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AN ASSESSMENT OF PERCEIVED INSTRUCTIONAL NEEDS AND INSERVICE TRAINING PREFERENCES OF FULL-TIME ACCOUNTING, DATA-PROCESSING, AND ECONOMICS FACULTY IN MICHIGAN PUBLIC COMMUNITY COLLEGES

Michigan State University   PH.D.   1985

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AN ASSESSMENT OF PERCEIVED INSTRUCTIONAL NEEDS AND INSERVICE

TRAINING PREFERENCES OF FULL-TIME ACCOUNTING,

DATA-PROCESSING, AND ECONOMICS FACULTY IN

MICHIGAN PUBLIC COMMUNITY COLLEGES

By

Leonard G. Peterson

A DISSERTATION

Submitted to
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ABSTRACT

AN ASSESSMENT OF PERCEIVED INSTRUCTIONAL NEEDS AND INSERVICE
TRAINING PREFERENCES OF FULL-TIME ACCOUNTING,
DATA-PROCESSING, AND ECONOMICS FACULTY IN
MICHIGAN PUBLIC COMMUNITY COLLEGES

By

Leonard G. Peterson

The problem addressed was to identify and analyze perceived
instructional needs of Michigan public community college accounting,
data-processing, and economics faculty through a needs assessment
questionnaire. The investigation likewise examined the extent to which
these instructional needs might be met through inservice training,
faculty preferences for inservice training, and factors contributing to
participation in inservice training.

The population consisted of full-time accounting, data-
processing, and economics faculty in Michigan's 29 public community
colleges. The survey instrument was based on 34 community college
instructional needs assessments. Instructional competencies were
categorized into seven clusters: evaluation, instructional technology,
learning theory, planning and implementing instruction, relationships
with students, subject matter, and teaching strategies.

The instrument was validated by a pilot study and by three
nationally known experts in staff development. Results of the study

were analyzed by MANOVA, univariate F-tests, and chi-square techniques to determine if demographic variables affected respondents' perceptions of instructional needs and faculty preferences for inservice training.

Although the means of the subject matter and instructional strategies clusters ranked the highest, few differences in the identification of perceived needs appeared. Only one independent variable, teaching discipline, contributed to significant differences. Data-processing faculty were the most likely group to perceive instructional needs, while economics faculty were the least likely group to perceive instructional needs.

Respondents apparently felt that inservice training has a relationship to meeting perceived instructional needs. One- to three-day seminars, rather than one-week to two-week workshops, predominated the respondents' choices of inservice training time duration. Respondents preferred the sponsorship of inservice training by community colleges and professional organizations.

A 56.6% return of the population indicated that the majority of respondents were male, in the 30- and 40-year age brackets, had 8 to 19 years of community college teaching experience, had master's degrees, had been employed in business or industry, had not completed formal teacher training, and had participated in inservice training within the past five years.

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TABLE OF CONTENTS

LIST OF TABLES

vi

viii

ix

x

CHAPTER I

THE PRO: :M

Introduction to the Problem

Two-year colleges have assumed a greater importance in higher
education because increasing numbers of students are attending these
institutions. Nationally, two-year public college enrollment grew from
2,543,901 in fall 1971 to 4,799,768 in fall 1984, an increase of 89%
(1984 Community, Technical, and Junior College Directory, 1984).
However, the percentage increase has declined from the enrollment boom
of the early 1970s. In 1968, nearly 28% of all students enrolled in
institutions of higher education were attending two-year colleges. By
1981, approximately 46% of those enrolled in college attended community
colleges (Magarrel, 1982). As of fall 1981, increases in community
college enrollments accounted for the majority of national enrollment
gains in public postsecondary institutions (Nielsen & Polishook,
1982). In 1958, one in five students began their college work in
community colleges; ten years later, one in three students began their
college experience in community colleges; and by fall 1981, more than
half of those beginning college did so in community colleges (Nielsen &
Polishook, 1982). Hence, increasing numbers of students are obtaining
their first exposure to higher education in two-year colleges.

During the 1970s and early 1980s, public community colleges were the fastest growing institutions of higher education in Michigan. Enrollment in Michigan's 29 public community colleges grew from 126,682 in fall 1971 to 217,230 in fall 1983, an increase of 71% (Michigan, 1983).

As public community colleges have been charged with educating a greater number of freshman and sophomore students, other forces for change have affected community college faculty, as well. According to literature in the field, community colleges and their faculties must face the following contemporary forces:

1. Competition for limited tax dollars and increased public demand for accountability

2. Faculty deficiencies in preservice preparation

3. Decreased faculty mobility

4. Technological advances in instruction

5. Increasing use of part-time faculty

6. Changing student clientele

These change factors strongly affect community college faculty who are attempting to meet their students' educational needs. As a result, discussions of instructional improvement are attracting more attention and gaining higher priority on many two-year public college campuses. The six change factors are discussed in detail on the following pages.

Decreased Funding and
Increased Accountability

In the late 1970s and early 1980s, community colleges were faced with the harsh reality of decreased funding or at least more competition for limited tax dollars. Steady-state community college financing and fiscal retrenchment or austerity has been well publicized nationally and in Michigan. According to the literature, stabilization or curtailment in funding has contributed to a less mobile faculty (Centra, 1978; Wallace, 1975). Financial support will continue to be a critical problem for community colleges throughout the 1980s.

In the 1970s, students, employers, taxpayers, and public officials began to voice their demands for accountability and relevance. English and Kaufman (1975) defined accountability as "a process of demonstrating that the organization has accomplished that which it said it would accomplish" (p. 5). Centra (1978) wrote,

> Another reason for the recent emphasis on faculty development and instructional improvement . . . is the general disenchantment, expressed by students, parents, and legislators . . . with the quality of college instruction. (p. 189)

Deficiencies in Preservice
Training for Community
College Faculty

Deficiencies in preservice preparation to teach in the community college have been another force for change. Many administration and faculty groups are dissatisfied with the traditional preparation they received for performing untraditional tasks ("Community College Faculty Development," 1973). Preservice programs are rarely based on theory, rarely evaluated, and seldom supported or rejected on their

merits. "Preservice preparation of professional staff members is rarely ideal and may be primarily an introduction to professional preparation rather than professional preparation as such" (Harris, Bessent, & McIntyre, 1969, p. 3).

Yarrington (1974) wrote, "Preservice programs for the preparation of community college teachers have been grossly inadequate" (p. 28). Preservice preparation has not provided community college educators with the comprehensive community college philosophy. In addition, many community college faculty members were not initially prepared for employment within the unique environment of the community college. O'Banion (1972) concluded, "With very few exceptions, pre-service programs for the preparation of community-junior college staff are grossly inadequate" (p. 84).

According to Yarrington (1974),

> The master's degree in a subject matter field often means course specialization that is too narrow and no instruction in community college education or in teaching methodology. Yet the master of education degree has been criticized because it fails to offer sufficient preparation in the subject matter field. (p. 29)

Many faculty members who are excellent content specialists might be inadequately prepared or lack minimum teaching skills required for success in the classroom.

Decreased Faculty Mobility

The rapid growth in community college enrollments stabilized in the mid- to late 1970s, and the educational job market became oversupplied with potential instructors. Because of limited staff turnover

and no-growth faculties, employment mobility for the community college

teacher became a phenomenon of the past. New faculty provide "new

blood," bringing fresh perspectives and infusing new ideas into insti-

tutions. Inability to add new young faculty to community college

staffs, tight or declining job markets, low staff turnover, and reduced

faculty mobility require that innovations be made with current full-

time staff rather than through employing new faculty. This situation

emphasizes the need for instructional improvement through inservice

training.

In 1976, Seldin wrote,

> Above all, the faculty development programs are linked today to the
> tight job market for professors. Facing sharp drops in funding and
> student enrollment, colleges simply cannot afford to hire new
> faculty to infuse fresh ideas, innovative leadership, and new
> teaching techniques. As the pressure mounted, the colleges intro-
> duced programs aimed at sharpening the instructional skills of
> existing faculties. (p. 10)

Likewise, Sullivan (1983) concluded, "Many institutions abruptly found

that they could no longer afford to hire new faculty members to infuse

new ideas, provide leadership potential, or introduce innovative

teaching techniques" (p. 21).

Technological Advances in Society and in Education

The rapid advances made in a technological society contribute

to the obsolescence of instructional and educational practices. Both

social and technological changes influence teaching methods and

subject-matter knowledge. Development of a technology of instruction,

including both hardware and software, has recently accelerated. Many

faculty members are unaware of new instructional technologies, curriculum developments, changes in facilities and equipment, and such new teaching technologies as audio-visual tutorial, cognitive mapping, and use of video discs (Bergquist & Phillips, 1975; O'Banion, 1978).

Staff-development programs might help community college faculty acquire new ideas, technologies, skills, and teacher-learning styles while upgrading subject matter in their teaching. Because of rapidly changing developments in technology, student clientele, and subject matter, it is imperative that faculty have continuing opportunities to learn about and adopt innovations in their classrooms.

Increasing Use of Part-Time Faculty

As growth in community college student enrollments slowed in the mid-1970s, the number of part-time or adjunct faculty increased rapidly.

> The rapid growth in adjunct faculty at two-year institutions suggests that those instructors are becoming an increasingly significant part of the teaching effort at those schools. Furthermore, a review of the AACJC Directory of 1977 will quickly reveal that at a significant number of institutions, adjunct faculty comprise 40 to 50% of the staff. (Hammons, Wallace, & Watts, 1978, p. 38)

"Part-time faculty now outnumber full-time faculty in two-year institutions. In eight states (including Michigan), the ratio is 2 to 1 or greater, part-time to full-time faculty in 2-year public institutions" (Haddad & Dickens, 1978, p. 22). The 1984 Community, Technical, and Junior College Directory disclosed that 25 of Michigan's 29 public community colleges employ more part-time than full-time faculty.

Hiring of part-time faculty has increased because this allows more staff flexibility, and part-time faculty are often considered to be subject-matter specialists and to have more relevancy or applicability. Specific economic incentives for employing part-time community college faculty are that these individuals work for nominal hourly pay, are hired on short-term contracts, receive very few if any fringe benefits, and therefore are less costly than full-time faculty.

Part-time faculty often hold full-time jobs elsewhere and have had less teaching experience, limited or no preservice and inservice training, less preparation time, and less contact time with students. Many of these individuals have business and/or industrial backgrounds rather than educational or teaching experience (Haddad & Dickens, 1978; Hammons, Smith-Wallace, & Watts, 1978).

Changing Student Clientele

A final factor affecting community college faculty is the diversity of the community college student body. Responding to the growing diversity of learner needs is indeed a challenge to community college faculty. During the 1970s, the median student age and the number of part-time students increased, creating a major shift in the make-up of the student body. "Part-time adults represent the greatest number of learners in the community colleges, comprising 64% of the enrollment" (Hamilton, 1979, p. 58). Nontraditional students (minority groups, women, senior citizens, disadvantaged students, and the unemployed) constitute another segment of community college learners.

