrawal Follow-up area.

MiSIS users were asked to identify the frequency of data usage from each of the six subsystems in the Michigan Student Information System. Table 2 presents a summary of the findings. As Table 2 indicates, the subsystem most commonly used was the Student Educational Intent, followed by the Graduate Follow-up. In addition to determining frequency of data usage, respondents were asked to identify the position of the person who uses each subsystem. In all subsystems, deans were identified as the individuals most often using resulting data. MiSIS Users were also asked to indicate other types of information used in decision-making processes. The most common responses given were: financial data, program enrollment, and leavers (using a system other than the Michigan Student Information System), employer information, economic factors, program evaluation, advisory committee input, community service, and faculty and student surveys.

TABLE 1.--Use of MiSIS Subsystems

Subsystem	Respondent Indicating Use of Subsystem		Respondents Indicating Same Data Collected Through A Similar System	
	Number	Percent*	Number	Percent*
Student's Educational Intent (I)	24	92	9	36
Withdrawal Follow-Up (II)	13	59	4	25
Non-Returning Student Follow-Up (III)	16	73	2	12
Graduate Follow-Up (IV)	21	88	6	27
Employer Follow-Up (V)	18	78	3	16
Continuing Education Follow-Up (VI)	3	19	0	0

*Percentage adjusted for non-respondents.

Respondent Group: MiSIS Implementor

TABLE 2.--Frequency of MiSIS Subsystem Data Usage

Subsystem	Total Number Responding	Mean*
Student's educational intent	26	1.8
Student withdrawal follow-up	26	2.8
Non-returning student follow-up	26	2.9
Graduate follow-up	25	2.4
Employer follow-up	25	2.8
Continuing education follow-up	25	3.8

*Based on a 4 point scale where 1 = very often and 4 = not at all.

Respondent Group: MiSIS User

The next area of concern dealt with the perceived importance of the data provided by each of the Michigan Student Information Systems' six subsystems. The six subsystems were identified and the presidents were requested, using a four point scale, to indicate how important it was for their community college to have the data provided by each of the subsystems. Table 3 contains a summary of the mean responses for each of the subsystems. It should be noted that all averages were on the positive side of the continuum. The most important areas indicated were Graduate Follow-up data and Student Withdrawal data. The least important area was Continuing Education Follow-up data.

The next question within this area dealt with the frequency of data collection for each of the subsystems as identified by

MiSIS Implementors. As Table 4 indicates, the subsystem for which the data were collected most often was the Student Educational Intent. Conversely, the subsystem for which data were collected least often was the Employer Follow-up. It should be noted, however, that for all subsystems MiSIS Implementors indicated data were frequently collected (mean less than 2.5).

TABLE 3.--Importance of Student Data Produced by MiSIS Subsystems

Type of Data	Number	Mean*
Student's educational intent	25	1.4
Student withdrawal	25	1.3
Non-returning students	25	1.4
Graduate follow-up	25	1.3
Employer follow-up	25	1.4
Continuing education follow-up	25	2.1

*Based on a 4 point scale where 1 = very important and 4 = not at all important.

Respondent Group: President

Local Liaisons

Staff Responsibilities. The first series of questions asked of the MiSIS Implementors and Users interviewed was designed to obtain a description of the respondent and the individual's role in the Michigan Student Information System. The first question asked if the respondent was both an implementor and a user.

Twenty-three of the respondents (92%) indicated they were both the implementor and the user. Secondly, the respondents were asked to identify their position in the community college. Tables 5 and 6 present these results. As Table 5 indicates, the largest number of respondents to the MiSIS Implementor Survey indicated that they were either the Dean of Student Services or a Placement Specialist. Fourteen (52%) of the respondents identified a position other than those listed on the survey. These positions included: Registrar, Records Officer, Director of Student Development, and Dean of Student Affairs.

TABLE 4.--Frequency of Data Collection

Subsystem	Number of Respondents	Mean*
Student's Educational Intent (I)	24	1.0
Withdrawal Follow-Up (II)	13	1.3
Non-Returning Student Follow-Up (III)	15	2.1
Graduate Follow-Up (IV)	21	1.9
Employer Follow-Up (V)	17	2.2
Continuing Education Follow-Up (VI)	3	1.7

*Based on a 4 point scale where 1 = very often and 4 = hardly ever.

Respondent Group: MiSIS Implementor

A total of 26 individuals were contacted who were identified as MiSIS Users. These individuals held a variety of positions

as summarized in Table 6. The most commonly reported position was Dean of Student Services followed by Guidance Counselor, and Dean of Occupational Education. In addition, 14 individuals indicated they had a position not identified on the survey. Some of these positions included: Associate Dean of Students, Director of Student Development, Vice President for Student Affairs, Registrar, Director of Admissions, and Director of Institutional Research.

TABLE 5.--Job Position of Implementors

Position	Respondents Indicating Position	
	Number	Percent*
Guidance Counselor	2	7
Dean of Occupational Education	0	0
Dean of Student Services	5	18
Placement Specialist	4	15
Faculty	0	0
Data Collection Specialist	0	0
Institutional Researcher	2	7
Other	14	52
a. Admissions Coordinator		
b. Dean of Academic Services		
c. Dean of Student Affairs		
d. Director of Institutional Management Studies		
e. Director of Occupational Planning		
f. Director of Student Development		
g. Records Officer		
h. Regional Assistant Dean		
i. Registrar		

*Based on N=27 respondents.

TABLE 6.--Job Position of Users

Position	Respondents Selecting Position	
	Number	Percent*
Guidance Counselor	2	8
Dean of Occupational Education	2	8
Dean of Student Services	7	27
Placement Specialist	1	4
Faculty	0	0
Department Chairperson	0	0
Other	14	54
a. Associate Dean of Students		
b. Director of Student Development		
c. Vice President for Student Affairs		
d. Dean of Student and Community Services		
e. Records Officer		
f. Registrar		
g. Dean of Business		
h. Director of Admissions and Registrar		
i. Dean of Instruction		
j. Director of Institutional Research		
k. Dean of Academic Services		
l. Assistant Dean for Vocational Education		

*Based on N=26 respondents.

Another demographic question asked the MiSIS Implementors and Users to identify their responsibilities in the Michigan Student Information System. A summary of their responses are presented in Tables 7 and 8. As Table 7 indicates, large percentages of the MiSIS Implementors indicated their responsibilities included data collection, data organization, data analysis, and overall

administration of the Michigan Student Information System process in the college. Another area of concern related to the local MiSIS Users committee. Approximately one-half of the implementors indicated they were on the local MiSIS Users committee; and 85% of these individuals indicated the local user's committee was functional. Sixteen of the 26 MiSIS User respondents (62%) indicated there was a local MiSIS Users committee. All 16 of the users that indicated there was a local MiSIS Users committee indicated they were on the committee.

TABLE 7.--Implementors' Role in MiSIS

Role	Respondents Having This Role*	
	Number	Percent
Data collector	23	85
Data organizer	23	85
Data analyzer	23	85
Overall administration of MiSIS process	25	96
Member of the statewide MiSIS users committee	7	26
Member of the local MiSIS users committee	13	48

*Based on N=27 respondents.

MiSIS Users were asked to identify the ways in which the Michigan Student Information System data were interpreted for use in decision-making processes. Four responses were possible: interpretation by the MiSIS User, interpretation with the aid of

a research department, interpretation with the aid of the local users committee, or interpretation by an outside party. The most commonly selected option (N=12, 46%) was interpretation by the MiSIS User, as indicated in Table 8. Several respondents identified alternative ways in which they interpreted the data and were recorded in the "other" category. These responses included: by the Users committee only, at general meetings, by the president and cabinet, and by the director of the curriculum office.

TABLE 8.--Users' Interpretation of MiSIS Data

Response Options	Respondents Selecting Option*	
	Number	Percent
Interpret the information by yourself	12	46
Interpret the information with the aide of a research department	5	19
Interpret the information with the aide of the local user's committee	6	23
Someone else interprets the data and provides me with the results	0	0
Other	8	31
a. Interpret with aide of Director of Placement, Job Developer, and Vice-President of Student Services		
b. Interpret with the aide of Director of Institutional Research, faculty, and administration		
c. Interpret with Dean of Instruction and division chairperson		
d. Interpret with Director of Curriculum		
e. Interpreted by persons using data		

TABLE 8.--Continued

Response Options	Respondents Selecting Option*	
	Number	Percent
f. Interpreted at general meetings		
g. Interpreted by User's Committee only		
h. Subject to interpretation by President and cabinet		

*Based on N=26 respondents.

MiSIS Implementors were next asked to indicate if anyone assisted them in the data collection process. Eighteen of the respondents (67%) indicated someone did assist them in the data collection process. Table 9 identifies the positions of these individuals. As Table 9 indicates, the majority of respondents selected the "other" option and identified positions assisting in the data collection process as: records office, registrar's office, and staff.

Technical Assistance

Desirable Types. Another area of concern centered around technical assistance. MiSIS Implementors, Users, and Presidents were asked to identify those areas in which technical assistance would be desirable. Table 10 provides a summary of the responses collected from the MiSIS Implementors. The four areas of technical assistance which over half of the implementors indicated would be beneficial were: using data from the Michigan Student Information System to complete the Vocational Education Data

System reporting requirements (N=14, 52%), information on state and federal student information reporting requirements (N=15, 56%), using input from the User committee (N=14, 52%), and inservice in report writing based on data from the Michigan Student Information System (N=16, 59%).

TABLE 9.--Implementors' Position of Individuals Assisting in the Data Collection Process.

Position	Respondents Indicating Position	
	Number	Percent*
Guidance Counselor	2	7
Institutional Researcher	0	0
Placement Specialist	3	11
Other Data Collection Specialists	2	7
Other	18	67
a. Dean of Students and Staff		
b. Records Office		
c. Registrar's Office		
d. Registrar plus instructors		
e. Registrar plus Director of Career Planning		
f. Research and development unit		
g. Staff		
h. Anyone who comes in contact with students		

*Based on N=27 respondents.

Table 11 presents a summary of types of technical assistance desired by MiSIS Users. As Table 11 indicates, the two areas of technical assistance which the largest number of users indicated would be desirable were: ways to use the information and

the use of the Michigan Student Information System in conjunction with the Program Review in Occupational Education. In addition, several respondents indicated a need for technical assistance in areas not listed including: additional staff for coding data, inservice for transmitting data by computer tape, and the ability to talk to all technical persons.

TABLE 10.--Implementors' Areas of Technical Assistance Identified as Beneficial.

Technical Assistance Areas	Respondents Selecting Areas	
	Number	Percent*
Administration of MiSIS instruments	13	48
Organization of MiSIS data/results	12	44
Inservice in the use of MiSIS data collection forms	11	41
Inservice in the uses of each of the six MiSIS subsystems	12	44
Using MiSIS information to complete VEDS reporting requirements	14	52
Inservice in general survey methodology	12	44
Inservice in state and federal student information reporting requirements	15	56
Using input from the Users Committee	14	52
Inservice in report writing based upon MiSIS data	16	59

*Based on N=27 respondents.

TABLE 11.--Users' Technical Assistance Areas Identified as Useful.

Area	Respondents Wanting Technical Assistance*	
	Number	Percent
Interpretation of data	16	62
Ways to use information	19	73
Program planning based on MiSIS data	16	62
Presentation/format of data	17	65
Use of MiSIS in conjunction with PROE	19	73
Inservice in one or more of the subsystems	10	38
Overseeing the implementation of MiSIS	10	38
Developing presentations based on MiSIS	14	54
Other	5	21
a. Ability to talk to all technical persons		
b. Combine workshops that MiSIS has had		
c. For transmitting data (computer tape)		
d. "Robust" treatment of the data		
e. Send a coder for the cards		

*Based on N=26 respondents.

Table 12 presents a summary of the Presidents' responses identifying potential technical assistance offerings to better enable community colleges to use the Michigan Student Information System. As Table 12 indicates, six of seven types of technical assistance were considered useful by more than half of the presidents. The most commonly selected types of technical assistance were: interpretation of data, use of data from the Michigan

Student Information System in conjunction with data from the Program Review in Occupational Education, and ways to use the information provided by the system.

TABLE 12.--Presidents' Types of Technical Assistance Perceived to Better Enable the Community College to Use MiSIS.