Two major challenges confront community college instructors: how to deal with diversity of student backgrounds and abilities and how to organize subject matter to cope with this diversity. Students from other than the traditional college population, many from low-income backgrounds and with less-than-average ability, are entering higher education through the community college. "With new clientele comes the pressure for faculty to become competent in a broader variety of teaching styles and methods" (Gaff, 1978, p. 21).

Open admissions, equal-opportunity policies, financial-aid programs, and other federal government mandates to increase accessibility to higher education have enabled a broader spectrum of the population to attend community colleges. As a result, disadvantaged students, ethnic and minority students, high-risk students, low achievers, marginally prepared students, and senior citizens are becoming typical learners in the community college. The commitment to serve underprepared learners while maintaining a reputation of academic excellence is a vital challenge to community college faculty (Friedlander, 1980). Inservice education, based on needs assessment, may well be the most logical vehicle to provide the knowledge and methods that can help faculty respond to the increasing diversity of needs, backgrounds, motivation, problems, learning styles, and range of abilities of community college students in the 1980s (Brimm & Tollett, 1974; Schultz, 1977).

Nationally and in Michigan, public community colleges adhere to an open-admissions policy, admitting virtually anyone who wishes to

enroll. With an equal opportunity and open-admissions policy, the public community college has accepted the task of providing a meaningful education to an increasingly heterogeneous group of students. The multifaceted public community college, the untraditional college of the people, has adopted a mission broad in scope, a philosophy of education for all--all abilities, all ages, all interests, and all social classes. Friedlander (1980) wrote,

> One outcome of this admission policy is that faculty members are often charged with providing instruction that is appropriate and meaningful to a group of students that varies considerably in terms of backgrounds, educational goals, abilities, and attitudes towards learning. (p. 27)

Need for the Study

According to O'Banion (1972), a prominent researcher in staff development,

> The quality of education in the community-junior college depends primarily on the quality of the staff. Community-junior colleges can enroll increasing numbers of students; they can develop a variety of educational programs; they can house these students and programs in attractive, modern facilities; but all these will avail little if their staffs are not highly competent and well prepared for the unique tasks assigned them by this new venture in American education. (p. v)

In the past decade, community colleges have experienced both a growth in enrollment and a broadening diversity of students. Community college faculty are experiencing uncertainty, frustration, and feelings of inadequacy in attempting to fulfill the diverse needs of students. Increasingly larger segments of the population from disparate origins and economic levels are entering community colleges. As Gaff (1975) wrote, "Changes in clientele, educational settings, learning styles,

and instructional methods require many faculty members to alter their usual teaching practices and adopt new relationships with students" (p. 2).

The development of a technology of instruction, including both hardware and software, has recently accelerated. "Recent technological advancements have sharpened the awareness of the need for educational innovations that contribute to teaching" (Roueche & Herrscher, 1973, p. 1). Yet "most faculty are unaware of these developments and their potential for improved instruction" (Hammons et al., 1978, p. 4).

According to Claxton (1976),

> Another of the important forces of change in the community college is the increasing realization that traditional means of teaching and the traditional college structure will not meet the needs of students of the community college. (pp. 5-6)

Universities have failed to prepare teachers for community college instruction through traditional preparation programs. O'Banion (1972) asserted:

> With very few exceptions, preservice programs for the preparation of community-junior college staff are grossly inadequate. The disciplines in the university are inflexible; the colleges of education are unsure and unpracticed. Available instructors are either discipline oriented, namely subject matter specialists or secondary-oriented, college of education graduates. Neither is prepared to instruct at the community-junior college. (p. 84)

With the focus of much graduate training for potential community college teachers on developing subject matter, with the inadequacy of preservice teacher-training programs, and with the increasingly difficult demands on teachers, few people would deny the need for continuing education to help faculty members reconsider traditional conceptions. Claxton (1976) concluded, "Because of the

different kind of student body that is in college today, the skills

needed for successful teaching are quite different from those in the

past" (p. 12) As McClain (1977) stated, "The need for staff develop-

ment has been documented, written about, and generally accepted by the

educational community. What is not resolved is finding suitable mech-

anisms for meeting the needs" (p. 9).

Research on inservice education is not definitive, but the

following generalizations about effective practices have received broad

support:

1. It is particularly important that the teachers who will be
   clients of the program are involved in the planning stages.
2. Program objectives which are very specific tend to be realized
   more often than those which are broadly stated; for example,
   specific teaching performances are outcomes more often than are
   changes in teachers' attitudes.
3. Evaluation should include measures of both teacher growth and
   effects on pupils; hence systematic evaluation of inservice
   education. (Hite & Howey, 1977, p. 14)

The present study was undertaken to address the instructional

needs of community college faculty and to investigate faculty percep-

tions concerning whether those needs could be met through inservice

education.

Purpose of the Study

The purpose of this investigation was to identify and analyze

perceptions of critical instructional needs of Michigan public

community college accounting, data-processing, and economics faculty

through a needs assessment. In addition, the study was designed to

analyze faculty perceptions about whether perceived instructional needs

might be met through inservice training. Faculty preferences for inservice training and factors contributing to participation in inservice training were also investigated.

The findings of the study might provide helpful information to persons responsible for planning and establishing inservice training programs. Inservice programs based on these findings could reflect the expressed needs and preferences of those to be served. The results of the study, serving as the basis for inservice training, might alleviate instructional needs of accounting, data-processing, and economics instructors. The findings might also be of value to administrators and faculty in evaluating instructional programs and in establishing faculty hiring policies.

Statement of the Problem

The problem addressed in the study was to determine and analyze faculty perceptions of instructional needs, the extent to which these needs might be met through inservice training, and factors likely to contribute to participation in inservice training. Faculty surveyed were full-time Michigan public community college accounting, data-processing, and economics instructors.

Research Questions

The following research questions were posed to guide the collection of data in the study and were addressed through the needs assessment.

1. What do accounting, data-processing, and economics faculty in Michigan public community colleges identify as critical needs in seven areas of instruction?

2. To what extent does gender affect the identification of perceived instructional needs and preferences for inservice training?

3. To what extent does age affect the identification of perceived instructional needs and preferences for inservice training?

4. To what extent does teaching discipline affect the identification of perceived instructional needs and preferences for inservice training?

5. To what extent does years of community college teaching experience affect the identification of perceived instructional needs and preferences for inservice training?

6. To what extent does years of higher education affect the identification of instructional needs and preferences for inservice training?

7. To what extent does previous full-time employment in business or industry affect the identification of instructional needs and preferences for inservice training?

8. To what extent does completion or noncompletion of formal teacher training affect the identification of instructional needs and preferences for inservice training?

9. To what extent does faculty participation in inservice training within the past five years affect the identification of instructional needs and preferences for inservice training?

10. To what extent does student-body headcount affect the identification of instructional needs and preferences for inservice training?

11. To what extent do public community college accounting, data-processing, and economics faculty perceive that instructional needs can be met through inservice training?

12. What are the preferences of public community college accounting, data-processing, and economics faculty for inservice training in terms of time, financial arrangements, and credit arrangements?

Hypotheses

The following hypotheses, stated in their null form, were formulated to test the data collected in this study:

Hypothesis 1: There are no differences in the identification of perceived instructional needs in the seven clusters of instruction.

Hypothesis 2: There are no differences in the identification of perceived instructional needs in regard to gender of teachers.

Hypothesis 3: There are no differences in the identification of perceived instructional needs in regard to age of teachers.

Hypothesis 4: There are no differences in the identification of perceived instructional needs in regard to teaching discipline.

Hypothesis 5: There are no differences in the identification of perceived instructional needs in regard to years of community college teaching experience.

Hypothesis 6: There are no differences in the identification of perceived instructional needs in regard to years of higher education.

Hypothesis 7: There are no differences in the identification of perceived instructional needs in regard to previous full-time employment in business or industry.

Hypothesis 8: There are no differences in the identification of perceived instructional needs in regard to completion or noncompletion of formal teacher training.

Hypothesis 9: There are no differences in the identification of perceived instructional needs in regard to participation in inservice training within the past five years.

Hypothesis 10: There are no differences in the identification of perceived instructional needs in regard to student-body headcount.

Hypothesis 11: There are no differences in faculty perceptions about whether instructional needs can be met through inservice training.

Hypothesis 12: There are no differences in preferences for inservice training in regard to gender of teachers.

Hypothesis 13: There are no differences in preferences for inservice training in regard to age of teachers.

Hypothesis 14: There are no differences in preferences for inservice training in regard to teaching discipline.

Hypothesis 15: There are no differences in preferences for inservice training in regard to years of community college teaching experience.

Hypothesis 16: There are no differences in preferences for inservice training in regard to years of higher education.

Hypothesis 17: There are no differences in preferences for inservice training in regard to previous full-time employment in business or industry.

Hypothesis 18: There are no differences in preferences for inservice training in regard to completion or noncompletion of formal teacher training.

Hypothesis 19: There are no differences in preferences for inservice training in regard to participation in inservice training within the past five years.

Hypothesis 20: There are no differences in preferences for inservice training in regard to student-body headcount.

Hypothesis 21: There are no differences in factors contributing to participation in inservice training regarding the nine independent variables.

Definition of Terms

The following terms are defined in the context in which they are used in this dissertation.

Community college: A public two-year postsecondary institution established under the provisions of Act 331 of the Public Acts of 1966 of the Michigan Legislature.

Faculty development: "An institutional process which seeks to modify the attitudes, skills, and behavior of faculty members toward greater competence and effectiveness in meeting student needs, their own needs, and the needs of the institution" (Francis, 1975, p. 720).

Inservice education: "Any planned program of learning opportunities afforded staff members of schools, colleges, or other educational agencies for purposes of improving the performance of the individual in already assigned positions" (Harris, 1980, p. 21).

Instructional needs: Needed skills, understandings, and competencies related to the process of teaching or to the presentation of instructional content, as opposed to material needs.

Needs assessment: "Systematic procedure for determining the discrepancy between existing and desired levels of attainment with respect to specific educational goals" (Ahmann, 1979, p. 1).

Perceived needs: Teaching skills and competencies subjectively and consciously recognized by community college faculty.

Delimitations of the Study

Faculty in two-year private Michigan community colleges were not surveyed because their institutions are not included in the

statewide articulation agreement with the Michigan Association of
Collegiate Registrars and Admission Officers (MACRAO). The MACRAO
Agreement establishes the framework for transfer equivalencies of
credits from Michigan's 29 public community colleges to 31 four-year
colleges and universities. Likewise, no attempt was made to ascertain
the instructional perceptions of part-time public community college
faculty, community college administrators, community college students,
or four-year college or university faculty. The majority of instruc-
tors in Michigan public community colleges are part-time faculty.
However, the instructional needs of part-time faculty members were not
surveyed in this study because these persons often have full-time
employment and/or academic obligations in addition to their community
college teaching responsibilities.

Limitations of the Study

Only subjective, perceived instructional needs of Michigan
public community college full-time accounting, data-processing, and
economics faculty were surveyed. Instructional needs were those
perceived as of December 1983/January 1984. The survey comprised 36
instructional competencies in seven clusters of instruction. Results
were influenced by the accuracy and truthfulness of responses to the
survey instrument and by the respondents' perceptions of instructional
needs. Findings are generalizable only to the population and the
geographical area included in the study.