Technical Assistance	Total Responding	Responding Yes	
		Number	Percent
Developing presentations based on MiSIS data	25	15	60
Interpretation of data	25	17	68
Overseeing implementation of MiSIS	25	12	48
Presentation/format of data	25	13	52
Program planning based on MiSIS data	25	14	56
Use of MiSIS in conjunction with PROE	24	16	67
Ways to use information provided by MiSIS	25	16	64
Other	21	5	24
a. Comprehensive view of what other colleges are doing			
b. Overall information presenta- tion to college-wide audience			
c. Need for statewide data			

Preferred Method. Respondents were also asked to indicate the preferred method for receiving the technical assistance. Table 13 provides a summary of MiSIS Implementor responses. As Table 13 indicates, the two methods preferred by the largest number of

implementors were on-site visitations and a regional conference. Table 14 provides a summary of MiSIS User responses regarding the preferred method of providing the technical assistance. As Table 14 indicates, the method preferred by the largest number of users was an on-site technical assistance visit. One respondent provided a method not listed as a survey option: providing a user's manual to each community college.

TABLE 13.--Implementors' Preferred Method of Technical Assistance

Method	Respondents Selecting Method	
	Number	Percent*
Phone contact	5	18
On-site visit	17	63
Regional conference	15	56
Information pamphlets	5	18
Self-instructional guides	11	41

*Based on N=27 respondents.

Another area of concern related to the ease of understanding and completing the Michigan Student Information System forms from the perspective of the MiSIS Implementors (respondents). As Table 15 indicates, the respondents did not identify any problems in understanding or completing the forms.

The MiSIS Implementors were then asked several questions concerning difficulties encountered in implementing the Michigan

TABLE 14.--Users' Preferred Methods of Providing Technical Assistance.

Method	Respondents Selecting Method	
	Number	Percent*
Staff inservice	5	19
Telephone consultation	4	15
On-site technical assistance visit	16	62
Statewide conference of MiSIS users	3	12
Regional workshops	7	27
Other	1	4

*Based on N=26 respondents.

TABLE 15.--Implementors' Rating of MiSIS Forms

Topic of Rating	Number of Respondents	Mean Response*
Ease of understanding MiSIS forms	27	1.4
Ease of completing MiSIS forms	27	1.7
Ease of respondent's understanding MiSIS forms	26	2.1
Ease of respondent's completing MiSIS forms	27	2.2

*Based on a 4 point scale where 1 = very easy and 4 = very difficult.

Student Information System. The first question of interest concerned the difficulty of collecting information for each of the

subsystems. While none of the subsystems were given a mean rating of 3.0 (hard) by the MiSIS Implementors, two subsystems, Non-Returning Student Follow-Up and Employer Follow-Up, were given mean ratings of 2.6 which is approaching difficult. These data are presented in Table 16. The MiSIS Implementors also indicated the two easiest subsystems to collect information for were Student Educational Intent and Continuing Education Follow-Up.

TABLE 16.--Implementation Difficulties Encountered by MiSIS Implementors.

Subsystem	Number of Respondents	Mean Response*
Student's Educational Intent (I)	24	1.7
Withdrawal Follow-Up (II)	13	1.9
Non-Returning Student Follow-Up (III)	15	2.6
Graduate Follow-Up (IV)	21	2.1
Employer Follow-Up (V)	17	2.6
Continuing Education Follow-Up (VI)	3	1.7

*Based on a 4 point scale where 1 = very easy and 4 = very hard.

The second question related to the difficulty of instrument administration by mail. This question was not applicable to the Student Educational Intent subsystem. As Table 17 indicates, none of the MiSIS Implementors perceived this to be a particularly difficult task for the five subsystems for which this was applicable as all means were 2.5 or less (on the easy side of the continuum).

TABLE 17.--MiSIS Implementors' Difficulty of Instrument Administration by Mail.

Subsystem	Number of Respondents	Mean*
Student's Educational Intent	Not Applicable	
Withdrawal Follow-Up	11	2.2
Non-Returning Student Follow-Up	15	2.1
Graduate Follow-Up	19	1.7
Employer Follow-Up	16	2.1
Continuing Education Follow-Up	3	1.7

*Based on a 4 point scale where 1 = very easy and 4 = very hard.

The third question of interest related to the difficulty in preparing data for processing. In three of the subsystems, MiSIS Implementors indicated there was some difficulty in preparing data for processing. These subsystems were Student Educational Intent, Non-Returning Student Follow-Up, and Graduate Follow-Up. These data are provided in Table 18.

The fourth question asked related to the difficulty in determining the best way to utilize data. As Table 19 indicates, MiSIS Implementors indicated this was a problem for only two of the subsystems; Non-Returning Student Follow-Up and Continuing Education Follow-Up both had means on the "hard" side of the continuum.

The fifth and final question asked related to the difficulty in obtaining a 50 percent response rate to mail surveys. As

Table 20 indicates, this was difficult in two subsystems (Graduate Follow-Up and Employer Follow-Up) and very difficult in one subsystem (Non-Returning Student Follow-Up).

TABLE 18.--Implementors' Difficulty in Preparing Data for Processing.

Subsystem	Number of Respondents	Mean Response*
Student's Educational Intent	24	2.8
Withdrawal Follow-Up	11	2.0
Non-Returning Student Follow-Up	12	2.8
Graduate Follow-Up	19	2.6
Employer Follow-Up	16	2.2
Continuing Education Follow-Up	3	2.3

*Based on a 4 point scale where 1 = very easy and 4 = very difficult.

TABLE 19.--Implementors' Difficulty in Determining the Best Way to Utilize Data.

Subsystem	Number of Respondents	Mean Response*
Student's Educational Intent	19	2.3
Withdrawal Follow-Up	10	2.1
Non-Returning Student Follow-Up	10	2.7
Graduate Follow-Up	16	2.3
Employer Follow-Up	13	2.3
Continuing Education Follow-Up	3	3.0

*Based on a 4 point scale where 1 = very easy and 4 = very hard.

TABLE 20.--Implementors' Difficulty in Obtaining at Least a 50 Percent Response Rate.

Subsystem	Number of Respondents	Mean Response*
Student's Educational Intent	Not Applicable	
Withdrawal Follow-Up	12	2.4
Non-Returning Student Follow-Up	14	3.5
Graduate Follow-Up	19	2.7
Employer Follow-Up	16	2.6
Continuing Education Follow-Up	3	2.3

*Based on a 4 point scale where 1 = very easy and 4 = very hard.

Data Processing Support

Research. The next area of concern is examining community colleges' data processing orientation related to research capabilities. Ten MiSIS Implementors (37%) indicated their community college had an individual who performed a research function. Nine of these implementors (90%) indicated this person provided assistance in Michigan Student Information System activities. As Table 21 indicates, the two areas of assistance which were most commonly provided were data collection and interpretation of results.

MiSIS Users were also questioned as to whether or not the community college performed a research function. Fourteen of the respondents (54%) indicated their community college did perform a research function. Research at the local level was the only category where more than ten percent of the users indicated the

community college conducted research. Twelve users (46%) indicated they conducted research on the local level. Data processing utilized for the community college research function included: the community college's own data processing equipment (N=11, 42%), an agreement with an external service bureau (N=2, 8%), a university (N=4, 15%), or by hand tabulation (N=1, 4%).

TABLE 21.--Implementors' Assistance Provided by Research Person Relative to MiSIS.

Assistance	Respondents Indicating Assistance Provided	
	Number	Percent*
Designing analysis plans	5	56
Data collection	7	78
Data coding/editing	5	56
Interpretation of results	6	67
Running the computer	5	56
Report writing	5	56
Other	1	11

*Based on N=9 respondents.

Data Processing Capability. The next area of concern related to computerized data processing capabilities at the community colleges.

A total of 26 data processing coordinators were contacted during the survey process to provide information about the data

processing capabilities of their systems. Table 22 summarizes the various data processing arrangements of the community colleges interviewed. All of the Data Processing Coordinators indicated that their community college used computers as opposed to some form of hand tabulation. As Table 22 indicates, the majority of the community colleges (N=19, 73%) have their own central computer. The remaining schools have contracted for these services either through external service bureau (N=5, 19%) or a K-12 district (N=3, 12%). The data processing coordinator also indicated that most of the community colleges utilize computers for both administrative and instructional purposes (N=16, 64%), while some utilize computers only for administrative purposes (N=7, 28%), and only a few utilize computers for instructional purposes only (N=2, 8%).

TABLE 22.--Data Processing Coordinators' Data Processing Arrangements

Arrangement	Respondents Seeking Arrangement	
	Number	Percent*
Through an agreement with K-12 system	3	12
Through our own central computer	19	73
Through an agreement with an external service bureau	5	19
Computers are not used	0	0
Individual department or programs do their own data processing on micro computers	2	8
Other	3	12

*Based on N=26 respondents.

Table 23 summarizes the MiSIS User's response to the use of computers for administrative and/or instructional purposes. As Table 23 indicates, half of the MiSIS Users indicated the computers were used for both administrative and instructional purposes. In addition, 11 users (44%) indicated they had priority access for data processing while 12 users (48%) indicated they did not have priority access for data processing. Finally, MiSIS Users were asked if the computer system at their community college was adequate for their needs. Only nine users (38%) indicated their computer system was adequate for their needs.

TABLE 23.--Primary Purpose of Computer/Data Processing System

Purpose	Respondents Identifying as Primary Purpose	
	Number	Percent*
Administrative	9	35
Instructional	4	15
Both	13	50

*Based on N=26 respondents.

In terms of the availability of computerized data processing at the community college, 10 of the Presidents (39%) indicated that the primary use of computers was administrative, three of the Presidents (12%) indicated it was instructional, while another 10 Presidents (39%) indicated it was both. Three of the Presidents (12%) indicated they did not have a computer.

The next area of concern dealt with the type of computer facilities the community colleges had. For the most part, Presidents indicated the community college had available a large main-frame computer, with smaller proportions indicating mini (42%) and micro (27%) computer facilities available.

Data Processing Capacity. Data processing coordinators were asked to identify the type of computer, the level of processing capacity, and the storage capability. Table 24 summarizes the type of computer systems available at the community colleges. As Table 24 indicates, 21 data processing coordinators (81%) indicated that their college utilizes a large main-frame computer. Thirteen respondents (50%) also indicated that mini and/or micro computers were available. Table 25 provides a summary of the computer core storage within the community college's data processing systems. As Table 25 indicates, most of the community colleges have a large, over 128k, storage (N=21, 80%). The remaining five colleges responding to the survey have a core memory storage ranging from 16k up to 128k. The type of data storage is summarized in Table 26. As Table 26 indicates, the most often utilized storage media appears to be the hard disk (N=20, 77%), followed by the magnetic tape (N=14, 54%). The next question asked if the data processing coordinator sought to identify the storage capability of the computer systems. Table 27 summarizes the responses to the storage capability concern. As Table 27 indicates, the majority of data processing coordinators (N=19, 79%) were unaware of the storage capability of their computer systems.

TABLE 24.--Data Processing Coordinators' Computer Systems
Available at Community Colleges.

Type of System	Community Colleges Having System	
	Number	Percent*
Large mainframe	21	81
Micro/mini computer	13	50
Other	2	8
No system	1	4

*Based on N=26 respondents.

TABLE 25.--Data Processing Coordinators' CPU (Ram) Size.

K	Respondents Indicating Category	
	Number	Percent*
16-32k	1	4
33-48k	1	4
49-64k	2	8
65-128k	1	4
Above 128k	21	81

*Based on N=26 respondents.

TABLE 26.--Data Processing Coordinators' Type of Data Storage

Type	Respondents Indicating Type	
	Number	Percent*
cassette tape	1	4
5¼" floppy disk	0	0
8" floppy disk	5	19
hard disk	20	77
magnetic tape	14	54
Other	1	4

*Based on N=26 respondents.

TABLE 27.--Data Processing Coordinators' Amount of Storage Space.

Storage Capability	Respondents Having Capability	
	Number	Percent*
below 1 megabyte	1	4
1-2 megabytes	2	8
3-10 megabytes	0	0
11-15 megabytes	0	0
26-20 megabytes	0	0
20-30 megabytes	0	0
above 30 megabytes	2	8
unknown	19	79

*Based on N=24 respondents.

The next area of concern dealt with the programming and software capability of community colleges. The question asked of the data processing coordinator which identified the types of programming languages used in community colleges resulted in multiple responses because most systems use more than one programming language. Table 28 summarizes responses to this question. As Table 28 indicates, most of the data processing coordinators (N=23, 88%) utilize COBOL as a programming language, 15 data processing coordinators (58%) use FORTRAN, and 12 data processing coordinators (46%) use a BASIC language. Table 29 summarizes the staff capability to develop software as identified by the data processing coordinators. As Table 29 indicates, 19 colleges (73%) utilize their own staff to write specialized programs and seven colleges (27%) use an outside consultant. Fifteen of the respondents (58%) also indicated having "canned" software on their system, generally in the areas of administration and management.

Another area of concern was utilization of micro computers. The community colleges interviewed indicated a majority utilized micro computers in classroom instruction (N=21, 81%). Table 30 summarizes the brand of micro computers currently in use. As Table 30 indicates, 13 of the respondents (50%) have Radio Shack computers, 11 respondents (42%) have Apple computers, and six respondents (23%) have PET computers.

TABLE 28.--Data Processing Coordinators' Type of Programming Language Used.

Language	Respondents Indicating Use of Language	
	Number	Percent*
BASIC	12	46
COBOL	23	88
FORTRAN	15	58
PL/I	2	11
Others	9	35
a. RPG		
b. PPQ-2		

*Based on N=26 respondents.

TABLE 29.--Data Processing Coordinators' Individuals Performing Programming Task.

Individual	Respondents Selecting Individual	
	Number	Percent*
Community college staff	19	73
External Consultant	7	27
Other	1	4

*Based on N=26 respondents.

TABLE 30.--Data Processing Coordinators' Micro-Computer Types.

Type	Community Colleges Having Type	
	Number	Percent*
Radio Shack	13	50
Apple	11	42
PET	6	23
Atari	1	4
Commodore	1	4
Other	3	11

*Based on N=26 respondents.

Data Processing Alternatives. The final area of concern regarding data processing was identifying the best alternative for meeting the community colleges' needs for processing data from the Michigan Student Information System. The Presidents were given three data processing analysis schemes and asked to rate how efficient each would be in meeting their data processing needs for data from the Michigan Student Information System. Table 31 presents a summary of the responses. As Table 31 indicates, designing a system for data processing and analysis of Michigan Student Information System data on the college's central computer was noted as most efficient by the Presidents.

MISIS Users were asked whether it would be useful to have their own computer system for analysis of data resulting from the Michigan Student Information System. Table 32 summarizes the

responses to this question. As Table 32 indicates, 20 MiSIS Users (80%) indicated they would find it useful to have their own computer system for analyzing data from the Michigan Student Information System.

TABLE 31.--Presidents' Perceived Efficiency of Various Data Processing Schemes for MiSIS Data.

Scheme	Number	Mean*
Designing a system for MiSIS data processing/analysis which could be used on your college's central computer	21	1.6
Having an independent hardware/software system designed exclusively for use with the MiSIS system	22	2.2
Using a service bureau external to your community college	24	2.2

*Based on a 4 point scale where 1 = very efficient and 4 = very inefficient.

TABLE 32.--Users' Utility of Own Computer System

Response	MiSIS Users Selecting Response	
	Number	Percent*
Yes	20	80
No	3	12
Unsure	2	8

*Based on N=25 respondents.

The data processing coordinators were then asked if, given their current resources, they could process an additional 10,000 forms, three times a year, for the Michigan Student Information System data. Sixteen of the data processing coordinators (61%) indicated it was possible on their current systems. The remaining 10 data processing coordinators (39%) indicated they would not be able to complete additional processing. Those who could not process the additional data were asked under what conditions they would be able to accomplish the processing. Responses included:

1. Cannot say--not familiar with MiSIS
2. Need to work with an intermediate school district
3. Need additional staff and/or new computer
4. Need a fast printer
5. Need a completely different system

Aid in Use of Data

Usefulness. Tables 33 and 34 identify the most useful and least useful features of the Michigan Student Information System from the MiSIS Implementors' perspective. As Table 33 indicates, "getting information needed to comply with the Vocational Educational Data System reporting requirements" and "establishing a data base of enrollment follow-up for internal use" were the two factors most commonly identified by implementors. Some of the other features identified by respondents as useful were information for recruitment and providing a standardized format for longitudinal studies.

Table 34 indicates that the feature identified as least useful by the largest number of respondents was "too much work in

form preparation for processing." Additional features identified as least useful by implementors included demographic data and the last item of the Student Education Intent Card which gathers data on special assistance needs of students.

TABLE 33.--Implementors' Feature of MiSIS Most Useful.

Feature	Respondents Selecting Feature	
	Number	Percent*
Getting information needed to comply with VEDS reporting requirements	7	26
Establishing a data base of enrollment and follow-up for internal use	9	33
Provides a standardized format for data allowing community colleges to share this information	1	4
The technical assistance available	0	0
Other	15	56
a. Graduate feedback from follow-up		
b. SEI form		
c. VEDS		
d. Providing a standardized format for longitudinal studies		
e. Cost assumed by outside source		
f. Good information for recruitment		
g. Compiled information available		
h. General information provided		

*Based on N=27 respondents.

The MiSIS Users were asked three questions related to the use of the Michigan Student Information System in completing Vocational Education Data System reporting requirements. Twenty-two

TABLE 34.--Implementors' Feature of MiSIS Least Useful.

Feature	Respondents Selecting Feature	
	Number	Percent*
Dependency on central processing	0	0
Lack of ability to individualize type of data collected	1	4
Too much work in form preparation for processing	3	11
The format of the data returned is not useful to our institution	1	4
Other	19	70
a. Student withdrawal		
b. Continuing education		
c. Demographic data		
d. Non-returning continuing education		
e. Community services		
f. Coding responses		
g. #7 of SEI		
h. Employer information		

*Based on N=27 respondents.

of the 25 respondents (88%) indicated they did use the Michigan Student Information System to complete Vocational Education Data System reporting requirements. The three respondents indicating they did not use the Michigan Student Information System for the Vocational Education Data System reporting requirements were aware of the fact that the system could be used in that way. In response to the question of whether or not it was easy to use the Michigan Student Information System for Vocational Education Data System reporting requirements 16 of 19 respondents (84%) indicated that

the Michigan Student Information System was easy to use in this way.

Client Groups. The next area of concern dealt with the dissemination of information from the Michigan Student Information System. Table 35 summarizes the groups to which data was presented as identified by the MiSIS Users. A review of Table 35 reveals that the largest number of users indicated that the president was a recipient of the information, followed by faculty members, Boards of Trustees, advisory committees, and the Michigan Department of Education. The receivers were most commonly presented the data for information purposes only (N=21, 81%), to provide feedback (N=13, 50%), and for decision-making purposes (N=15, 58%). Groups identified by the users as having the greatest impact on the decision-making process were the Board of Trustees, the president, administration and faculty.

Current and Planned Uses. The next area of concern dealt with ways in which the Michigan Student Information System was currently being used and ways in which it was planned to be used in the future. Table 36 summarizes the MiSIS User responses obtained for these two questions. As Table 36 indicates, the three current uses of the Michigan Student Information System most commonly identified by the users were promoting communications among administration and faculty, institutional research, and identifying special needs of students. The three uses currently used by the least number of users were cost effectiveness studies, determination

TABLE 35.--Users' Dissemination of MISIS Information.

Group/Individual	Respondents Identifying Group/Individual	
	Number	Percent*
Faculty	23	88
Students	14	53
Board of Trustees	21	81
Advisory Committee	21	81
Community	18	69
Michigan Department of Education	21	81
Other community colleges	13	50
President of the college	24	92
Other	5	19
a. Administrative staff		
b. External agencies		
c. Legislative/Department of Commerce		
d. Research firms doing sub-contract work		

*Based on N=26 respondents.

of employment success of students in non-traditional occupations and labor market information. One difference between the responses obtained to the current use versus the planned use of the Michigan Student Information System was that MISIS Users indicated a greater planned use of the system than current use. This may be due to an increased familiarity with the system coupled with the relative newness of the system. The four most commonly identified planned uses of Michigan Student Information System data were career

TABLE 36.--Users' Uses of MiSIS.

Uses	Currently Using			Plan to Use		
	Number Responding	Number	Percent	Number Responding	Number	Percent
Career counseling with students	25	13	52	23	22	96
Identifying needed student services and instructional enhancement activities	24	13	54	25	24	96
Institutional planning and program evaluations	24	14	58	26	23	89
Student recruitment	25	9	36	26	21	81
Institutional research	25	16	64	26	25	96
Community public relations	24	13	54	26	23	89
Labor market information	24	7	29	25	17	68
College promotion activities	24	14	58	26	22	85
Communications with local occupational advisory committees	25	13	52	26	24	92
Communications with accreditation visit teams	24	11	46	26	23	89
Producing information for students as educational consumers	25	9	36	26	22	85

TABLE 36.--Continued.

Uses	Currently Using			Plan to Use		
	Number Responding	Number	Percent	Number Responding	Number	Percent
Development of curricula	25	12	48	25	22	88
Promoting communications among administration and faculty	25	19	76	25	24	96
Identifying special needs of students	25	15	60	26	24	92
Determination of employment success of students in non-traditional occupa- tions	25	7	28	26	22	85
Cost effectiveness studies	24	4	17	25	16	64
Formulating college policies and guidelines	26	11	46	25	22	89
Communication and sharing of data among colleges	25	9	36	26	23	89

counseling with students, identifying needed student services and instructional enhancement activities, institutional research, and promoting communications among administration and faculty. The two uses of the Michigan Student Information System data which the least number of MiSIS Users identified as planned uses were cost effectiveness studies and labor market information. Several users provided responses not on the survey in terms of ways in which the system was currently used. Some of these included:

1. Board of Trustees reports
2. Legislature discussions
3. Feedback to local high schools
4. Placement brochures
5. Public relations

Data Output Analysis

MiSIS Users were also asked to rate the utility of the data, completeness of the data, and ease of understanding the data relative to the computer printouts received. Table 37 presents a summary of the responses to these questions. As Table 37 indicates, the MiSIS Users felt that the data was complete, easy to understand, and useful. MiSIS Users were also asked, however, if the data would be more useful if it was provided in another form. Of the 22 respondents to this question, 10 (45%) indicated the data would be more useful if it was provided in another form. Related to this concern, MiSIS Users were also asked if the turn-around time between submission of the data and return of results was adequate. Twenty of the 26 respondents (77%) indicated the turn-around time was adequate. However, when asked if the users

would be able to make more use of the data if the turn-around time was shorter, 15 of the 25 respondents (60%) indicated they would be able to make more use of the Michigan Student Information data if the turn-around time was shorter. Optimal turn-around time was identified as between two and four weeks.

TABLE 37.--MiSIS Users' Rating of MiSIS Data Received in Computer Printouts.

Category	Number of Respondents	Mean Rating
Completeness of data*	23	1.7
Ease of understanding data**	23	2.0
Utility of the data+	24	2.0

*Based on a 4 point scale where 1 = very complete and 4 = incomplete.

**Based on a 4 point scale where 1 = very easy and 4 = very hard.

+Based on a 4 point scale where 1 = very useful and 4 = useless.

Several analysis techniques were presented to MiSIS Users and they were asked to indicate if each analysis would be beneficial. Table 38 provides a summary of the analysis techniques identified and the number of MiSIS Users indicating usefulness of each. As Table 38 indicates, the two analysis techniques identified by the largest number of respondents as useful were cross-tabulations of data and a longitudinal analysis comparing results from one term or semester to a previous one. It should be noted that all analysis techniques were identified as useful by at least half of the MiSIS Users.

TABLE 38.--MiSIS Users' Use of MiSIS Data Analysis Techniques.

Analysis Technique	Respondents Indicating Technique Would Be Useful	
	Number	Percent*
Frequency analysis of data	22	85
Cross-tabulation of data	25	96
Typewritten copies of tables as opposed to computer printouts	15	58
Special data runs for:		
a. targeted impact groups	23	85
b. targeted reading audiences	13	50
Longitudinal analyses comparing results from one term or semester to a previous one	24	92

*Based on N=26 respondents.

The Presidents were asked how useful each type of data analysis would be for decision-making needs. Six types of analyses were identified. Table 39 contains a summary of the responses. All of the types of analyses were rated as being on the useful side of the continuum (mean response less than 2.5) with five of the six having averages between 1.4 and 1.8. As Table 39 indicates, the most useful type of analysis was special data runs for target impact groups followed by longitudinal analyses comparing results from one term or semester to a previous one. It should be noted that these two types of analysis are not currently provided in the Michigan Student Information System.