Basic Assumptions

The writer made the following assumptions in conducting the research:

1. The subjective needs-assessment method of research would be adequate for carrying out the investigation.

2. Critical perceived instructional needs can be identified through a needs-assessment questionnaire.

3. In conducting the teacher needs assessment, emphasis was placed on process or teaching methodology rather than on the content or subject matter of the three teaching disciplines.

4. Community college instructors, rather than community college administrators or faculty members in four-year institutions, are most closely involved with community college students and subject matter.

5. The findings of an identification of critical instructional needs in Michigan's 29 public community colleges could provide meaningful information to individuals responsible for planning community college programs and courses.

Organization of the Study

This dissertation is organized into five chapters. Chapter I contained an introduction to the problem, the need for and purpose of the study, a statement of the research questions and hypotheses, definitions of key terms, and delimitations, limitations, and assumptions of the research.

Chapter II is a review of the literature on topics pertinent to the current investigation. Examined first are writings on needs assessment, especially as it relates to the community college. Also explored are definitions, purposes, and history of inservice education.

The research procedures followed in this study are detailed in Chapter III. The population, instrumentation, and data-collection and data-analysis techniques are discussed.

Chapter IV contains an analysis of the data collected for this study. The summary and conclusions of the investigation are found in Chapter V, along with recommendations for further research.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The literature pert'nent to the research problem is reviewed in

this chapter. Writings and research studies are cited with reference

to the problem under investigation. The chapter is organized as

follows: needs assessment--definition, purposes, community college

needs-assessment studies, and relationship to inservice education;

inservice education--definition, purposes, historical background, and

need for inservice education in community colleges. The chapter

concludes with an overall summary.

Needs Assessment

Definition of Needs Assessment

According to the Encyclopedia of Education Evaluation, needs

assessment is "the process by which one identifies needs and decides

upon priorities among them" (Anderson, 1975, p. 254). A more specific

definition of needs assessment was also given in the Encyclopedia:

"Evaluation of discrepancies between the existing situation and the
desired state of affairs also goes by the name of needs assessment
and frequently provides the stimulus for development of new or
improved educational or training programs. (Anderson, 1975, p. 128)

English and Kaufman (1975) identified needs assessment as

the formal process for identifying outcome gaps between current results and desired results, placing those "gaps" in priority order and selecting the gaps of highest priority for closure. It is, then, an outcome gap analysis plus placing of priorities among the needs. (p. 64)

Needs assessment is an empirical process or tool used to determine subjective value judgments about the measurable discrepancy between desired or acceptable performance (what ought to be) and current or observed performance (what is). A useful needs assessment identifies valid and useful needs and determines the utility of those needs, from which measurable behavioral objectives can be derived (Kaufman, 1977). Needs assessment is an approach to institutional planning whereby systematic techniques are used to gather input concerning problems, skills, objectives, outcomes, and competencies.

A need has been described as a condition in which there is a discrepancy between an acceptable state of affairs and an observed condition. The concept of need as a "gap" was first used by Tyler in 1950. He wrote:

Studies of the learner suggest educational objectives only when the information about the learner is compared with some desirable standards, some conception of acceptable norms, so that the difference between the present condition of the learner and the acceptable norm can be identified. This difference or gap is what is generally referred to as a need. (pp. 5-6)

For purposes of the present study, needs assessment is the collection of data relevant to an analysis of discrepancies between current practice and some desired state, as subjectively perceived by community college faculty members.

Purposes of Needs Assessment

The major purpose of a needs assessment is to gather the data necessary to set priorities for improving instruction. Such an assessment can identify discrepancies between present and desired practices, strengths, and the instructional improvements necessary to upgrade the quality of instruction.

A needs assessment can identify the problems and concerns of teachers, as well as address basic questions regarding educational needs. A needs assessment based on faculty perceptions can be used to identify and quantify measurable objectives, thereby helping instructional or curriculum planners select topics for inservice-training programs.

Through needs assessment,

> a set of procedures [is] developed in which a responsible and representative body carefully reviews a variety of relevant information and selects priorities that represent informed professional judgments about the best use of limited resources for improvement in instruction. (Harris, 1980, p. 134)

The purpose of needs assessment is to gather information about current practices and to begin the process of strengthening existing skills and developing new skills, knowledge, and abilities where discrepancies exist.

The literature revealed a strong relationship between needs assessment and inservice training. Writers consistently recommended that instructional improvement, based on needs assessment, should be carried out through inservice training (Claxton, 1976; Garrison, 1975).

In a subjective needs assessment, a questionnaire may be used to obtain respondents' opinions about the importance of goals or the seriousness of educational needs. This empirical process affords faculty the opportunity to assess strengths, weaknesses, and areas for improvement in their professional performance. Surveys are a frequently used and valuable tool for determining attitudes about instructional improvement. "Many authors acknowledge that needs assessment is essential to instructional improvement, and surveys and questionnaires are frequently cited as appropriate assessment methods" (Hammons et al., 1978, p. 26). Hence desired and needed training can be identified through needs assessments.

The findings of a needs assessment are a compilation of identified needs, prioritized to provide information for instructional planners. Top-priority items, ranked highest in importance on the questionnaire, should be accorded top priority for instructional improvement. According to English and Kaufman (1975), "needs statements are listed without reference as to the cause or reason. The needs assessment will indicate that differences exist, but it will not explain why there are such differences" (p. 39).

The literature stressed that the goals, organization, and planning of instructional improvement, to be carried out through inservice training, must be based on a needs assessment. "It is strongly recommended that the prospective participants, for whom activities are intended, be a part of the planning, the organization, and conducting process" (Al-Ghamdi, 1982, p. 164). Research on

instructional improvement has indicated that the most successful practices are those in whose planning the participants have been directly involved (Wattenbarger & Carpenter, 1975; Hammons et al., 1978). Community college faculty must be represented in decision making about instructional improvement. Effective instructional-improvement programs must be designed around self-perceived needs of the instructors themselves.

According to the literature, needs assessment is considered a prerequisite to inservice education. "Needs assessment is the first critical step in identifying problems to be addressed during inservice training" (Rubin & Hansen, 1980, p. 105). Therefore, a needs assessment that is responsive to teacher input appears to be the first step in instructional improvement to be carried out through inservice training. Needs assessment "can determine priorities for a program through identifying goals and determining the importance of each goal" (Kowle, 1982, p. 8).

Several authorities stressed the relationship between inservice education and faculty needs. Garrison (1975) stated,

> All inservice programs should be faculty originated and faculty developed and to whatever extent possible, faculty administered. Inservice training should grow out of self-perceived professional needs of teachers and groups of teachers. (p. 18)

Schultz (1973) concurred: "Faculty should be involved in the planning. The benefits of doing this are twofold. Faculty ideas are needed, and their involvement in the planning contributes to commitment to the program" (p. 24).

The primary focus of needs assessment is to gather information concerning teachers' perceived needs and problem identification. In Michigan, no statewide needs assessments or organized inservice programs exist. Community college faculty in the fields of accounting, data processing, and economics have not articulated their perceptions of needed competencies with professional organizations, subject-matter departments at four-year institutions, or the Michigan Department of Higher Education to discuss topics of concern to community college faculty. No statewide needs assessments or inservice programs exist in Michigan, primarily because of the decentralized nature of the state's 29 community colleges. Therefore, the present needs assessment was undertaken to provide a sense of direction to community college instructional planners.

Needs Assessment in Community Colleges

A variety of needs-assessment instruments were discovered through the review of literature. More than 30 community college needs-assessment surveys have been conducted relating to instructional needs. The following conclusions were drawn from a review of these survey instruments:

1. Community college needs-assessment surveys focused, in varying degrees, on instructional needs.

2. Needs-assessment instruments exist for both full-time and part-time community college faculty.

3. Community college faculty instructional-needs-assessment devices exist on the national, regional, state, and local levels.

4. Very few community college needs assessments have been conducted in a particular subject-matter area.

Relationship of Needs Assessment to Inservice Training

Experts in the area of community college instruction have concluded that inservice training appears to be the approach most often taken to remedy assessed instructional needs (Wattenbarger & Carpenter, 1975; Claxton, 1976). Inservice training was overwhelmingly recommended as the logical vehicle for instructional improvement, rather than conferences, conventions, graduate courses, professional reading, sabbaticals, travel, visitations, or work experience.

A number of authors closely related needs assessment with inservice training (Schultz, 1978; Brimm & Tollett, 1974). Although inservice training is considered a possible outcome of needs assessment, inservice training or professional development was strongly supported as the logical outgrowth of needs assessment. The writers assumed that inservice-training/faculty-development programs are the natural result of faculty identification of deficiencies, problems, and professional needs. As the faculty member is considered the most critical factor in an effective instructional-improvement program, planning meaningful inservice education should be organized and implemented with the active participation of those who are to benefit from such training.

The purpose of inservice education is to improve instructional skills, based on the needs of teachers, to enhance student learning. The literature suggested that one way faculty members can learn how to improve their teaching is by participating in inservice education (Cohen & Brawer, 1977; Gaff, 1975).

The amount of literature concerning community college needs assessment and inservice education is extensive and has increased during the past 15 years. Writers have basically concluded that the ongoing professional growth of teachers, based on needs assessment, is of crucial importance as community college faculty have been teaching and will continue to teach in a flexible environment.

For years, most community colleges have undertaken methods to encourage the professional development of faculty, including sabbaticals, conferences, and attendance at professional meetings. Such activities have not necessarily been based on needs assessments. According to O'Banion (1978), "Except in a few community colleges, . . . [needs assessments] are not translated into a well-defined purposeful staff development program" (p. 7). Primarily in the 1970s, faculty development, based on the subjective needs of teachers, expanded to include professional-growth training. Yarger wrote,

> Although the idea of teacher involvement in planning inservice is not new, it is also clearly not the primary approach currently being used in schools. The survey findings that discrepancies often exist between what teachers perceive as needed inservice and what content or topic areas are being provided is a reflection of a serious lack of substantive teacher involvement in planning and implementation. (p. v)

The 1973 American Association of Junior Colleges (AAJC) Assembly was concerned with programs, issues, and progress of staff development. The AAJC Assembly urged that staff development be the community and junior college's first-rank concern, giving it total institutional priority and commitment. The AAJC Assembly went on to stress the need for more surveys to identify the common needs of community college staff so that the findings can be used to make realistic funding decisions and tangible plans for the future. The group concurred that the greatest resource of the college is its staff. O'Banion (1973) stressed the last point by stating, "The quality of education in the community college depends primarily on the quality of staff" (p. 28).

In summary, needs assessment uses systematic techniques to gather input for educational planning. The data obtained from an assessment based on teacher-defined needs can provide the basis for planning programs that attempt to meet those needs. Theoretically, the needs assessment provides feedback and a means of articulating gaps between what is and what should be.