TABLE 39.--Presidents' Usefulness of Various Types of Data Analysis for Decision-Making Needs.

Type of Analysis	Number	Mean*
Comparing answers to similar questions from different surveys	25	2.1
Cross tabulations	25	1.6
Frequency analyses	24	1.6
Longitudinal analyses comparing results from one term or semester to a previous one	25	1.6
Special data runs for:		
a. target impact groups	25	1.4
b. targeted reading groups/audiences	25	1.8

*Based on a 4 point scale where 1 = very useful and 4 = not at all useful.

The Presidents were also asked which ways they thought it would be most useful to receive data from the Michigan Student Information System. The three options provided were computer printouts only, prepared tables with narrative, and a short summary highlighting the findings. The Presidents overwhelmingly indicated that short summaries highlighting key findings and prepared tables with narrative were most useful. Only one President indicated that the computer printouts only would be useful. Two of the presidents did not provide any indication.

A listing of ways in which the information could be used was also provided to the presidents who were asked to indicate if the information was useful and, if so, with whom they would use the information. A summary of the responses is provided in

Table 40. In reviewing this table, it is interesting to note that for each type of information, the majority of the presidents found it would be useful. As Table 40 indicates, the most useful types of information were determination of employment success of students in non-traditional occupations (N=23, 96%), communication with accreditation visit teams (N=22, 92%), and community public relations such as millage requests (N=22, 92%). Table 40 also indicates that the information would be used with a wide range of different constituencies.

TABLE 40.--Presidents' Utility of Information Provided by MISIS.

Type of Information	Respon. Indicated Info. is Useful		Legislative		Groups With Whom Respondents Use Information									
					Bus./Indus.		Bd. of Trustees		MDE		Community		Other	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Communication with accreditation visit teams	22	92	10	39	9	35	16	62	8	31	10	39	20	77
Communication with local occupational advisory committee	16	67	4	15	6	23	8	31	6	23	13	50	9	35
Communication and sharing of data among community colleges	21	88	6	23	11	42	12	46	6	23	7	27	18	69
Community public relations such as millage requests	22	92	5	19	9	35	11	42	5	19	6	23	11	42
Cost effectiveness studies to be used for aiding the internal budgeting process	20	83	5	19	5	19	9	35	3	12	4	15	9	35
Determination of employment success of students in non-traditional occupations	23	96	4	15	5	19	9	35	5	19	5	19	21	81
Formulating college policies and guidelines for future directions of the college	18	75	6	23	9	35	10	39	4	15	7	27	14	54
For use in presentations to the legislature for appropriation requests	19	83	4	15	2	8	12	46	2	8	4	15	17	65
Identifying needed student services and instructional enhancement activities with documented student data	20	83	4	15	4	15	19	73	4	15	6	23	18	69
Identifying special needs of students	21	88	4	15	2	8	8	31	4	15	4	15	14	54
Labor market information	20	83	15	58	3	12	8	31	4	15	4	15	4	15

Chapter V

SUMMARY AND RECOMMENDATIONS

The purpose of this study was to conduct a post hoc analysis of the Michigan Student Information System implementation process utilized by the Michigan Department of Education. This post hoc analysis was accomplished through the development of an evaluation plan which focused on identifying process factors in addition to the more traditional outcome factors.

This chapter is divided into three sections: Summary of Findings, Conclusions, and Recommendations.

Summary of Findings

The findings of this study are summarized according to the steps delineated in the implementation phase of the Diffusion Flow Chart.

Support of Key Individuals

Presidential Awareness. One concern in determining the effectiveness of the diffusion strategies dealt with whether or not the Michigan Student Information System was receiving the support of key individuals in each community college. All 26 responding presidents indicated that they were aware of the Michigan Student Information System and indicated a high level of commitment to

institutionalizing the system (a mean rating of 1.8, using a four point scale where 1 = totally committed and 4 = not at all committed). Support of key individuals was further demonstrated by the fact that all 29 community colleges had appointed an individual to act as a MiSIS Liaison.

Subsystem Analysis. An important indicator of the support of key individuals was the level of use of each subsystem and the concomitant usage of resulting data. The MiSIS Implementors indicated the most commonly used subsystems were: Student Education Intent (N=24, 92%), Graduate Follow-up (N=21, 88%), and Employer Follow-up (N=18, 78%), while the least used subsystem was the Continuing Education Follow-up. MiSIS Users indicated that resulting data was most frequently used from the Student Educational Interest, followed by the Graduate Follow-up, with deans being identified as the individuals most often using the resulting data. The perceived importance of the data provided by each of the Michigan Student Information System's six subsystems was rated by the Presidents with Graduate Follow-up and Student Withdrawal indicated as most important and Continuing Education Follow-up data indicated as least important.

Local Liaisons

Staff Responsibilities. The second concern in determining the effectiveness of implementation strategies dealt with identifying the position of individuals assigned responsibilities for the Michigan Student Information System, their role responsibilities

related to the system, and which other institutional personnel were involved. Twenty three of the respondents (92%) indicated they were both the implementor and user. This finding indicates that the community colleges have generally vested the complete institutional responsibility for the Michigan Student Information System in one individual. The position held by the majority of individuals was in the generic area of student personnel services. The respondent identification of a plethora of job titles--Dean of Students, Placement Specialist, Director of Student Development, Dean of Student Affairs, et.al.--represents the different administrative structures prevalent in Michigan community colleges, but not necessarily different job functions.

MiSIS Implementors indicated their responsibilities included data collection, data organization, data analysis, and overall administration of the system. MiSIS Users indicated they were most often (N=12, 46%) independently responsible for the interpretation of data from the Michigan Student Information System. Approximately one-half of the MiSIS Implementors and 16 of the MiSIS Users (62%) indicated there was a local MiSIS Users committee. Eighteen of the MiSIS Implementors (67%) also indicated that someone assisted them in the data collection process.

Technical Assistance

The third concern centered upon the adequacy of technical assistance and whether it was meeting community colleges' needs. The four areas of technical assistance that over half the MiSIS

Implementors indicated would be desirable were: using data from the Michigan Student Information System to complete Vocational Education Data System reporting requirements information on state and federal student information reporting requirements using input from the MiSIS User committee and inservice in report writing based on data from the Michigan Students Information System. The two areas of technical assistance that the largest number of MiSIS Users indicated would be desirable were: ways to use the information and the use of the information in conjunction with the Program Review in Occupational Education. The most commonly selected types of desirable technical assistance identified by the Presidents were: interpretation of data, use of data in conjunction with data from the Program Review in Occupational Education, and ways to use the information provided by the system.

Regarding the preferred method for receiving the technical assistance, MiSIS Implementors, MiSIS Users, and Presidents all ranked on-site visitations first and regional conferences second.

Data Processing Support

Research. The fourth concern in analyzing implementation strategy effectiveness dealt with community college capability to conduct research and process data. Just over half of the MiSIS Users indicated that their community college performed a research function, with research most commonly being conducted on the local level.

All of the data processing coordinators indicated that their community college utilized some form of computerized data processing. The majority of the community colleges (N=29, 73%) have their own central computer, while the remaining colleges have contracted for these services. The majority of both the Data Processing Coordinators and the Presidents indicated that the primary use of the computer was administrative or a combination administrative/institutional. However, 12 MiSIS Users (48%) indicated they did not have priority access for data processing and only nine MiSIS Users (38%) indicated their computer system was adequate for their needs.

The majority of Presidents and Data Processing Coordinators indicated their community college had available a large, mainframe computer, primarily over 128k, storage, utilizing hard disks. The most common programming language utilized was COBOL, followed by FORTRAN and a BASIC language. The majority of community colleges utilize their own staff to write specialized programs, although it is not uncommon to utilize "canned" software in some areas.

In examining data processing schemes, the Presidents rated designing a system for data processing and analysis of Michigan Student Information System data utilizing the college's own central computer as the most efficient. Twenty MiSIS Users (80%) indicated they would find it useful to have their own computer system for processing and analyzing data from the Michigan Student Information System. The majority of Data Processing Coordinators indicated that it was possible to process the Michigan Student Information

System data on their current systems, but a significant number (N=10, 39%) indicated they would not be able to complete the processing of Michigan Student Information System data.

Aid in Use of Data

Usefulness. The fifth concern in analyzing implementation strategy effectiveness dealt with the use of data resulting from the Michigan Student Information System. MiSIS Implementors identified getting information needed to comply with the Vocational Education Data System reporting requirements and establishing a data base of enrollment and follow-up for internal use as the two most useful features of the system. The feature identified as least useful by the MiSIS Implementors was too much work in forms preparation for processing.

Client Groups. Another aspect of data usage dealt with identifying client groups who received the information. MiSIS Users identified the following client groups, in rank order: President, faculty members, Board of Trustees, Advisory Committees, and the Michigan Department of Education. MiSIS Users also indicated that the data was most commonly presented for information purposes only (N=21, 81%), but was also presented for decision-making purposes and/or to provide feedback at least half the time.

The last aspect of data usage to be examined was current and planned uses of the data from the Michigan Student Information System. The three current uses most commonly identified by the

MiSIS Users were promoting communications among administration and faculty, institutional research, and identifying special needs of students. The four most commonly identified planned uses of data from the system identified by MiSIS Users were: career counseling with students, identifying needed student services and institutional enhancement activities, institutional research, and promoting communications among administration and faculty. Presidents identified the most useful types of data from the Michigan Student Information System as: determination of employment success for students in non-traditional occupations, communications with accreditation visit teams, and community public relations such as millage requests.

Data Output Analysis. Outcome findings also examined data analysis techniques available and desirable. While MiSIS Implementors felt that data output was complete, easy to understand, and useful, MiSIS Users indicated additional analysis techniques, particularly cross-tabulations of data and longitudinal analyses, would be desirable. The Presidents indicated the most useful types of analyses would be special data runs for target impact groups followed by longitudinal analyses. Neither of these analyses are currently available.

Conclusions

The major conclusions of this study are presented as they relate to the five basic questions postulated in Chapter I.

1. Was the support of key individuals in each community college obtained?

The support of key individuals in each community college was obtained. This support was demonstrated by the finding that all 26 of the responding presidents indicated a high level of commitment to institutionalizing the system.

2. Were local liaisons identified, selected, and trained?

Local liaisons were identified, selected, and trained. All 29 community colleges had appointed an individual to act as MiSIS Liaison. Statewide, regional, and local training workshops for MiSIS Liaisons were conducted during 1979-1980.

3. Was timely technical assistance provided to implementors and users?

Timely technical assistance was provided to implementors and users through the workshops for training MiSIS Liaisons, coupled with the promulgation of Procedures Manuals, activities manuals, and other system documentation.

The major problem areas identified by respondents were: analysis of the data, interpretation and use of the data, and institutionalizing data processing for the Michigan Student Information System. Analysis of the data responses identified several highly desirable techniques including cross-tabulations, longitudinal analyses, and special data runs for target impact groups. Interpretation and use of the data was a problem in that planned use far exceeded actual use and MiSIS Users indicated a technical

assistance need in the area of report writing based on data from the Michigan Student Information System. Institutionalizing data processing for the Michigan Student Information System emerged as a problem through several findings including: presidents rated the design of a system utilizing the college's own computer as most efficient method for data processing and MiSIS Users responded that they would find it most useful to have their own computer system for processing and analyzing data from the Michigan Student Information System.

4. Was appropriate data processing support provided for processing and analyzing data from the Michigan Student Information Service?

Appropriate data processing support was provided for processing and analyzing data from the Michigan Student Information System. In 1979-1980, 69,275 Student Educational Intent cards and over 3,000 follow-up surveys were centrally processed. However, the findings also indicated that presidents preferred to have the capability to process Michigan Student Information System data at their own community college as indicated previously.

5. Were community colleges aided in using data resulting from the Michigan Student Information System?

While the findings indicated that community colleges were aided in using data resulting from the Michigan Student Information System, two major areas of concern emerged. The first concern highlighted by the findings was that the majority of uses of the data were categorized by respondents as "planned" uses rather

than current, possibly indicating difficulties in data analysis. The second concern emerging from the findings related specifically to analysis techniques. The two most useful analysis techniques identified by the presidents were not available.

Recommendations

The recommendations of this study are based upon a review of the MiSIS Diffusion Flow Chart, the general research question posed in Chapter I, and an extensive analysis of the findings of the study. The following are recommendations:

1. In order to ensure that community college technical assistance needs are being met, a periodic feedback mechanism should be developed to provide the change agent with formal input.
2. The current centralized data processing support should be replaced by an institutionalized data processing concept designed to enable the community colleges to process and analyze their own data from the Michigan Student Information System.
3. Examples of report format should be developed for the topics and audiences the presidents identified regarding planned use of Michigan Student Information System data.
4. The MiSIS Diffusion Flow Chart, or a standard diffusion model, should be utilized by the Michigan

Department of Education prior to the development and implementation of any innovation.

5. A method for evaluating the efficiency of a diffusion process should be an integral part of the diffusion process itself.

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APPENDIX A

APPENDIX A

SURVEYS AND QUESTIONNAIRE

Location: _____

Contact: _____

MiSIS Implementor Survey

Hello, my name is _____ from Instructional Development and Evaluation Associates, Inc. We are conducting a survey of MiSIS and PROE Implementors, Users, and Presidents of the Community College for the MiSIS/PROE project at Westshore Community College. The purpose of the survey is to determine the state of the art and extent and manner of data usage so that we may provide recommendations for change relative to MiSIS and PROE. The survey will take approximately 20-30 minutes. Do you have the time now to complete the survey?

Yes - Go to Item 1

No - When could we call back?

_____ Day

_____ Time

1. Are you responsible for use and implementation?

_____ Yes

_____ No

2. What is your job position?

_____ Guidance counselor

_____ Dean of occupational education

_____ Dean of student services

_____ Placement specialist

_____ Faculty

_____ Data collection specialist

_____ Institutional researcher

_____ Other (please specify) _____

Section I: MiSIS (Michigan Student Information System)

3. How would you classify your role in MiSIS? (Check all that apply)

- ☐ Data collector
- ☐ Data organizer
- ☐ Data analyzer
- ☐ Overall administration of MiSIS process
- ☐ Member of the statewide MiSIS users committee
- ☐ Member of the local MiSIS users committee
- ☐ If yes, is this a functional committee?
 - ☐ Yes
 - ☐ No

Interviewer: The next section will ask you a series of questions about each of the six MiSIS subsystems. (See page 97.)

Interviewer: Thus far, we have focussed on the subsystems. For the next series of questions, I'd like you to consider MiSIS in general.

10. Would you briefly describe the data collection process you follow. (Interviewer: Break down into 4-5 major steps)

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

11. How could the process of data collection be improved? (Interviewer: Say "For example, responses to this question might be:")

- ☐ Fewer data formatting concerns
- ☐ Pre-programmed table formats
- ☐ Continuous updates on form changes
- ☐ On-site inservice in collecting the data
- ☐ Availability of technical assistance by telephone
- ☐ Other (What?) _____
- _____
- _____
- _____

12. Does anyone assist you in the data collection process?

- ☐ Yes
- ☐ No

SHEET A.--MISIS Subsystem Questions

Subsystem	Question 1: Do you use the Subsystem?		Question 2: Are the same data collected through any other activities at your community college?		Question 3: Using a 4 pt. scale where 1 = very often & 4 = hardly ever, how often do you collect this information?				Question 4: Using a 4 pt. scale where 1 = very easy and 4 = very hard, how difficult or troublesome is it to collect this information?			
	Yes	No	Yes	No	1	2	3	4	1	2	3	4
I. Student's Educational Intent												
II. Withdrawal Follow-Up												
III. Non-Returning Student Follow-Up												
IV. Graduate Follow-Up												
V. Employer Follow-Up												
VI. Continuing Education Follow-Up												

SHEET B.--MISIS Subsystem Questions

Stem: Using a 4 pt. scale where 1 = very easy and 4 = very hard, how difficult or troublesome is it to:

Subsystem	Question 5: Administer In- strumentation to appropriate group in person				Question 6: Administer the Instrumentation to the appropriate group by mail				Question 7: Prepare the data for processing (code the data)				Question 8: Determine the best way to analyze the data				Question 9: Get a high re- sponse rate (over 50%) to surveys								
	1	2	3	4	Don't Ask		Very easy		Very hard		1	2	3	4	1	2	3	4	Don't Ask		Very easy		Very hard		
I. Student's Educational Intent					Don't Ask															Don't Ask					
II. Withdrawal Follow-Up					Don't Ask															Don't Ask					
III. Non-Returning Student Follow-Up																									
IV. Graduate Follow-Up																									
V. Employer Follow-Up																									
VI. Continuing Education Follow-Up																									

12. (Continued)

If yes, what are their positions?

- ☐ Guidance counselor
- ☐ Institutional researcher
- ☐ Placement specialist
- ☐ Other data collection specialists
- ☐ Other (please specify) _____

13. I'm going to read a list of potential areas of technical assistance. Please indicate with a yes or no if technical assistance in each area would be beneficial to you.

- ☐ Administration of MiSIS instruments
- ☐ Organization of MiSIS data/results
- ☐ Inservice in the use of MiSIS data collection forms
- ☐ Inservice in the uses of each of the six MiSIS subsystems
- ☐ Using MiSIS information to complete VEDS reporting requirements
- ☐ Inservice in general survey methodology
- ☐ Inservice in state and federal student information reporting requirements
- ☐ Using input from the User Committee
- ☐ Inservice in report writing based upon MiSIS data.

Are there any other areas in which you would find technical assistance helpful? _____

14. If you were to be provided technical assistance in these areas, how would you prefer to receive the technical assistance? Check all that apply.

- ☐ Phone contact
 - ☐ On-site visit
 - ☐ Regional conference on a specific technical assistance topic
 - ☐ Information pamphlets
 - ☐ Self-instructional guides
 - ☐ Other (specify) _____
- _____
- _____

15. Using a 4 point scale where 1 = very easy and 4 = very difficult, please rate the following items

- | | | | | |
|---|---|---|---|-----------------------------------|
| 1 | 2 | 3 | 4 | Ease of understanding MiSIS forms |
| 1 | 2 | 3 | 4 | Ease of completing MiSIS forms |

- | | | | | |
|---|---|---|---|--|
| 1 | 2 | 3 | 4 | Ease of respondent's understanding MiSIS forms |
| 1 | 2 | 3 | 4 | Ease of respondent's completing MiSIS forms |

16. What part of the MiSIS system is most useful? (Interviewer: Present the following as prompts--do not present as options)

- ☐ Getting information needed to comply with VED's reporting requirements
- ☐ Establishing a data base of enrollment and follow-up for internal use
- ☐ Provides a standardized format for data allowing community colleges to share this information
- ☐ The technical assistance available
- ☐ Other _____
- _____
- _____

17. What part of the MiSIS system is least useful?

- ☐ Dependency on central processing
- ☐ Lack of ability to individualize type of data collected
- ☐ Too much work in form preparation for processing
- ☐ The format of the data returned is not useful to our institution
- ☐ Other _____
- _____
- _____

18. Is there anything else you wish to add about the MiSIS system?

Section II

Interviewer: The final section of this survey asks some general information questions.

19. Does your community college have an individual who performs a research function?

- ☐ Yes
- ☐ No

If yes, does this person assist in MiSIS studies?

19. Continued

In what capacity?

- ☐ Designing analysis plans
☐ Data collection
☐ Data coding/editing
☐ Interpretation of results
☐ Running the computer
☐ Report writing
☐ Other (specify) _____

20. Has your community college developed computer programs to be used with

- ☐ Yes
☐ No

If yes, what do they do?

What language are they written in?

Would you be willing to share this program with other community colleges?

- ☐ Yes
☐ No

Can you identify a person knowledgeable about this program?

- | | | |
|------------------------------|-------------------------------|-------------|
| ☐ Yes | ☐ Who? | Name _____ |
| ☐ No | | Phone _____ |

21. Can you identify a person in your community college knowledgeable about the data processing capabilities you have?

- | | | |
|------------------------------|-------------------------------|-------------|
| ☐ Yes | ☐ Who? | Name _____ |
| ☐ No | | Phone _____ |

That completes the survey. As we indicated, we will also be interviewing the President of your community college. Is there any

information in terms of MiSIS on what you are doing with them which you feel would be beneficial for the President to be aware of?

Thank you for your time.

Location: _____

Contact: _____

MiSIS User Survey

Hellow, my name is _____ from Instructional Development and Evaluation Associates, Inc. We are conducting a survey of MiSIS and PROE Users, Implementors, and community college Presidents for the MiSIS/PROE Project at Westshore Community College. The purpose of the survey is to determine the state of the art and extent and manner of data usage so we may provide recommendations for change relative to MiSIS and PROE. The survey will take approximately 20 minutes. Do you have the time now to complete the survey?

Yes - Go to Item 1

No - When could we call you back?

_____ Date

_____ Time

1. What is your position?

- _____ Guidance counselor
- _____ Dean of occupational education
- _____ Dean of student services
- _____ Placement specialist
- _____ Faculty
- _____ Department chairperson
- _____ Other (please specify) _____

2. Using a four point scale where 1 = very often and 4 = not at all, how often do you use information from each of the six MiSIS subsystems in decision making? In addition, indicate who uses each subsystem (what position).

Position

- | | |
|---------------------------------------|-------|
| _____ Student's educational intent | _____ |
| _____ Student withdrawal follow-up | _____ |
| _____ Non-returning student follow-up | _____ |
| _____ Graduate follow-up | _____ |
| _____ Employer follow-up | _____ |
| _____ Continuing education follow-up | _____ |

3. What other types of information do you use in decision-making processes?

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

4. Do you use MiSIS to complete the VED's (Vocational Education Data System) reporting for enrollment and follow-up data?

_____ Yes
_____ No

Which VED's surveys?

- a. _____
- b. _____
- c. _____
- d. _____

Were you aware MiSIS could be used this way?

_____ Yes
_____ No

Is it easy to use MiSIS for this way?

_____ Yes
_____ No

Is there a particular reason it has not been used this way?

How could it be improved?

5. There are several ways in which MiSIS could be used. I'd like you to indicate with a yes or no whether you use MiSIS for these purposes now and if you will use MiSIS this way in the future?

			<u>In the Future</u>	
Yes	No	Career counseling with students	Yes	No
Yes	No	Identifying needed student services and instructional enhancement activities	Yes	No
Yes	No	Institutional planning and program evaluations	Yes	No
Yes	No	Student recruitment	Yes	No
Yes	No	Institutional research	Yes	No
Yes	No	Community public relations	Yes	No
Yes	No	Labor market information	Yes	No
Yes	No	College promotion activities	Yes	No
Yes	No	Communications with local occupational advisory committees	Yes	No

		<u>In the Future</u>	
Yes	No	Communications with accreditation visit teams	Yes No
Yes	No	Producing information for students as educational consumers	Yes No
Yes	No	Development of curricula	Yes No
Yes	No	Promoting communications among administration and faculty	Yes No
Yes	No	Identifying special needs of students	Yes No
Yes	No	Determination of employment success of students in non-traditional occupations	Yes No
Yes	No	Cost effectiveness studies	Yes No
Yes	No	Formulating college policies and guidelines	Yes No
Yes	No	Communication and sharing of data among colleges	Yes No

6. Are there any ways I haven't mentioned that you use MiSIS?

7. Does your college have a local MiSIS User's committee?

☐ Yes What are the positions of the people on it?
☐ No a. _____
 b. _____
 c. _____
 d. _____

Are you on this committee?

☐ Yes
☐ No

8. How do you most commonly interpret the data provided by MiSIS for use in your decision-making? Do you:

☐ Interpret the information by yourself
☐ Interpret the information with the aide of a research department
☐ Interpret the information with the aide of the local User's committee
☐ Someone else interprets the data and provides me with the results
☐ Other (specify) _____

9. Considering the MiSIS data, how would you rate the data you receive according to:

a. Utility of the data	Very Useful			Useless
	1	2	3	4
b. Completeness of the data	Very Complete			Incomplete
	1	2	3	4
c. Ease of understanding the data	Very Easy			Very Hard
	1	2	3	4

10. Consider the MiSIS printouts you receive. Do the printouts provide you with the complete information you need?

____ Yes
____ No

Are the printouts understandable?

____ Yes
____ No

Would the data be more useful to you if it was provided in another form?

____ Yes
____ No

11. Approximately how long does it take for you to receive the compiled MiSIS results after you submit the data?

____ months ____ weeks ____ days

Is this "turn-around time" adequate?

____ Yes
____ No

Would you be able to make more use of the MiSIS data if the "turn-around time" was shorter?