Inservice Education

Definition of Inservice Education

According to the literature, the term "inservice education" is synonymous with faculty development, professional development, and staff development. The four terms are used interchangeably in the literature. Hass (1957) provided an early and broad conceptualization of inservice education: "Inservice education includes all activities

engaged in by professional personnel during their service and designed

to contribute to improvement on the job" (p. 13). More recently,

Edelfelt and Johnson (1975) defined inservice education more specifi-

cally as "any professional development that a teacher undertakes singly

or with other teachers after receiving initial teaching certification

and after beginning professional practice" (p. 5). A definition that

appears appropriate for the current study was given by Orrange and Van

Ryn (1975):

> Inservice education is that portion of professional development
> that should be publicly supported and includes a program of syste-
> matically designed activities planned to increase the competencies
> --knowledge, skills, and attitudes--needed by school personnel in
> the performance of their assigned responsibilities. (p. 47)

Francis (1975) offered yet another definition suitable for this study:

> Faculty development may be described as an institutional process
> which seeks to modify the attitudes, skills, and behavior of
> faculty members toward greater competence and effectiveness in
> meeting student needs, their own needs, and the needs of the
> institution. (p. 720)

Improved teaching competencies and professional growth appear

to be the two most important goals of inservice education. Common

elements of the definitions of inservice education are that it is a

process of change, through planned activities or programs, based on

needs assessment, to modify attitudes, skills, and behaviors of

faculty, to improve instructional performance.

Purposes of Inservice Education

The primary purpose of inservice education is to improve

teaching. Based on the assumption that inservice education is intended

to enhance the professional expertise of practitioners, the general

activities or functions of inservice training are discussed in this

section. Rubin (1978) stated that the three general functions of

inservice education are "the extension of knowledge, particularly

subject matter, acquisition of teaching techniques, and a shaping of

attitudes and purpose" (p. 33).

Bergquist and Phillips (1975) advocated the following three

components of faculty development: "instructional development (change

in process), personal development (change in attitude), and organiza-

tional development (change in structure)" (p. 183). Within the first

category, the authors included such practices as curriculum develop-

ment, teaching diagnosis, and training. Personal development generally

involves activities to promote faculty growth, such as interpersonal-

skills training and career counseling. Organizational development

seeks to improve the institutional environment for teaching and

decision making and includes activities for both faculty and adminis-

trators. Team building and managerial development are part of organi-

zational development.

Bergquist and Phillips stated that these three activities are

developmental in nature and should provide for progressive enhancement

of technique mastery and greater fulfillment as a teacher. Meaningful

and continuous inservice education programs focus on improvement of

classroom performance and provision of knowledge and tools that enable

faculty to plan for and implement instructional approaches that are

responsive to various learning, content, and environmental styles and

that introduce innovative curricula. According to Francis (1975),
"successful programs change the way faculty feel about their profes-
sional role, increase their knowledge and skills in those roles, and
alter the way they carry them into practice" (p. 720).

Historical Background of
Inservice Education

Inservice education has been of great concern to educators for
some time because they recognize the importance of teachers' profes-
sional growth and the effect of such growth on students (Brimm &
Tollett, 1974). Substantial changes in the purposes and programs of
inservice education have occurred in the twentieth century. The empha-
sis has evolved from a remedial purpose to a developmental one. Until
about 1930, programs of inservice education, which were conducted
through teachers' institutes, were directed toward correcting teachers'
defects. According to Kilpatrick (1967),

> While the original purpose of in-service education was the
> elimination of deficiencies in teachers' pre-service preparation,
> it has been supplanted by other purposes, such as fulfilling the
> needs of teachers to keep abreast of the latest developments in the
> state of the art and in their specialized fields. (p. 1)

Corey wrote,

> The modern conception of in-service education, with its heavy
> emphasis upon co-operative problem-solving, is in considerable
> degree a result of changes in our ideas about human motivation and
> the way learning occurs within an institutional setting. (p. 2)

Staff development in the early 1960s was directed toward
preservice training and toward assimilating and orienting large numbers
of new personnel. "Rapid expansion, a teacher shortage, and employment

mobility undercut the need for in-service training" (Wallace, 1975,

p. 1). In 1968, Gleazer wrote,

> Many junior colleges . . . are faced with the imperative needs to
> develop orientation programs for faculty; and complex inservice
> programs for the induction of inexperienced teachers into the
> skills of instruction and the community-oriented nature of a
> majority of our institutions. (p. 7)

In the 1960s, community colleges focused on increasing numbers of

students, faculty, buildings, programs, and new colleges. However, by

the late 1960s and early 1970s, the enrollment boom stabilized, the

community college job market became glutted, and employment mobility

slowed down. Wrote Sullivan (1983), "The 1970's can . . . be accu-

rately described as a faculty development boom period. But recent

evidence suggests . . . that this boom is now over" (p. 21).

Because of the rapid growth in enrollments and the shortage of

community college faculty, staff development or inservice programs were

of relatively low priority until about 1970. As expansion stabilized

and as the feeling emerged that universities were not providing ade-

quate preservice programs for community college faculty, strong concern

for inservice education began to surface.

> Prior to the 1970's, faculty development was of little concern to
> either college and university faculties or to their administra-
> tions. A survey of literature in that period would have turned up
> a limited number of articles on the topic. Times have changed,
> however, and in the last ten years faculty development has become
> the focus of a growing number of research proposals, projects,
> articles, and books. (Stordahl, 1981, p. 7)

> Cohen and Brawer (1977) wrote,

> As a concept, faculty development has received much attention in
> the universities as well as in the two-year colleges. Focus in the
> 1970's, hence, has emphasized the need for professional refreshment
> and upgrading. (p. 66)

Bergquist and Phillips (1975) commented,

> Faculty development has become an increasingly prominent concept
> for a growing number of faculty and administrators in American
> colleges and universities. Institutions of higher education face
> the harsh realities of decreased funding, steady-state or declining
> enrollment, and declining faculty mobility, together with demands
> for accountability voiced by students, parents, and state and
> federal officials. Confronted with these conditions, faculty must
> consider the prospect of significant reevaluation of personal and
> professional attitudes toward classroom instruction and student-
> teacher relationships. (p. 178)

Bergquist, an authority on staff development in higher educa-
tion, reported that in the early 1970s, only 40 to 50 campuses had
faculty-development programs; by 1975, that number had risen to 200
(Sullivan, 1983). Centra completed a study for the Educational Testing
Service in November 1976 and reported on staff-development programs in
326 two-year colleges. Forty-nine percent of the colleges had some
unit or person responsible for staff development or instructional
improvement. In a 1977 study, Centra found that 1,004 of the 2,600
institutions of higher education he surveyed reported having organized
faculty-development activities (Sullivan, 1983). According to O'Banion
(1978), "staff development programs are still very new in community
colleges, and patterns of how they should be organized have not yet
emerged with any agreement" (p. 11).

Interest in and the provision of inservice programs for
community college faculty have been increasing in the 1980s, and high
priority has been given to inservice rather than preservice programs
(Roueche & Baker, 1983; Watts & Hammons, 1980). Watts and Hammons
(1980) concluded,

A partial explanation for the current acceptance of staff develop-
ment is its underlying assumption that improvements in the profes-
sional and personal lives of staff will lead to more effective and
efficient operation of the institutions in which they work. Past
deficiencies in pre-service preparation and gross neglect of in-
service education, coupled with the pressures of a "steady-state"
environment and new demands for accountability, have also contrib-
uted to providing an unusually receptive environment for staff
development by trustees, administrators, and faculty. (p. 1)

Because enrollments have stabilized in the 1970s and 1980s,

quality has now assumed a role of crucial importance in the contempo-

rary community college movement. Quality in the community college

means the competence and commitment to achieve the goals of this unique

institution of higher learning--primarily providing positive learning

experiences for students and being responsive to community needs.

The community college movement is coming of age. As part of the
maturation process, these special institutions of higher learning
are increasingly shifting emphasis from growth to quality. This
shift demands a reassessment of purpose and a commitment to serve
underprepared learners while maintaining academic excellence.
(Roueche & Baker, 1982, p. vii)

Too little attention was paid to faculty development throughout the

1960s because of the enchantment with increased enrollments. The shift

from growth to quality demands a commitment to serve learners while

striving for academic excellence. The challenge facing community

college faculty is clearly the quality of and accountability for

instruction.

"Faculty members are an institution's most valuable resource

and they need care and maintenance" (Houston & Pankratz, 1980, p. 55).

As noted in the 1973 report of the Assembly of the American Association

of Community and Junior Colleges (in Yarrington, 1974),

The staff of a college is its single greatest resource. In economic terms, the staff is the college's most significant and largest capital investment. In these terms alone, we affirm that it is only good sense that the investment should be helped to appreciate in value and not be allowed to wear itself out or slide into obsolescence by inattention or neglect. (p. 40)

Since the 1970s, the number of articles, papers, and research studies on inservice training for community college faculty has increased noticeably. According to the American Association of Junior Colleges (AAJC) ("Community College Faculty Development," 1973),

College leaders have come to realize that whether or not a faculty has received preservice education, some form of orientation to a campus and continued professional refreshment and improvement is necessary. In-service programs have resulted from faculty request and from the realization by college leaders that in-service education might contribute to improvement of instruction. (p. 14)

The AAJC has also emphasized inservice in its programs and conferences. In an AAJC-sponsored study, Garrison (1967) reported on faculty attitudes after conducting informal interviews with more than 650 junior-college instructors. He found that "faculty were keenly aware of their need for professional up-grading and refreshment" (p. 14).

Summary

Many authors have acknowledged that needs assessment, such as surveys or questionnaires, is an essential first step in improving instruction (Hammons et al., 1978; Wattenbarger & Carpenter, 1975). The major purpose of needs assessment is to gather the data necessary to set priorities for improving instruction. Reviewing needs assessments in the literature was instrumental in formulating the present needs assessment for Michigan community college faculty. Numerous authors stated that inservice training or staff development should be

the outcome of needs assessment (Claxton, 1976; Schultz, 1977). Few other alternatives for dealing with the problems or weaknesses of community college faculty, as revealed by the needs assessment, were recommended.

CHAPTER III

RESEARCH PROCEDURES

Introduction

The major purpose of this study was to identify and analyze the perceived instructional needs of Michigan public community college accounting, data-processing, and economics faculty members. The perceived instructional needs were identified through a needs-assessment questionnaire. In addition, the study was designed to analyze faculty perceptions about whether perceived instructional needs might be met through inservice training. Faculty preferences for inservice training and factors contributing to participation in inservice training were also investigated.

The procedures used to accomplish the purposes of the study are described in this chapter. Discussed are the population, development of the questionnaire, instrument validity and reliability, collection of data, and statistical analyses of the data.

Population

Michigan has 29 public community colleges. At the time of this study, a centrally located file of faculty data did not exist. Therefore, the names of currently employed instructors had to be collected from each community college. The names of accounting, data-processing,

and economics faculty were secured in two ways. First, the researcher

obtained the 1982-1984 and 1983-1984 catalogues of 21 of the 29 public

two-year institutions, and from these catalogues he secured faculty

listings. Names of accounting, data-processing, and economics faculty

in the remaining eight community colleges were obtained through tele-

phone contacts with these institutions.