____ Yes -- What would be the optimal "turn-around time"?
____ NO ____ months ____ weeks ____ days

12. There are many areas in which technical assistance could be provided for the MiSIS system. Indicate with a yes or no if it would be useful to you to receive technical assistance or information in the areas.

12. Continued.

	<u>Response</u>	
Interpretation of data	Yes	No
Ways to use information	Yes	No
Program planning based on MiSIS data	Yes	No
Presentation/format of data	Yes	No
Use of MiSIS in conjunction with PROE	Yes	No
Inservice in one or more of the subsystems	Yes	No
Which ones? _____		

Overseeing the implementation of MiSIS	Yes	No
Developing presentations based on MiSIS	Yes	No
Other (specify) _____		

13. What would be the best way to provide the technical assistance (ask only if respondent said yes to one or more options from #12).

- ☐ Staff inservice
☐ Telephone consultation
☐ On-site technical assistance visit
☐ Statewide conference of MiSIS Users
☐ Regional workshops
☐ Other (specify) _____

14. Consider the various ways which you use, or would like to use, the MiSIS data. I'm going to list some tabulation or tabulation related possibilities. I would like you to indicate if these would be useful to you or not.

- ☐ Frequency analysis of data
☐ Cross tabulation of data (explain)
☐ Typewritten copies of tables as opposed to computer printouts
☐ Special data runs for:
 ☐ targeted impact groups
 ☐ targeted reading audiences
☐ Longitudinal analyses comparing results from one term or semester to a previous one

15. Are you responsible for writing reports based on data?

- ☐ Yes
☐ No ☐ Who is? _____

15. Continued

If yes, who are the reports prepared for?

- a. _____
- b. _____
- c. _____

If yes, have you had any problems writing the reports? Describe.

16. Are there individuals and/or departments within your community college not currently using MiSIS results whom you believe would benefit from its use? Your answer should not be limited to Occupational Education.

_____ Yes -- Who? _____

_____ No -- Why? _____

Section II: General Questions

Interviewer: The final section of this survey will be questions of a general nature.

17. Is the primary purpose of the computer/data processing system at your community college?

_____ Administrative

_____ Instructional

_____ Both

18. Do you have priority access for data processing and computer analysis?

_____ Yes

_____ No, secondary access

19. Is the computer system at your community college adequate for your use?

_____ Yes

_____ No

_____ No computer

20. Do you give any results or information regarding MiSIS to:

_____ Faculty

_____ Students

20. Continued

- ☐ Board of Trustees
☐ Advisory Committee
☐ Community
☐ Michigan Department of Education
☐ Other community colleges
☐ President of the college
☐ Other (Who?) _____

If yes, what information?

Why?

- ☐ Information only
☐ To get feedback
☐ For decision-making purposes
☐ Other (specify) _____

Which of these groups has the greatest impact on your decision-making processes?

21. Is the information produced by MiSIS and PROE inter-related for use in decision-making?

- ☐ Yes
☐ No -- Have you ever tried? ☐ Yes ☐ No

22. Does your community college perform a research function?

- ☐ Yes
☐ No

If yes, is it on:

- ☐ A local level
☐ Regional level
☐ Central/state level
☐ Other (please specify) _____

If local, what related resources do you have for research/data processing?

- ☐ Our community college does its own data processing/research
☐ An agreement with a K-12 system
☐ An agreement with a service bureau

22. Continued

☐ Our own computer system for MiSIS/PROE
☐ No process--hand tabulation

23. Would it be useful to have your own computer system for MiSIS/PROE data analysis?

☐ Yes
☐ No

24. Can you identify a person in your community college knowledgeable about the data processing capabilities you have?

☐ Yes Who? _____
☐ No Phone _____

Is there anything we have not asked you that you would like to add about MiSIS or PROE?

That completes the survey. As we indicated, we will also be interviewing the President of your community college. Is there any information in terms of MiSIS or PROE or what you are doing with them which you feel would be beneficial for the President to be aware of?

Thank you for your time.

Location: _____
 Contact: _____

MiSIS and PROE Project

Community College President Survey

Hello, my name is _____ from Instructional Development and Evaluation Associates, Inc. We are conducting a survey of community colleges to determine the state of the art and extent and manner of data usage so we may provide recommendation for change relative to MiSIS and PROE. The survey will take approximately 15 minutes. Do you have the time now to complete the survey?

Yes - Go to Item 1

No - when could we call you back?

_____ Date

_____ Time

1. Are you aware of what the Michigan Student Information System (MiSIS) is?

_____ Yes - Go to Item 2

_____ No - If no, read the following then go to Item 2.

The Michigan Student Information System is a system for collecting information from or about

- a. A student's education intent
 - b. Students who have withdrawn from a course or program
 - c. Students who complete courses but do not return for additional work
 - d. Graduate follow-up data
 - e. Employers follow-up data
 - f. Continuing education follow-up data
2. Using a 4 point scale where 1 = very important and 4 = not at all important, how important is it to your community college to have data concerning:

	Very Important		Not at all Important	
a. A student's education intent	1	2	3	4
b. Students who have withdrawn from courses or programs	1	2	3	4

2. Continued.

	Very Important		Not at all Important	
c. Non-returning students	1	2	3	4
d. Graduate follow-up	1	2	3	4
e. Employer follow-up	1	2	3	4
f. Continuing education follow-up	1	2	3	4

3. Using a 4 point scale where 1 = totally committed and 4 = not at all committed, how committed is your community college to:

	Totally Committed		Not at all Committed	
a. Using student follow-up data	1	2	3	4
b. Institutionalizing MiSIS as a student follow-up system	1	2	3	4

4. What type of computer facilities does your community college have?

- ☐ Large main-frame computer
☐ Mini-computers
☐ Micro-computers
☐ Other (specify) _____
☐ I don't know

5. Using a 4 point scale where 1 = very efficient and 4 = very inefficient please indicate how efficient each of the following data processing/analysis schemes would be.

	Very Efficient		Very Inefficient	
a. Designing a system for MiSIS data processing/analysis which could be used on your college's central computer	1	2	3	4
b. Having an independent hard- ware/software system designed exclusively for use with the MiSIS system	1	2	3	4
c. Using a service bureau external to your community college	1	2	3	4

6. I'm going to list some potential types of data analysis which could be provided based on MiSIS data. Using a 4 point scale where 1 = very useful and 4 = not at all useful, please indicate how beneficial each type of data analysis would be relative to your decision-making needs.

	Very Useful		Not at All Useful	
a. Frequency analysis of data	1	2	3	4
b. Cross-tabulation of data (explain)	1	2	3	4
c. Special data runs for				
- target impact groups	1	2	3	4
- targeted reading audiences	1	2	3	4
d. Longitudinal analysis comparing results from one term or semester to a previous one	1	2	3	4
e. Comparing answers to similar questions from different surveys	1	2	3	4

- 6a. There are several ways in which the MiSIS results could be presented. From the three options listed below, please identify the format which you would find most useful.

☐ Computer printouts only
☐ Prepared tables with narrative
☐ Short summary highlighting key findings

7. There are many areas in which technical assistance could be provided to MiSIS Users. For the list I am about to read, please indicate with a yes or no if you believe offering technical assistance in each area would better enable your community college to use MiSIS.

<u>Area</u>	<u>Response</u>	
Interpretation of data	Yes	No
Ways to use information	Yes	No
Program planning based on MiSIS data	Yes	No
Presentation/format of data	Yes	No
Use of MiSIS in conjunction with PROE	Yes	No
Overseeing the implementation of MiSIS	Yes	No

<u>Area</u>	<u>Response</u>	
Developing presentations based on MiSIS	Yes	No
Other (specify) _____	Yes	No

8. What would be the best way to provide the technical assistance (ask only if respondent said yes to one or more options from #7).

☐ Staff inservice
☐ Telephone consultation
☐ On-site technical assistance visit
☐ Statewide conference of MiSIS Users
☐ Regional workshops
☐ Other (specify) _____

9. I'm going to read a list of ways in which the information provided by the MISIS system could be used. For each item on the list, I would like you to tell me with a yes or no, if it would be useful to use the information in this way. If your answer is yes, I would like you to indicate who you would use the information with.

Type of Information	Information Useful?	With who? (check if yes)				
		Appropriation Hearing Legislation	Board of Trustees	MDE	Community	Other Who?
a. Identifying needed students services and instructional enhancement activities	Yes No					
b. Community public relations	Yes No					
c. Labor market information	Yes No					
d. Communications with local occupational advisory committees	Yes No					
e. Communications with accreditation visit terms	Yes No					
f. Identifying special needs of students	Yes No					
g. Determination of employment success of students in non-traditional occupations	Yes No					
h. Cost effectiveness studies	Yes No					
i. Formulating college policies & guidelines	Yes No					
j. Communication and sharing of data among colleges	Yes No					
k. For use in presentations to the legislature for appropriation requests	Yes No					

10. Are you aware of what the Program Review in Occupational Education (PROE) is?

_____ Yes - Go to Item 11.
 _____ No - Read below and then go to Item 11.

Program Review in Occupational Education (PROE) is part of an evaluation system designed for community colleges. PROE asks the people involved with occupational education at a college how they feel about their program. Faculty, students, and advisory committee members are asked to provide their perceptions about an occupational program on a questionnaire. Compilations of these perceptions become a PROFILE of the occupational program at the college.

11. Using a 4 point scale where 1 = very valuable and 4 = useless, how valuable do you believe a program such as PROE is?

1 2 3 4

12. I'm going to read a list of possible ways to use the information from PROE. I would like you to indicate with a yes or no if you would find using information from PROE for these purposes beneficial for you in your role as chief administrator of the community college.

a. Changes for program improvement	Yes	No
b. Determine resource requirements and allocations	Yes	No
c. Future directions for occupational education	Yes	No
d. Staff responsibility reorganization	Yes	No

13. I'm going to list some potential areas of technical assistance which might enhance a community college's ability to use PROE. I would like you to indicate with a yes or no if you believe technical assistance in these areas would enhance your community college's ability to use PROE.

a. Interpretation of PROE results for your campus	Yes	No
b. Inservice in setting up a PROE evaluation	Yes	No
c. How to plan using PROE results	Yes	No
d. Developing presentations based on PROE results	Yes	No
e. Using PROE in conjunction with MiSIS	Yes	No
f. Other (specify) _____	Yes	No

14. What would be the best way to provide the technical assistance?
(Ask only if respondent said yes to one or more options from #14).

☐ Regional workshops
☐ Staff inservice
☐ Telephone conversation
☐ On-site technical assistance visit
☐ Statewide conference of MiSIS Users
☐ Other (specify) _____

15. Does your community college have an evaluation system similar to PROE?

If no, would one
be beneficial

a. The general education/ transfer area	Yes	No	Yes	No
b. Continuing education	Yes	No	Yes	No
c. Community service area	Yes	No	Yes	No

16. Is the primary purpose of the computer data processing system at your community college

☐ Administrative
☐ Instructional
☐ Both

17. Is there anything else you would like to add about MiSIS or PROE? Other general comments?

That concludes our survey. Thank you for your time.

Location: _____

Contact: _____

Data Processing Questionnaire

Hello, my name is _____ from Instructional Development and Evaluation Associates, Inc. We were given your name by _____ at your community college as an individual knowledgeable about the data processing capabilities of your community college. The information you provide will assist us in a feasibility study we are conducting for Westshore Community College relative to MiSIS and PROE. Do you have a few minutes to answer our questions?

Yes

No - When would be a good time to call back?