The total population of 182 community college accounting, data-

processing, and economics faculty was considered small enough that the

entire group could be surveyed. Since the total population were con-

sidered potential respondents for the mailed questionnaire, the survey

was considered a census rather than a sample. Table 1 shows a tabula-

tion of the study population and respondents, by community college and

subject matter. This population, specialists in accounting, data pro-

cessing, and economics, was selected because of feasibility of cost and

location. The writer assumed that less bias would occur if faculty

members from three disciplines were surveyed.

Instrumentation

The researcher developed an instrument related to the concerns

of community college teachers in general and designed to identify

instructional competencies considered essential to accounting, data-

processing, and economics teachers. The questionnaire was constructed

to obtain information concerning respondents' demographic background,

perceived instructional needs, whether perceived needs could be met

through inservice training, preferences for inservice training

arrangements, and the extent to which demographic variables were

Table 1.--Study population and respondents, by community college and subject-matter area (N = 182).

Community College	Accounting		Data Processing		Economics	
	Population	Respondents	Population	Respondents	Population	Respondents
Alpena Community College	1	1	1	1	1	1
Bay de Noc Community College	1	1	1	1	1	1
Delta College	6	5	4	2	3	3
Glen Oaks Community College	1	1	1	-	1	-
Gogebic Community College	1	1	2	1	1	1
Grand Rapids Junior College	5	3	2	-	2	1
Henry Ford Community College	2	-	4	2	5	1
Highland Park College	2	-	4	-	1	-
Jackson Junior College	3	2	2	2	2	1
Kalamazoo Valley Community College	3	2	1	-	1	-
Kellogg Community College	2	-	1	-	1	1
Kirtland Community College	1	-	1	-	1	1
Lake Michigan College	1	1	1	1	1	-
Lansing Community College	4	4	3	3	3	3
Macomb Community College	4	2	2	2	3	2
Mid-Michigan Community College	1	1	1	1	1	1
Monroe County Community College	1	-	2	1	1	1
Montcalm Community College	2	2	1	1	1	-
Mott Community College	3	1	1	-	2	1
Muskegon Community College	2	2	1	1	1	1
North Central Community College	1	-	1	1	3	1
Northwestern Michigan College	1	1	3	1	1	1
Oakland Community College	4	1	5	5	9	4
Schoolcraft College	3	3	4	4	2	-
Southwestern Michigan College	1	1	1	-	1	1
St. Clair County Community College	1	1	1	1	1	1
Washtenaw Community College	2	2	5	1	2	2
Wayne County Community College	4	-	5	1	3	-
West Shore Community College	1	1	1	1	1	-
Totals	64	39 (61%)	62	34 (55%)	56	30 (53%)

related to perceptions of instructional needs and preferences for inservice training arrangements.

No statewide community college needs-assessment instrument existed when this study was initiated. The researcher revised and adapted 34 needs-assessment surveys, discovered through the review of literature, in constructing the instrument used in this study. After reviewing these 34 instruments, all of which dealt specifically with community college faculty competencies, the researcher classified instructional needs into seven clusters that closely resembled the classifications used in the reviewed surveys. Instructional needs and/or competencies were categorized into the following seven clusters:

Evaluation: grading, measurement, test design.

Instructional technology: audio-visuals, computer-assisted instruction, multi-media activities, programmed instruction, self-paced instruction.

Learning theory: diagnosing learning problems and deficiencies, applying learning principles to instruction, psychology of learning, teaching and learning process.

Planning and implementing instruction: behavioral/course objectives; implementing closure, feedback, and sequencing; selecting instructional activities.

Relationships with students: classroom management, communications, group dynamics, human-relations techniques, motivating students.

Subject matter: determining content, developing resource
materials, keeping abreast of subject matter.

Teaching strategies: adopting alternative instructional
techniques, improving lecture methods, increasing repertoire of teach-
ing methods.

The data contained in these seven categories should represent
contemporary information because 32 of the 34 reviewed needs-assessment
surveys were undertaken within the last ten years. The 34 community
college needs-assessment surveys reviewed for this study are listed in
an appendix to the bibliography.

Part A of the questionnaire sought demographic and personal
data about the respondents; these characteristics were the independent
variables for the study. Part B of the questionnaire was constructed
to identify perceived instructional needs within seven instructional
clusters. The results were analyzed to determine whether the inde-
pendent (demographic) variables affected the respondents' perceptions
of instructional needs.

The number of items in each of the seven instructional clusters
was as follows:

   A. Planning instruction: 5 items

   B. Instructional strategies: 7 items

   C. Evaluating instruction: 5 items

   D. Subject matter (content): 4 items

   E. Instructional management: 4 items

F.   Implementing instruction: 7 items

G.   Communications: 7 items

The investigator's doctoral committee and the Office of
Research Consultation at Michigan State University recommended the
Likert scale, a subjective, summated rating instrument, as appropriate
for use in this study. Summated rating scales are valuable exploratory
tools, which appear to be most useful in behavioral research. The
major advantage of a summated rating scale is the variance that may be
obtained. A four-value Likert scale was selected to eliminate the
"undecided" category and therefore to force a choice on the respondent.
Subjects were asked to respond to each needs-assessment item using the
following scale:

                    4 ... Strongly Agree
                    3 ... Agree
                    2 ... Disagree
                    1 ... Strongly Disagree

Validation of the Instrument

The questionnaire was first submitted to four part-time
economics faculty members at Lansing Community College in February
1983. After revising the questionnaire and consulting with his
doctoral committee and the Office of Research Consultation at Michigan
State University, the writer mailed the instrument to four accounting
faculty, four data-processing faculty, and four economics faculty.
This pilot study took place in September 1983. The sample for the
pilot study represented 6% of the total population and was attained by

selecting every fifteenth name from the total faculty list, regardless of school or teaching discipline.

The pilot study provided information concerning questionnaire content and format, data-collection techniques, clarity of wording, and interpretation of questions. After the pilot study, the instrument was revised and mailed to three nationally recognized experts in staff development for validation. The panel of experts included the following individuals:

> Dr. James Hammons
> University of Arkansas
> Fayetteville, Arkansas
>
> Dr. Terry O'Banion
> The League for Innovations in the Community College
> Laguna Hills, California
>
> Dr. James Wattenbarger
> University of Florida
> Gainesville, Florida

These individuals validated the questionnaire in October 1983.

The validated and revised questionnaire was mailed to all accounting, data-processing, and economics faculty in Michigan public community colleges in December 1983. (See Appendix B for copies of correspondence and the questionnaire.)

Instrument Reliability

The Statistical Package for the Social Sciences (SPSS) at the Michigan State University Computer Center was used in determining instrument reliability. Reliability of the 36-item needs assessment was computed by applying the Cronbach alpha technique. The reliability

coefficient or alpha for the 36 items equalled 0.95229. More specific

reliability data may be found in Appendix A.

Data-Collection and Analysis of Data

Before the surveys were mailed, a three-digit code number,

ranging from 1 to 182, was assigned to each questionnaire. In January

1984, one month after the questionnaires had been mailed, a reminder

letter was sent to nonrespondents, encouraging them to return their

completed questionnaires. All mailings were accompanied by an

addressed, stamped envelope in which to return the completed instru-

ment. Table 2 shows the number and percentage of questionnaires

returned, as well as the number and percentage of usable question-

naires. The 56.6% return rate was judged to be adequate for the pur-

pose of this investigation.

Table 2.--Summary of responses by number and percent.

Number of questionnaires mailed	182
Number of questionnaires returned	105
Percentage of questionnaires returned	57.7%
Number of usable questionnaires	103
Percentage of usable questionnaires	56.6%

In February 1984 the data were coded onto MSU Fortran coding

forms for computer analysis at the Michigan State University Computer

Center. The Statistical Package for the Social Sciences (SPSS) was

used to analyze the data. Descriptive statistics (frequencies, means,

standard deviations), multivariate analysis of variance (MANOVA),

univariate F-tests, and chi-square techniques were used in analyzing the data.

Means and standard deviations were used to analyze respondents' perceptions concerning each item in the needs-assessment questionnaire. Mean ratings were used to rank order the needs assessed in terms of priority. Likewise, the seven clusters or categories of instructional competencies were rank ordered according to means, as perceived by the three community college faculty groups.

To determine whether statistically significant relationships existed among the three groups of respondents for each instructional category and for all seven instructional clusters, hypotheses were tested using multivariate analysis of variance (MANOVA). (Hypotheses were listed in Chapter I.) The level of significance was set at .05. MANOVA was used to determine the effects of each independent variable (demographic data) on perceived instructional needs and preferences for inservice training.

Univariate F-tests were applied to determine the areas of instructional competencies in which there were significant differences among respondents regarding perceptions of needs. The univariate F-tests were used to determine if there were differences between means within the instructional cluster and to discover which mean or means were contributing equally to the cluster mean.

Chapter IV contains the results of the data analysis and a discussion of the findings of the study.

CHAPTER IV

ANALYSIS OF DATA

Introduction

The results of the data analysis are presented in this chapter. Descriptive statistics (frequencies and means), multivariate analysis of variance (MANOVA), univariate F-tests, and chi-square procedures were used in analyzing the data.

The MANOVA (Wilk's lambda technique) test was applied to determine the effects of each of the nine independent variables (demographic characteristics) on perceived instructional needs within the seven instructional clusters (dependent variables). MANOVA was used to test the hypotheses because of the existence of multiple dependent variables.

The univariate F-test was applied if the MANOVA test determined significant effects on the instructional clusters by the independent variables. The univariate F-test was applied to detect which cluster(s) contributed to the significant effects, as determined by the Wilk's lambda MANOVA test.

The chi-square test is used to compare observed and expected or theoretical frequencies in a contingency table to determine statistical significance. This test was used because both nominal and ordinal types of data were included in the study. This test was also used

46

because of the nature of categorical (instructional cluster) vari-
ables. This technique was used to test whether significant relation-
ships existed between respondents' preferences for inservice training
and each of the nine independent variables (demographic factors).
Hence, the chi-square was applied to determine if inservice-training
preferences depended on or were associated with each independent vari-
able.

Part I: Demographic Data

Part I of the instrument contained a series of questions
designed to obtain specific demographic information from the respond-
ents. The findings of the demographic part of the questionnaire are
shown in frequencies and percentages in Tables 3 through 17. These
tables correspond to questions on the demographic portion of the ques-
tionnaire.

Respondents were primarily employed in business or business-
related departments. Seventy-eight percent of the respondents were
affiliated with accounting, business, and data-processing departments
(Table 3).

As shown in Table 4, 86% of the respondents were male and 14%
were female.

Table 3.--Departmental affiliation of respondents (N = 103).

	Number	Percent
Accounting	19	18
Business	42	41
Data processing (computer science)	20	19
Economics	8	8
Education	..	..
Management/marketing	3	3
Social science	10	10
No response	1	1
Total	103	100

Table 4.--Gender of respondents (N = 103).

	Number	Percent
Male	89	86
Female	14	14
Total	103	100

Table 5 shows that 76% of the respondents (80 of 103) were from 31 to 50 years of age. A further breakdown indicated that the 30's age group accounted for 39% of the respondents in this age range, whereas the 40's age group accounted for 37%.

Almost all of the respondents (97%) were full-time faculty members (Table 6).

Table 5.--Age of respondents (N = 103).

	Number	Percent
Under 25 years	..	..
26 to 30 years	2	2
31 to 35 years	18	17
36 to 40 years	23	22
41 to 45 years	19	18
46 to 50 years	20	19
51 to 55 years	10	10
56 to 60 years	7	7
Over 60 years	4	4
Total	103	100

Table 6.--Faculty status of respondents (N = 103).

	Number	Percent
Full-time faculty member	100	97
Part-time faculty member	1	1
Other	1	1
No response	1	1
Total	103	100

Table 7 indicates that the respondents were fairly evenly divided among the three teaching disciplines. Total numbers responding represented more than half of each of the three subject-matter populations.

Table 7.--Major teaching disciplines of respondents (N = 103).

	Number	Percent
Accounting	39	38
Data processing	33	32
Economics	31	30
Total	103	100

Full-time faculty in the three disciplines in Michigan public community colleges appeared to be experienced, career employees. Table 8 indicates that 83% of the respondents had had from 4 to 19 years of community college teaching experience, whereas 64% had taught from 8 to 19 years.

Table 8.--Community college teaching experience of respondents (N = 103).

	Number	Percent
0 to 3 years	10	10
4 to 7 years	20	19
8 to 11 years	21	20
12 to 15 years	22	21
16 to 19 years	24	23
Over 20 years	6	6
Total	103	100

Nearly 50% of the respondents had a bachelor's degree in busi-
ness, data processing, or accounting. Eighty-seven percent had
master's degrees, and only 4% had earned a Ph.D. degree (Table 9).

Table 9.--Respondents' level of education and departments in which
college degrees are held (N = 103).

	Number	Percent
B.A./B.S. Degree		
Accounting	22	21
Business	26	25
Data processing	5	5
Economics	17	17
Education	12	12
Social science	4	4
Other	17	17
Total	103	100
M.A./M.S./M.B.A. Degree		
Accounting	14	14
Business	24	23
Data processing	3	3
Economics	16	16
Education	18	17
Social science	7	7
Other	8	8
No response	13	13
Total	103	100
Ph.D. Degree		
Accounting	1	1
Business	..	..
Data processing	..	..
Economics	..	..
Education	2	2
Social science	1	1
Other	..	..
No response	99	96
Total	103	100

Eighty-eight percent of the respondents had had four to nine years of higher education, and 54% had had from six to seven years of higher education (Table 10).

Table 10.--Number of years of higher education (N = 103).

	Number	Percent
4 to 5 years	17	17
6 to 7 years	56	54
8 to 9 years	18	17
10 to 11 years	4	4
Over 12 years	6	6
No response	2	2
Total	103	100

Eighty-six of the 103 respondents (83%) had previously been employed full time in business or industry, as shown in Table 11. Thus five-sixths of the respondents had experienced the world of work outside academia. Of that number, 72% had had more than two years of full-time work experience, 36% had had six to ten years of full-time work experience, and 20% had had more than ten years of full-time work experience (Table 12).

According to Table 13, more than half of the respondents (56%) had not completed a formal teacher-training program. The researcher therefore assumed that the majority of respondents had received no preservice training in teaching.

Table 11.—Previous full-time employment in business/industry (N = 103).

	Number	Percent
Yes	86	83
No	17	17
Total	103	100

Table 12.—Number of years of full-time employment in business/ industry (N = 103).

	Number	Percent
Less than 2 years	12	12
2 to 5 years	37	36
6 to 9 years	16	16
Over 10 years	21	20
No response	17	17
Total	103	100

Table 13.—Completion of a formal teacher-training program (N = 103).

	Number	Percent
Yes	45	44
No	58	56
Total	103	100

As shown in Table 14, 80 of the 103 respondents (78%) had
attended inservice-training programs in the past five years, and it
appears that they had attended more than one such program. Twenty-two
percent of the respondents had participated in no inservice training
within the past five years. Table 15 shows that professional associa-
tions and community colleges were the primary organizations sponsoring
inservice programs. The same table indicates that inservice training
usually did not carry university credit, nor were summer workshops a
common inservice-training experience.

Table 14.--Participation in inservice-training program during the
        past five years (N = 103).

	Number	Percent
Yes	80	78
No	23	22
Total	103	100

According to Table 16, 28 of the 103 respondents (27%) taught at
community colleges with enrollments of more than 15,001, making this the
largest headcount category. The remainder of the respondents were
fairly evenly distributed among the other headcount categories.

Table 15.--Sponsorship and characteristics of two most recent inservice-
training experiences (N = 103).

	Yes		No		No Response	
	No.	%	No.	%	No.	%
Experience 1						
Community college sponsored?	42	41	11	11	50	49
Professional assoc. sponsored?	40	39	16	16	47	46
University credit granted?	12	12	27	26	64	62
Summer workshop?	6	6	24	23	73	73
Subject-matter faculty involved in selection of training topics?	19	18	18	17	66	64
Experience 2						
Community college sponsored?	23	22	17	17	63	61
Professional assoc. sponsored?	42	41	7	7	54	52
University credit granted?	9	9	24	23	70	68
Summer workshop?	5	5	24	23	74	72
Subject-matter faculty involved in selection of training topics?	20	19	15	15	68	66

Table 16.--Student-body headcount as of fall 1983 (N = 103).

	Number	Percent
0 to 2,500	19	18
2,501 to 5,000	14	14
5,001 to 7,500	7	7
7,501 to 10,000	13	13
10,001 to 12,500	18	17
12,501 to 15,000	3	3
Over 15,001	28	27
No response	1	1
Total	103	100

Table 17 indicates that 35 of the 103 respondents (34%) had more than 801 students enrolled in courses in their teaching discipline, making this the predominant enrollment category.

Table 17.—Number of students enrolled in courses in subject's teaching discipline in fall 1983 (N = 103).

	Number	Percent
0 to 100	6	6
101 to 200	16	16
201 to 300	17	17
301 to 400	6	6
401 to 500	5	5
501 to 600	8	8
601 to 700	7	7
701 to 800	3	3
Over 801	35	34
Total	103	100

Part II: Needs Assessment

This section contains the results of the MANOVA (Wilk's lambda), univariate F-test, and chi-square analyses. Eighteen hypotheses were subjected to the MANOVA technique to test for correlation between the demographic variables and perceived instructional needs as well as inservice-training preferences. Univariate F-tests were applied four times to determine the areas of instructional competencies and inservice-training preferences in which significant differences appeared according to the MANOVA application. The chi-square procedure was applied to test the ten hypotheses relating to factors contributing

to participation in inservice training. In the ensuing discussion, each hypothesis is restated, followed by a narrative and tabular presentation of the data for that hypothesis.

Findings Resulting From Ranking of Means of the Seven Instructional Clusters: Hypothesis 1

In this section, data are presented concerning the ranking of the means of the seven instructional clusters.

Hypothesis 1: There are no differences in the identification of perceived instructional needs in the seven clusters of instruction.

As shown in Table 18, there appeared to be few differences in the identification of perceived instructional needs, as evidenced by the means of the seven instructional clusters. The difference between instructional cluster D (mean = 2.568) and cluster C (mean = 2.173) was approximately 0.4 out of a possible mean of 4.0. The findings indicated no significant differences among the means of the seven instructional clusters. All seven means were fairly well grouped in the middle range of the possible mean. Therefore, Hypothesis 1 was not rejected.

Findings Resulting From Application of MANOVA and Univariate F-Test Techniques: Hypotheses 2 Through 11

This section contains the results of testing the study hypotheses through application of the MANOVA and univariate F-test techniques. All hypotheses were tested at the 0.05 level of significance.

Table 18.--Means of the seven instructional clusters, in rank order
(highest possible mean = 4.0).

Instructional Cluster	Mean
D. Subject Matter (Content)	2.568
G. Communications	2.379
B. Instructional Strategies	2.345
A. Planning Instruction	2.237
E. Instructional Management	2.223
F. Implementing Instruction	2.193
C. Evaluating Instruction	2.173

Hypothesis 2: There are no differences in the identification of perceived instructional needs in regard to gender of teachers.

No significant difference existed between males and females regarding perceived instructional needs (Table 19). Therefore, Hypothesis 2 was not rejected. The nonsignificant relationship may have been a result of the small percentage of female respondents (14%).

Table 19.--Wilk's multivariate analysis of variance of perceived instructional needs, by gender.

Source of Variance	Approximate F	df	p
Gender	.89525	7.00	.514

Hypothesis 3: There are no differences in the identification of perceived instructional needs in regard to age of teachers.

No significant differences existed among respondents in the different age groups regarding perceptions of instructional needs (Table 20). Results of the MANOVA test appeared to indicate that the teachers' ages had no relationship to or effect on their perceptions of instructional needs. Therefore, Hypothesis 3 was not rejected. Nonsignificance might have been a result of respondents being heavily clustered in the 30's and 40's age brackets (76%).

Table 20.--Wilk's multivariate analysis of variance of perceived instructional needs, by age of teachers.

Source of Variance	Approximate F	df	p
Age	.96231	49.00	.549

Hypothesis 4: There are no differences in the identification of perceived instructional needs in regard to teaching discipline.

Results of the MANOVA test indicated that significant differences existed among respondents in the three teaching disciplines regarding perceptions of instructional needs (Table 21). Therefore, Hypothesis 4 was rejected. Univariate F-tests were employed to determine in which cluster(s) the significant differences existed.

Table 21.--Wilk's multivariate analysis of variance of perceived
instructional needs, by teaching discipline.

Source of Variance	Approximate F	df	p
Teaching discipline	.76219	14.00	.024

As indicated in Table 22, respondents' perceptions differed
significantly in four of the seven instructional clusters. The four
clusters affected by the respondents' teaching discipline were as
follows:

1. Evaluating Instruction. Data-processing faculty were most
inclined to perceive instructional needs in this cluster, whereas
economics instructors were the least disposed to perceive instructional
needs in the Evaluating Instruction cluster.

2. Subject Matter (Content). Data-processing instructors
perceived instructional needs to be more critical in this cluster,
whereas accounting faculty were least disposed to perceive instructional
needs in the Subject Matter cluster.

3. Implementing Instruction. Accounting Faculty more strongly
perceived instructional needs in this cluster; economics faculty were
least likely to perceive instructional needs in Implementing Instruc-
tion.

4. Communications. Data-processing faculty were most disposed
to perceive instructional needs in the Communications cluster, whereas

economics instructors were least likely to perceive instructional

needs in this cluster.

Table 22.--Results of uni.ariate F-tests for mean ratings according to
the effect of respondents' teaching disciplines.

Source of Variance (Cluster)	Sum of Squares	Mean Square	F	Significance of F
Planning Instruction	1.434	.717	2.089	.129
Instructional Strategies	2.310	1.155	2.781	.067
Evaluating Instruction	4.931	2.465	5.611	.005*
Subject Matter (Content)	4.011	2.006	3.816	.025*
Instructional Management	2.217	1.108	1.879	.158
Implementing Instruction	4.701	2.351	4.098	.019*
Communications	5.092	2.546	3.502	.034*

*Significant at .05.