To Item 1

_____ Day

_____ Time

1. How is the data processing function at your community college performed?

_____ Through an agreement with a K-12 system
 _____ Through our own central computer
 _____ Through an agreement with an external service bureau
 _____ Computers are not used; all data are hand-tabulated
 _____ Individual departments or programs do their own data processing on micro-computers
 _____ Other (please specify) _____

2. If your community college does not have a data processing capability would it be beneficial?

_____ Yes
 _____ No

3. Are the computers at your community college used primarily for:

_____ Administrative purposes
 _____ Instructional purposes
 _____ Both

4. What types of data processing activities occur at your community college? What are the results used for?

5. What type of computer system does your community college have for data processing?

_____ Large main-frame computer - What type? _____
 _____ Mini-computer - What type? _____

5. Continued

_____ Micro-computer - What type? _____
_____ Other (please specify) _____

6. How much CPU (RAM - Random Access Memory) does the computer have?

_____ Below 16K
_____ 16-32K
_____ 33-48K
_____ 49-64K
_____ 65-128K
_____ Above 128K - How much? _____

7. What type of data storage system does your computer utilize?

_____ Cassette tape
_____ 5¼" floppy disk
_____ 8" floppy disk
_____ Hard disk
_____ Magnetic tape
_____ Other (please specify) _____

8. How much data storage space (user bytes) do you have?

_____ Below 1 megabyte
_____ 1-2 megabytes
_____ 3-10 megabytes
_____ 11-15 megabytes
_____ 16-20 megabytes
_____ 20-30 megabytes
_____ Above 30 megabytes

9. What type of programming language is utilized by your computer?

_____ BASIC
_____ COBOL
_____ FORTRAN
_____ PYI
_____ CBM
_____ Others (specify) _____

10. Is your computer

_____ Asynchronous
_____ Bisynchronous
_____ Both

11. Who does your programming when specialized software is needed?

☐ Community college staff
☐ External consultant
☐ Other (specify) _____

12. Does your community college have any "canned" programs? (Ex: SPSS - Statistical Package for Social Sciences)

☐ Yes
☐ No
☐ Don't Know

If yes, what is the name and function?

13. Are micro-computers (Radio Shack, Apple, PET) used in classroom instruction?

☐ Yes
☐ No

If yes, what type?

☐ Radio Shack
☐ Apple
☐ PET
☐ Atari
☐ Commodore
☐ Other (specify) _____

14. Does your community college have a statistician on staff to assist in data analysis/interpretation?

☐ Yes
☐ No

Is there any other information relative to Data Processing you feel would be beneficial for us to know?

☐ Yes
☐ No

What? _____

15. Given your current hardware, software, and resources available, would you be able to process an additional 10,000 forms 3 times a year for the MiSIS Project?

 Yes

 No -- What would it take to be able to do this?

16. Do you have any other comments relative to data processing, computer hardware, computer software, or the MiSIS/PROE Project?

That concludes the survey. Thank you for your time.

APPENDIX B

APPENDIX B

MISIS DEVELOPMENTAL ACTIVITIES

Development of the Evaluation System

Michigan community colleges were faced with a significant responsibility to perform qualitative and quantitative evaluation of their vocational education programs with no evaluation system in place. In the spring of 1978, a steering committee was formed comprised of three community college presidents and six occupational deans to work cooperatively with Michigan Department of Education staff to develop an evaluation process that would meet the federal requirements, but maintain the local autonomy enjoyed by Michigan's public community colleges. The steering committee members were:

Community College Personnel

Dr. Charles Corrigan
Director of Vocational Education
Mid Michigan Community College

Dr. R. Ernest Dear
President
Gogebic Community College

Mr. Thaddeus Diebel
Dean of Applied Sciences
Schoolcraft College

Mr. Clovis Ferguson, Dean
Occupational Education
Northwestern Michigan College

Dr. Andrew Mazzara
Dean of Career Development
Henry Ford Community College

Mr. Arnold Metz, Dean
Vocational-Technical Education
St. Clair Community College

Dr. Gunder Myran
President
Washtenaw Community College

Dr. William Yankee
President
Northwestern Michigan College

Dr. Robert Steely, Dean
Applied Arts & Sciences
Kellogg Community College

Michigan Department of Education Staff

Mr. Bruce Blanding

Dr. Charles Kiefer

Mr. James Folkening

Dr. John Shanahan

The steering committee met and reviewed available information regarding evaluation processes being used in other states with well developed community college systems. Community college evaluation processes which appeared to be most developed and comparable were in California, Colorado, Florida, Illinois, and Texas. The steering committee divided into site visitation teams of three or four individuals. Advance arrangements were made with local and state personnel in each state to ensure comprehensive representation. The meetings were designed to provide opportunities for discussion and questions, observations of certain facilities and practices, and a full and open assessment of the strengths and weaknesses of each approach.

The five states were visited in the summer of 1978 and were cooperative in supplying forms, manuals, handbooks, samples of studies, and samples of the outcomes of their processes. In August of 1978, after the visitations were completed, the steering committee reconvened and reviewed the results of their visitations

and identified perceived strengths and weaknesses of each system.

Among the strengths observed in the visits were:

- voluntary components with mandated parts
- self-evaluation using self-tested forms
- single curriculum seen as part of whole vocational program
- qualitative data held within each participating college
- compliance with federal requirements
- provides catalyst for change
- provides data for other agencies
- clear expectations and well organized
- flexibility
- provides both state and college quantitative data
- comprehensive for community college use

Among the weaknesses observed in the visits were:

- insufficient provision for continuing policy level decisions
- use of perceptions instead of data based
- requires data processing equipment
- processes too paper oriented
- data comparative with other community colleges on a rated base
- cumbersome
- domination by state agency

While no single state provided a model which could be adopted, the committee agreed that sufficient research and development had been done in many cases to provide adaptation of many components.

The experiences gained by the state visits clarified the nature of the evaluation process in action, identified certain strengths, and provided a philosophical and practical base for Michigan's system development.

From its experience, research, and perspective, the steering committee formulated a set of principles to guide the development and implementation of a self-evaluation system for community college

occupational education programs in Michigan. The guiding Principles were delineated as follows:

Local Focus

local initiation of the process
local administration of the activity
quantitative and qualitative data gathering and study
self-study with voluntary validation
individual program oriented
outcomes available as a tool for a management plan
for action

State Focus

quantitative data aggregated for reporting purposes on
state level
coordination of data gathering to avoid duplication
provision for a continuing committee at the policy level
made up of users of the system

Evaluation System Components

Four components were identified by the steering committee as being necessary for a comprehensive local evaluation system for occupational education programs in Michigan community colleges.

Student flow would deal with the chronological path of the student through an institution. The information should include: (1) student intent (academic goals, career goals, and recruitment data); (2) market analysis (community information, i.e., job needs, employment opportunities); (3) enrollment information (attrition, leavers, drop-outs, credit hour information-course-program); and (4) follow-up information. The outcome should include information in at least two categories: day/night by enrollment period and student demographic data (i.e., age, race, sex, handicap, economic status, intent), and follow-up information which would include

student follow-up by program, enrollment period, student intent achievement (educational/occupational), and follow-up on employer.

The student flow system would incorporate the data elements mandated by the Vocational Education Data System and would probably be similar to the TEX SIS model or California's SAM model. The Texas Student Information System (TEX SIS) is a survey based student information system designed for community colleges to use in gathering student enrollment information. California's Student Accountability Model (SAM) is a computerized enrollment system utilizing the concept of student enrollment in an identified critical course as an indice to determine that individual's educational goal being identifiable in a specific educational program.

Program Evaluation should be accomplished by designing a system, along with supporting documentation, to measure the adequacy of curriculum content and methods, personnel, facilities, equipment, supplies, administration, and any other areas normally reviewed in program evaluation systems. This system should be geared to institutional self-study similar in nature to a North-Central Accreditation study, COPES, or other self-study systems. The Community College Occupational Program Evaluation System (COPES) developed in California for use by the community colleges is a perception based process for evaluating the effectiveness of occupational education programs.

Financial analysis should be accomplished by designing a system for identifying program/credit/course/student costs and correlated resource requirements. Major considerations would

include: (1) cost/revenue and sources, (2) program capability, (3) alternative instructional processes, and (4) facility utilization subsystems and should include: (a) amortization of equipment, (b) cost benefit analysis, and (c) cost efficiency.

Management plan would be an analysis planning management system incorporating the results of student flow, program evaluation, and financial analysis into a policy analysis mode. Existing management plans would be reviewed and strategies for change would be selected to achieve appropriate new policies. Development of an analysis, planning, and development system should include: (1) policy analysis, (2) planning (including goal setting to program level), (3) management (implementation), and (4) evaluation (measuring success of the management plan).

The Michigan Community College Occupational Education Evaluation System (MCCOEES) which evolved from the preceding consists of the following subsystems:

Michigan Student Information System is a series of data collection instruments (with technical and computer support) specifically designed to fulfill many informational needs of student enrollment and follow-up in Michigan community colleges.

Program Review in Occupational Education is a consistent, flexible, self-study model based on perceptive data from faculty, students, and advisory committee members to be used as a tool in evaluating occupational programs.

Activity Classification Structure is designed to aid in the collection of uniform and comparable financial data in Michigan community colleges. This system enables the community colleges to collect and report financial data and to use comparison methods for decision-making purposes.

Manager includes (1) development of criteria for evaluating occupational education programs from an institutional perspective, (2) creating a process for synthesizing, summarizing, analyzing, and interpreting information obtained from the previous three systems and other appropriate sources to be used as a basis for evaluation, (3) establishing guidelines for local decision-making which would assist in processing information, examining institutional and individual values, identification of alternative strategies, selecting a specific strategy, and implementing the selected strategy, and (4) identifying potential strategies which may be selected and recommending methods for support services to make these strategies available.

Development of MiSIS

The Michigan Student Information System was developed as a part of the overall Michigan Community College Occupational Education Evaluation System. The Michigan Student Information System conforms to the student flow component of the evaluation system.

A Student Flow subcommittee was formed during the 1978-1979 academic year to develop the student flow component into a complete system. Members of the student flow subcommittee during the development of the Michigan Student Information System were:

Bruce Blanding	Michigan Department of Education
Sally Goodwin	Henry Ford Community College
Toni Hall	TEX SIS Support Services
Nancy Jobe	Michigan Department of Education
Charles Kiefer	Michigan Department of Education
Mark Marciniak	Delta College
Frank Marczak	Muskegon Community College
Sam Mazman	Westshore Community College
Arnold Metz	St. Clair Community College
Arthur Oettmeier	Delta College
Gene Packwood	Delta College
Jim Reed	TEX SIS Support Services
Daniel Sauter	Southeastern Michigan League of Community Colleges
William Yankee	Northwestern Michigan College

MiSIS Components

The resulting Michigan Student Information System incorporates 13 survey instruments into six distinct subsystems. The Michigan Student Information System is complete with manuals, brochures, and other supporting documentation. Technical assistance and centralized data processing are available and most of the colleges use both. The six subsystems incorporated in the Michigan Student Information System are the (1) Student Educational Intent, (2) Withdrawal Follow-up, (3) Non-Returning Student Follow-up, (4) Graduate Follow-up, (5) Employer Follow-up, and (6) Continuing Education Follow-up.

Student Educational Intent is a subsystem consisting of a card designed to gather information about the student's educational goal. The card is designed to be used during the college's registration process; the intended population being all registering students. Information collected includes: (a) student identification, (b) sex and ethnic data, (c) reason(s) for attending, (d) educational goal, (e) program major, and (f) special assistance items. Information collected on the Student Enrollment Intent card can be processed to produce student profiles of enrollment and serve as baseline data for later identifying leaver populations.

Withdrawal Follow-up is a subsystem consisting of three separate surveys: (a) course withdrawal, (b) college withdrawal, and (c) walk-off. The withdrawal follow-up subsystem collects information about attrition at the time the student leaves. The course withdrawal survey is a card designed to be completed as the

student formally drops a course; it gathers data identifying the reasons for the student's withdrawal from that course. Also in card form, the college withdrawal survey is designed to be completed by a student who is formally dropping all courses at the college. The intent is to gather data identifying the reasons for the student's withdrawal from the college. Finally, the walk-off survey is a card, designed to be mailed, to gather withdrawal data from students who stop attending a course but who do not formally withdraw. While the course and college withdrawal surveys can be conducted by a single person usually located in the registrar's office, the walk-off survey requires individual faculty identification of the student. In colleges which do not maintain attendance records, this last survey cannot be conducted.

Non-Returning Student Follow-up is a subsystem consisting of two surveys: (1) non-returning student survey and (b) occupational/technical non-returning student survey. Both surveys are printed on 8½ x 11 paper and may be either folded and mailed or placed in envelopes for mailing. The surveys are designed to collect data from students who enroll for a specific period and then do not return in subsequent enrollment periods. The non-returning student survey may be used with all program majors and the occupational/technical non-returning student survey is specifically designed to collect information from students who were occupational/technical majors. The non-returning student follow-up subsystem gathers information about student's reasons for not

returning, what activities those students may be currently engaged in, and employment data when applicable.

Graduate Follow-up is a subsystem consisting of three separate surveys: (a) graduate--1, (b) graduate--3, and (c) graduate--5. The graduate follow-up subsystem collects information from students who have completed community college programs. All three surveys are printed on 8½ x 11 paper and are designed for mailing. The graduate--1 survey is designed to be mailed to students the year after they graduate; the graduate--3 is designed to be mailed to students three years after they have graduated; the graduate--5 is designed to be mailed to students five years after they have graduated. The surveys gather information on the employment success of graduates and allow for longitudinal comparisons of selected populations.