Hypothesis 5: There are no differences in the identification of
perceived instructional needs in regard to years of community
college teaching experience.

No significant differences were found to exist among

respondents with different amounts of community college teaching

experience, regarding their perceptions of instructional needs (Table

23). Therefore, Hypothesis 5 was not rejected. Apparently the amount

of teaching experience had no effect on perceived instructional needs.

Nonsignificance might be explained by the fact that, in general, the

respondents were experienced community college instructors: 80% had

had eight or more years of community college teaching experience.

Table 23.--Wilk's multivariate analysis of variance of perceived
instructional needs, by community college teaching
experience.

Source of Variance	Approximate F	df	p
Teaching experience	1.07959	35.00	.352

Hypothesis 6: There are no differences in the identification of perceived instructional needs in regard to years of higher education.

No significant differences existed among respondents with different amounts of higher education, in regard to perceived instructional needs (Table 24). Therefore, Hypothesis 6 was not rejected. The total years of higher education apparently had no effect on instructors' perception of instructional needs. The lack of significant differences might have been a result of the similarity in the respondents' amounts of higher education. Nearly three-fourths of the respondents had had six to nine years of higher education.

Table 24.--Wilk's multivariate analysis of variance of perceived
instructional needs, by years of higher education.

Source of Variance	Approximate F	df	p
Years of higher education	.64961	28.00	.059

Hypothesis 7: There are no differences in the identification of perceived instructional needs in regard to previous full-time employment in business or industry.

No significant differences in perceived instructional needs were found among respondents in regard to previous employment in business or industry (Table 25). Therefore, Hypothesis 7 was not rejected. The researcher speculated that the lack of significance might have been because five-sixths of the respondents had been employed full time in business or industry.

Table 25.--Wilk's multivariate analysis of variance of perceived instructional needs, by previous full-time employment in business or industry.

Source of Variance	Approximate F	df	p
Previous employment in business/industry	.20498	7.00	.984

Hypothesis 8: There are no differences in the identification of perceived instructional needs in regard to completion or noncompletion of formal teacher training.

No significant differences in perceived instructional needs existed in regard to completion or noncompletion of formal teacher training (Table 26). Therefore, Hypothesis 8 was not rejected. The researcher theorized that the findings were not significant because respondents who had completed formal teacher training no longer felt their teacher training served the contemporary needs of a community college teacher.

Table 26.--Wilk's multivariate analysis of variance of perceived
instructional needs, by completion or noncompletion of
formal teacher training.

Source of Variance	Approximate F	df	p
Completion or noncompletion of formal teacher training	.49986	7.00	.833

Hypothesis 9: There are no differences in the identification of
perceived instructional needs in regard to participation in inserv-
ice training within the past five years.

No significant differences in perceived instructional needs
were revealed in regard to respondents' participation in inservice
training within the past five years (Table 27). Therefore, Hypothesis
9 was not rejected. The lack of significance might have been due to
the fact that 78% of the respondents had participated in inservice
training within the past five years.

Table 27.--Wilk's multivariate analysis of variance of perceived
instructional needs, by participation in inservice
training within the past five years.

Source of Variance	Approximate F	df	p
Participation in inservice training	1.72356	7.00	.113

Hypothesis 10: There are no differences in the identification of perceived instructional needs in regard to student-body headcount.

No significant differences in perceived instructional needs were found with regard to student-body headcount at the respondents' institutions (Table 28). Therefore, Hypothesis 10 was not rejected.

Table 28.--Wilk's multivariate analysis of variance of perceived instructional needs, by student-body headcount.

Source of Variance	Approximate F	df	p
Student-body headcount	.63653	42.00	.933

Hypothesis 11: There are no differences in faculty perceptions about whether instructional needs can be met through inservice training.

In tabulating the frequencies of the 36-item needs assessment, there appeared to be no differences among respondents concerning whether specific instructional needs could be met through inservice training (Table 29). All 36 items received a majority of "Yes" responses. The results might have been distorted because respondents left 25% of the items blank.

Table 29.--Respondents' perceptions about whether perceived needs could be met through inservice training (N = 103).

Item		Yes	No	No Response
1. Formulating instructional objectives in measurable terms.	N %	56 54%	18 17%	29 28%
2. Organizing instruction around course objectives.	N %	51 50%	20 19%	32 31%
3. Selecting instructional activities and strategies.	N %	68 66%	11 11%	24 23%
4. Preparing written lesson plans.	N %	39 38%	29 28%	35 34%
5. Developing units of instruction.	N %	46 45%	23 22%	34 33%
6. Understanding the theory and techniques of audio-tutorial, self-paced, programmed instruction.	N %	64 62%	14 14%	25 24%
7. Increasing repertoire of teaching methods.	N %	82 80%	8 8%	13 13%
8. Observing a demonstration of new instructional technology.	N %	74 72%	12 12%	17 17%
9. Understanding the theory and application of mini- and micro-computer assisted instruction.	N %	65 63%	16 16%	22 21%
10. Observing and diagnosing a video-tape of peer teaching on a micro-teaching exercise.	N %	66 64%	14 14%	23 22%
11. Experiencing a survey of psychology of learning theories (Piaget, Bloom, Mager, Skinner, etc.).	N %	52 50%	22 21%	29 28%
12. Establishing a study skills laboratory.	N %	49 48%	25 24%	29 28%

Table 29.--Continued.

Item		Yes	No	No Response
13. Identifying and utilizing prin- ciples of test construction.	N	65	12	26
	%	63%	12%	25%
14. Constructing valid and reliable test items.	N	61	17	25
	%	59%	17%	24%
15. Grading on a contract basis.	N	45	21	37
	%	44%	20%	36%
16. Diagnosing student reading and writing deficiencies.	N	46	26	31
	%	45%	25%	30%
17. Diagnosing student mathematics deficiencies.	N	43	27	33
	%	42%	26%	32%
18. Understanding educational objec- tives of and developing the cur- riculum of your discipline.	N	50	21	32
	%	49%	20%	31%
19. Determining content to be taught.	N	45	27	31
	%	44%	26%	30%
20. Keeping abreast in your subject matter.	N	54	27	22
	%	52%	26%	22%
21. Developing resource materials for your courses.	N	62	21	20
	%	60%	20%	19%
22. Motivating and reinforcing students.				
23. Eliminating inappropriate student classroom behaviors.	N	46	27	30
	%	45%	26%	29%
24. Diagnosing learning problems of disadvantaged students.	N	53	24	26
	%	51%	23%	25%

Table 29.--Continued.

Item		Yes	No	No Response
25. Coping with problems relating to student attitudes, indifference, and attendance.	N %	47 46%	26 25%	30 29%
26. Sequencing activities (step-by-step instruction).	N %	46 45%	22 21%	35 34%
27. Providing immediate feedback.	N %	43 42%	25 24%	35 34%
28. Summarizing instructional units.	N %	44 43%	21 20%	38 37%
29. Utilizing multi-media activities to improve instruction.	N %	69 67%	7 7%	27 26%
30. Developing more creative lectures.	N %	65 63%	13 13%	25 24%
31. Using student/peer tutorial assistance.	N %	45 44%	25 24%	33 32%
32. Implementing closure: to establish a link between familiar material and the new.	N %	47 46%	22 21%	34 33%
33. Using questioning procedures to promote class discussion.	N %	59 57%	15 15%	29 28%
34. Training in human relations techniques (group dynamics).	N %	54 52%	19 18%	30 29%
35. Improving techniques of teaching presentation.	N %	66 64%	14 14%	23 22%
36. Developing sensitivity to needs and feelings of others.	N %	48 47%	22 21%	33 32%

Part III: Findings Resulting From Application of
MANOVA, Univariate F-Test, and Chi-Square
Techniques: Hypotheses 12 Through 21

This section contains the results of testing Hypotheses 12

through 21 by applying the MANOVA, univariate F-test, and chi-square

techniques. All hypotheses were tested at the 0.05 level of signifi-

cance.

Statisticians warn that the chi-square may be borderline and

unrepresentative, or that results are likely to be overestimated, when

single cells in contingency tables contain fewer than five responses or

frequencies. Skewing results when a single cell contains fewer than

five responses, which likewise reduces the reliability of the chi-

square. Statisticians recommend combining contingency tables to

compensate for chi-square distortion caused by the small expected

frequencies. According to Downie and Heath (1965), "A good rule to

follow is to combine frequencies when any E [expectation] is less than

5" (p. 170).

The chi-square application was shown to be significant (accord-

ing to raw chi-square and significance level) on 17 items concerning

preferences for inservice training. Nine of the 17 chi-square applica-

tions determined to be significant were combined, due to cell size, and

recomputed. The particular nine combined chi-square computations are

noted under the appropriate tables.

<u>Hypothesis 12</u>:   There are no differences in preferences for inservice training in regard to gender of teachers.

No significant differences existed between males and females in terms of preferences for inservice training (Table 30).   Therefore, Hypothesis 12 was not rejected.   Again, nonsignificance might have resulted from the preponderance of male respondents (86%).

Table 30.--Wilk's multivariate analysis of variance of preference for inservice training, by gender of teachers.

Source of Variance	Approximate F	df	p
Gender	2.05376	2.00	.134

Results of testing Hypothesis 12 with the chi-square technique indicated that preference for inservice training was independent of or was not influenced by gender of respondent (Table 31).   Hence gender had no significant relationship to preference for inservice training.

<u>Hypothesis 13</u>:   There are no differences in preferences for inservice training in regard to age of teachers.

No significant differences existed among teachers in different age groups in terms of preferences for inservice training (Table 32). Therefore, Hypothesis 13 was not rejected.   Nonsignificance might well have resulted because 75% of the respondents were in the 30's and 40's age brackets, whereas only 6% of the respondents were under 30 or over 60 years of age.

Table 31.--Results of chi-square application on preferences for
inservice training, by gender of teachers.

Source of Variance	Item No.	Item Title	Raw Chi-Square
Gender	108	One-day regional seminar	4.35838
	109	One- to three-day seminar	1.57048
	110	One-week residential workshop	1.16328
	111	One- to two-week residential workshop	2.12740
	112	Community college sponsored	.48101
	113	University sponsored	2.71898
	114	Professional association sponsored	.36322

Table 32.--Wilk's multivariate analysis of variance of preferences for
inservice training, by age of teachers.

Source of Variance	Approximate F	df	p
Age	.59793	14.00	.865

Results of testing Hypothesis 13 with the chi-square technique
indicated that Items 110 and 111 were significantly related to age of
respondent (Table 33). Significant relationships appeared to exist
between ages of respondents and preference for one-week and one- to
two-week workshops.

Table 33.--Results of chi-square application on preferences for inservice training, by age of teachers.