Employer Follow-up is a subsystem consisting of half sheets designed to collect information from employers of students who were enrolled in or completed a program offered by the college. The survey instrument is designed to be mailed to employers as identified by student responses on either the non-returning student follow-up surveys or the graduate follow-up surveys. The employer follow-up survey identifies the employer's rating of the employee's work attitude and technical knowledge, and also measures the employer's opinion of the training received by the employee.

Continuing Education Follow-up is a subsystem consisting of three separate surveys: (a) continuing education--preparatory,

(b) continuing education--supplemental, and (c) continuing education--other. All three of the surveys are printed on cards and may either be mailed or administered in class. The continuing education--preparatory-survey is designed to gather information for federal reporting of the vocational education; the continuing education--supplemental-survey is designed to gather information about the effectiveness of selected continuing education courses; the continuing education--other-survey is designed to gather information on non-occupationally oriented continuing education courses.

Implementation of MiSIS

The Michigan Student Information System USERS Committee was developed from the student flow subcommittee. Additional membership was added to broaden community college representation and type and level of college administration involved. The 1979-1980 membership of the Michigan Student Information System USERS Committee consisted of:

R. Ernest Dear	Gogebic Community College
John Eaton	West Shore Community College
William Iagleton	Kirtland Community College
Lornie Kerr	Northwestern Michigan College
Carol Larson	Jackson Community College
Frank Marczak	Muskegon Community College
Sam Mazman	West Shore Community College
Arnold Metz	St. Clair Community College
David Munger	North Central Community College
Gunder Myran	Washtenaw Community College
Arthur Oettmeier	Delta College
William Rude	State Advisory Council for Vocational Education
Mack Seney	Michigan Department of Education
Harold Sheffer	Jackson Community College

Dezo Silagyi
Donald Sims

Macomb Community College
Washtenaw Community College

Ex-Officio

Bruce Blanding
Jim Folkening
Nancy Jobe
Charles Kiefer
Jim Reed
Toni Hall
Betty Finkbeiner

Michigan Department of Education
Michigan Department of Education
Michigan Department of Education
Michigan Department of Education
MiSIS Support Services
MiSIS Support Services
MiSIS Project Director-Washtenaw
Community College

The role of the Michigan Student Information System Users Committee was to: (1) provide overall coordination of MiSIS; (2) guide support services activities; (3) assist in the MiSIS project coordination; (4) develop MiSIS policy agreements including those regarding data release issues, system changes, and publications; and (5) assist in the promotion of the Michigan Student Information System on a statewide basis.

The primary objective of the 1979-1980 Michigan Student Information System implementation effort was to ensure successful diffusion of the system thereby providing accessibility to valid local and state student information for state planning and coordination, legislative purposes, improvement of Michigan community colleges' programs, and other uses. The diffusion effort was enabled by a grant from the Michigan Department of Education to Washtenaw Community College which assumed responsibility for coordination of the implementation of the system.

The organizational relationships involved in the diffusion process included: (1) Michigan Department of Education who provided

leadership in clarification of funding arrangements and federal reporting requirements, (2) Washtenaw Community College which had the responsibility for coordination of the overall implementation of the system, (3) the MiSIS Support Services which provided data processing and consulting services, and (4) a MiSIS Liaison person at each Michigan community college serving as a link between the external functions and the local community college staff who had the responsibility for implementing and using the Michigan Student Information System.

Each Michigan community college was encouraged through correspondence, presentations, meetings, and college visits to develop implementation plans at their college and to formalize those plans through the use of an institutional users committee.

Diffusion Activities

Efforts to assist Michigan community colleges in the adoption and use of the Michigan Student Information System included: (1) regional and statewide meetings, (2) presentations, (3) document development, (4) committee meetings, and (5) communications.

Regional and statewide meetings. The Michigan Student Information System implementation efforts were served by two levels of state and regional meetings. A statewide meeting was held at Jackson Community College on November 13, 1979 to introduce the Michigan Student Information System to the designated MiSIS Liaisons from the community colleges. The agenda for the meeting included an extensive discussion of the Michigan Student Information System,

its development, and plans for implementation. Four regional meetings were held during the month of April 1980 at four Michigan community colleges. These meetings included discussion of survey methodology, coding of questionnaires, the Vocational Education Data System interface, and specific concerns of the participants.

Presentations. Throughout 1979-1980, presentations were made to organizations and community colleges to raise the awareness level or to specifically train staff in the use of the system. The Michigan Department of Education staff member assigned to the project, Bruce Blanding, made the following presentations:

Kalamazoo Valley Community College	September 5, 1979
Southeastern Michigan League of Community Colleges	September 21, 1979
Michigan Community College Assn.	September 28, 1979
Washtenaw Community College	October 17, 1979
Jackson Community College	November 9, 1979
State Board for Public Junior & Community Colleges	November 20, 1979
West Shore Community College	November 26, 1979
Washtenaw Community College	November 28, 1979
Michigan Occupational Deans Administrative Council	December 13, 1979
Northwestern Michigan College	December 19, 1979
North Central Michigan College	December 19, 1979
Alpena Community College	December 20, 1979
Lansing Community College	January 10, 1980
Washtenaw Community College	January 23, 1980
Consortium 8, Plus 2	January 24, 1980
Macomb Community College	February 7, 1980
Montcalm Community College	March 25, 1980
Delta College	April 8, 1980
St. Clair Community College	April 29, 1980

In the spring of 1980, requests for additional information on the Michigan Student Information System increased. Michigan community colleges had become aware of the system and had begun campus discussions on their respective levels of participation in

the Michigan Student Information System. During this time and for the remainder of the 1979-1980 academic year, MiSIS Support Services Staff, Jim Reed and Toni Hall, in cooperation with the Washtenaw project director, Betty Finkbeiner, conducted college visitations as a result of requests from individual Michigan community colleges. The visits are listed below:

Wayne County Community College	June 10, 1980
Monroe County Community	June 11, 1980
Jackson Community College	June 12, 1980
Bay de Noc Community College	June 13, 1980
Kirtland Community College	June 16, 1980
Lansing Community College	June 17, 1980
Delta College	June 18, 1980
Jackson Community College	July 9, 1980
Wayne County Community College	July 23, 1980
Henry Ford Community College	July 24, 1980
Oakland Community College	July 25, 1980
Macomb County Community College	August 11, 1980
Southwestern Michigan College	August 12, 1980
Glen Oaks Community College	August 13, 1980
Northwestern Michigan College	August 15, 1980
Gogebic Community College	August 18, 1980
Alpena Community College	August 20, 1980
Muskegon Community College	September 22, 1980
Grand Rapids Community College	September 22, 1980
West Shore Community College	September 23, 1980
Kalamazoo Valley Community College	September 24, 1980
Jackson Community College	September 24, 1980
Highland Park Community College	September 25, 1980
Schoolcraft College	September 25, 1980
Henry Ford Community College	September 26, 1980

The discussions at the community colleges listed above were primarily dependent upon the extent of the college's involvement in the system. The visits were used to (1) introduce college personnel to the system, (2) train staff for implementation, (3) present information on data usage, (4) seek solutions to specific implementation problems, and (5) discuss the interface of the system with the Vocational Education Data System reporting requirements.

Document Development. Documentation of the Michigan Student Information System included development of: (a) a brochure, (b) activities manual, (c) procedures manual, (d) data processing manual, (e) enrollment and follow-up reporting guidelines, (f) questionnaire packet, and (g) computer programs.

The general documentation philosophy presented the Michigan Student Information System at three different levels. The first level (the brochure) gives a general overview of the system with appropriate information included for the college administrator to make decisions regarding the depth of system involvement desired. The second level (the activities manual) presents the actual questionnaires utilized by the system for college staff to make decisions regarding the usefulness of the questionnaires in a particular college environment. The third level (the procedures manual and the data processing manual) present the system in a more comprehensive manner and can be used as a guide to actually implementing the various surveys.

Committee Meetings. The MiSIS Users Committee met on two separate occasions during the 1979-1980 academic year. The initial meeting was held March 11, 1980 and hosted by Dr. Gunder Myran, President, Washtenaw Community College. The second meeting was held July 10, 1980 and hosted by Mr. Harold Sheffer, President, Jackson Community College. The first meeting included discussion of the following:

- Historical review of MiSIS
- Current status of MiSIS

- Role of the MiSIS Users Committee
- Establishment of Subcommittees
- Statewide uniform coding schemes
- Future MiSIS funding
- MiSIS/VEDS guidelines
- Development of continuing education questionnaire
- Data release policy

The July 10, 1980 meeting included the following discussions:

- Subcommittee reports
- Data Release Policy Agreement
- Publication "The Next Step"
- MiSIS questionnaire changes
- Report from the Michigan Department of Education

Communications. During the 1979-1980 academic year, active communication with local community college personnel was accomplished through telephone conversations, letters, and statewide memoranda. Subjects included in the communications included:

- Initial MiSIS implementation activities
- MiSIS Liaison list development
- Users committee coordination
- Survey specifications
- MiSIS/VEDS interface guidelines
- College visitations

Diffusion Results

The result of the diffusion efforts during the 1979-1980 academic year are delineated in the table on the following page. A total of 78 different surveys were conducted and processed using the Michigan Student Information System. The majority of the surveys (44) were student educational intent surveys, which may have indicated the initial commitment to using the system. The diffusion process for the Michigan Student Information System continued into the 1980-1981 academic year with the Michigan

[illegible]

Department of Education awarding a grant to West Shore Community College, the successful bidder, to continue the implementation activities and support services for the system.

In February of 1981, West Shore conducted a brief telephone survey of the 29 Michigan community colleges to determine the level of current and anticipated usage of the Michigan Student Information System. The survey indicated that the 13 questionnaires in the system were used by the community colleges to conduct 124 different surveys, with an additional 35 surveys anticipated by the end of the 1980-1981 academic year. The table on the following page delineates the particular surveys used by each college with the level of usage indicated.

MICHIGAN STUDENT INFORMATION SYSTEM (MISIS)													
MICHIGAN COMMUNITY COLLEGES	MISIS QUESTIONNAIRE												
	Student's Educational Intent	Course Withdrawal	College Withdrawal	Malloff	Non-Returning Student	OccTech Non-returning Student	First Year Graduate	Third Year Graduate	Fifth Year Graduate	Employer	Continuing Education (Preparatory)	Continuing Education (Supplemental)	Continuing Education (Other)
Alpena Community College	*	*	*	*	*	*	*	*	*	*			
Bay de Noc Community College	*	*	*	*	*	*	*	*	*	*			
C. S. Mott Community College	*	+											
Delta College					+		*						
Glen Oaks Community College	*	*	*	+	+	+	*		*	*			
Gogebic Community College	*	*	*	+	*		*		*	*			
Grand Rapids Junior College							*		*	*			
Henry Ford Community College	*	+					*	*	*	*			
Highland Park Community College	*	*	*	*	*	*	*	+	+	+			*
Jackson Community College	*	*	*	*	*	*	*	*	*	*	*	*	*
Kalamazoo Valley Community College	*				+		*			+			
Kellogg Community College							*			*			
Kirtland Community College	*	*	*		*		*			*			
Lake Michigan College	*	*	*		*		*						
Lansing Community College													
Macomb County Community College	*	*	*	*	*	*		*		+			*
Mid Michigan Community College	*	*			*	*	*			*			
Monroe County Community College	*				*	*	*			*			
Montcalm Community College	+				+		+			+			
Muskegon Community College	*		+				*						
North Central Michigan College	*	*	*	+	+		*						
Northwestern Michigan College	*		*		*	*	*			*	*		
Oakland Community College						*	*			*			
Schoolcraft College	*	+	+	+	+	+	+	+	+	*	+	+	+
Southwestern Michigan College	*				*	*	*		*	*			
St. Clair County Community College	*												
Washtenaw Community College	*						+						
Wayne County Community College	*						*			*			
West Shore Community College	*	*	*	*	*	*	*	+	+	*			
TOTALS:													
Questionnaires currently in use	24	12	12	6	13	7	20	4	3	17	2	1	2
Questionnaires to be used	0	3	2	4	6	2	3	3	4	4	1	1	1

*Currently in use

+To be used in near future