Source of Variance	Item No.	Item Title	Raw Chi-Square
Age of teachers	108	One-day regional seminar	24.77533
	109	One- to three-day seminar	23.11384
	110	One-week residential workshop	106.93398
	111	One- to two-week residential workshop	44.52831
	112	Community college sponsored	8.55491
	113	University sponsored	12.65294
	114	Professional association sponsored	9.57376

Since many cells on Items 110 and 111 contained five or less responses, contingency tables were combined and the chi-square was recomputed. The recomputed chi-squares indicated that inservice training preferences for one-week (chi-square = 1.5552) and one- to two-week (chi-square = 1.6382) residential workshops were not significantly related to age of respondents (Table 34). Nonsignificance might have been due to the fact that respondents were heavily clustered in the 30- and 40-year age groups.

Hypothesis 14: There are no differences in preferences for inservice training in regard to teaching discipline.

Significant differences existed among respondents from the different teaching disciplines in regard to preferences for inservice training (Table 35). Therefore, Hypothesis 14 was rejected.

Table 34.--Recomputed chi-squares for Items 110 and 111 on preference for inservice training, by age of teachers.

	Observed Value	Expected Value	Chi-Square Contribution
Item 110			
Column 1	9	11.91010	.487707
	11	8.08989	.718013
Column 2	44	41.08990	.141364
	25	27.91010	.208120
Chi-square = 1.5552 df = 1			
Item 111			
Column 1	2	4.12222	.638950
	5	2.87778	.914457
Column 2	51	48.87780	.0538406
	32	34.12220	.0771230
Chi-square = 1.68382 df = 1			

Table 35.--Wilk's multivariate analysis of variance of preferences for inservice training, by teaching discipline.

Source of Variance	Approximate F	df	p
Teaching discipline	2.43589	4.00	.049

Since the MANOVA test for preferences for inservice training
indicated statistically significant differences according to teaching
discipline, univariate F-tests were applied to identify the cluster(s)
that contributed to such results. Results indicated that the sponsor
of inservice training, rather than the time for inservice training,
contributed to the significant differences regarding inservice
preferences (Table 36). Data-processing faculty preferred inservice
training sponsored by universities, whereas economics faculty preferred
inservice training sponsored by community colleges.

Table 36.--Results of univariate F-tests for mean ratings according
to preferences for inservice training, by teaching dis-
cipline.

Source of Variance	Sum of Squares	Mean Square	F	Significance of F
Time for inservice training	.003	.001	.002	.998
Sponsor for inservice training	2.920	1.460	3.679	.029

Results of testing Hypothesis 14 by the chi-square technique
indicated that only Item 112 was influenced by teaching discipline
(Table 37). This item indicated that data-processing faculty would
prefer inservice training sponsored by universities, whereas economics
faculty apparently preferred inservice training to be sponsored by
community colleges.

Table 37.--Results of chi-square application on preferences for
inservice training, by teaching discipline.

Source of Variance	Item No.	Item Title	Raw Chi-Square
Teaching discipline	108	One-day regional seminar	4.49480
	109	One- to three-day seminar	3.38331
	110	One-week residential workshop	7.05753
	111	One- to two-week residential workshop	9.57781
	112	Community college sponsored	10.09093
	113	University sponsored	5.73581
	114	Professional association sponsored	2.18196

One cell on Item 112 contained fewer than five responses. The
recomputed chi-square (.0944281) indicated that respondents' prefer-
ences for community-college sponsorship of inservice training was not
significantly related to subject-matter discipline (Table 38).

Table 38.--Recomputed chi-square for Item 112 on preferences for
inservice training, by teaching discipline.

	Observed Value	Expected Value	Chi-Square Contribution
Column 1	26	25.8876	4.87676E-04
	22	21.5730	8.45035E-03
	16	16.5393	.0175867
Column 2	10	10.11240	1.24845E-03
	8	8.42697	.021633
	7	6.46067	.045022
Chi-square = .0944281	df = 2		

Hypothesis 15: There are no differences in preferences for inservice training in regard to years of community college teaching experience.

Results indicated that no significant differences in preferences for inservice training existed among respondents in regard to years of community college teaching experience (Table 39). Therefore, Hypothesis 15 was not rejected. Nonsignificance might have been due to the similarity in respondents' teaching experience; only 20% reported having fewer than eight years of community college teaching experience.

Table 39.--Wilk's multivariate analysis of variance of preferences for inservice training, by years of community college teaching experience.

Source of Variance	Approximate F	df	p
Teaching experience	1.01855	10.00	.378

Results of testing Hypothesis 15 by the chi-square technique indicated that only Item 110 was influenced by years of community college teaching experience (Table 40). The remaining six training-preference items apparently were not influenced by years of community college teaching experience. Respondents' opposition to longer inservice training in the form of residential workshops was influenced by years of community college teaching experience. Respondents with less teaching experience were more opposed to the one-week residential

workshop than were respondents with longer teaching experience. Teachers with less teaching experience might well be younger individuals with responsibilities that compete with one-week residential workshops.

Table 40.--Results of chi-square application on preferences for inservice training, by years of community college teaching experience.

Source of Variance	Item No.	Item Title	Raw Chi-Square
Years of teaching experience	108	One-day regional seminar	23.59156
	109	One- to three-day seminar	15.93364
	110	One-week residential workshop	26.99531*
	111	One- to two-week residential workshop	24.90727
	112	Community college sponsored	10.48644
	113	University sponsored	7.26706
	114	Professional association sponsored	17.60748

*Significant at .05.

Many cells in the contingency tables for Item 110 contained five or less responses. Thus contingency tables were combined and the chi-square was recomputed. The recomputed chi-square (7.48899) indicated that teaching experience _did indeed_ relate to preference for one-week residential workshops, even though one of the combined cells still had fewer than five units (Table 41).

Table 41.--Recomputed chi-square for Item 110 on preferences for inservice training, by years of community college teaching experience.

	Observed Value	Expected Value	Chi-Square Contribution
Column 1	4	9.88764	2.93565
	16	10.11240	2.87041
Column 2	40	34.11240	.850914
	29	34.88760	.832005

Chi-square = 7.48899   df = 1

Hypothesis 16: There are no differences in preferences for inservice training in regard to years of higher education.

Results indicated that no significant differences in preferences for inservice training existed among respondents in regard to years of higher education (Table 42). Therefore, Hypothesis 16 was not rejected. Nonsignificance might be attributed to the fact that 71% of the respondents had had six to nine years of higher education.

Table 42.--Wilk's multivariate analysis of variance of preferences for inservice training, by years of higher education.

Source of Variance	Approximate F	df	p
Years of higher education	1.54457	8.00	.144

Results of testing Hypothesis 16 by the chi-square technique indicated that only Item 111 was associated with years of higher education (Table 43). Preference for inservice training in the form of a one- to two-week residential workshop appeared to be significantly related to years of higher education.

Table 43.--Results of chi-square application on preferences for inservice training, by years of higher education.

Source of Variance	Item No.	Item Title	Raw Chi-Square
Years of	108	One-day regional seminar	17.14368
higher	109	One- to three-day seminar	9.53442
education	110	One-week residential workshop	16.09599
	111	One- to two-week residential workshop	24.09599
	112	Community college sponsored	.90021
	113	University sponsored	2.65777
	114	Professional association sponsored	2.55847

Because 85% of the cells in the contingency tables of Item 111 contained five or less responses, the contingency tables were combined and the chi-square was recomputed. The recomputed chi-square (2.40684) indicated that years of higher education was not significantly related to the inservice training preference of a one- to two-week residential workshop (Table 44). Nonsignificance may have resulted from the fact that respondents had similar amounts of higher education.

Table 44.--Recomputed chi-square for Item 111 on preferences for
inservice training, by years of higher education.

	Observed Value	Expected Value	Chi-Square Contribution
Column 1	5	7.5	.588888
	5	2.5	1.600000
Column 2	61	58.5	.0688761
	17	19.5	.2051280

Chi-square = 2.40684   df = 1

Hypothesis 17:   There are no differences in preferences for
inservice training in regard to previous full-time employment in
business or industry.

The MANOVA test of Hypothesis 17 indicated that significant

differences in preferences for inservice training did exist among

respondents in regard to previous full-time employment in business or

industry (Table 45).   Therefore, Hypothesis 17 was rejected.

Table 45.--Wilk's multivariate analysis of variance of preferences for
inservice training, by previous employment in business or
industry.

Source of Variance	Approximate F	df	p
Previous employment in business/industry	3.18738	2.00	.046

As results of the overall F-test for previous employment in

business/industry were significant, the univariate F-test was employed

to determine the cluster(s) that contributed to such results. Respond-
ents with no previous full-time employment in business or industry
preferred that community colleges sponsor inservice training, whereas
respondents who had experienced previous full-time employment in busi-
ness or industry did not specify a preference for a sponsor of inserv-
ice training (Table 46).

Table 46.--Results of univariate F-tests for mean ratings according to
respondents' preference for inservice training, by previous
employment in business or industry.

Source of Variance	Sum of Squares	Mean Square	F	Significance of F
Time for inservice training	.498	.498	.854	.358
Sponsor for inservice training	.998	.998	2.423	.123

Results of testing Hypothesis 17 by the chi-square technique
indicated that all items except Item 112 were independent of previous
full-time employment in business or industry (Table 47). Results for
Item 112 showed that respondents with no previous full-time employment
in business or industry preferred that community colleges sponsor the
inservice training. For those respondents who had had previous full-
time employment in business or industry, the sponsor for inservice
training apparently did not matter, although the number of cases was

small. Contingency tables were not recomputed for this item because all cells had five or more responses.

Table 47.--Results of chi-square application on preferences for inservice training, by previous employment in business or industry.

Source of Variance	Item No.	Item Title	Raw Chi-Square
Previous	108	One-day regional seminar	4.22953
employment	109	One- to three-day seminar	2.87757
in business/	110	One-week residential workshop	5.45072
industry	111	One- to two-week residential workshop	2.06187
	112	Community college sponsored	6.13921*
	113	University sponsored	4.93023
	114	Professional association sponsored	.32956

*Significant at .05.

Hypothesis 18: There are no differences in preferences for inservice training in regard to completion or noncompletion of formal teacher training.

No significant differences in preferences for inservice training existed among respondents in regard to completion or noncompletion of formal teacher training (Table 48). Therefore, Hypothesis 18 was not rejected. Nonsignificance might be attributed to the fact that the respondents with formal teacher training no doubt had completed that training several years ago, as most of them were experienced community college faculty.

Table 48.--Wilk's multivariate analysis of variance of preferences for
inservice training, by completion or noncompletion of
formal teacher training.

Source of Variance	Approximate F	df	p
Completion/noncomple-tion of formal teacher training	2.61454	2.00	.078

Results of testing Hypothesis 18 by the chi-square technique
indicated that four items (108, 110, 113, and 114) were not influenced
by completion or noncompletion of formal teacher training (Table 49).
Respondents preferred one- to three-day seminars (Item 109) for inserv-
ice training; however, respondents who had not completed formal teacher
training preferred this time frame to a greater extent than did those
respondents who had completed formal teacher training. None of the 103
respondents selected the one- to three-day seminar as a fourth choice.
Results for Item 111 indicated that there were significant differences
between the respondent groups in terms of preference for inservice
training of longer duration. Respondents overwhelmingly rejected the
one- to two-week residential workshop as an inservice training prefer-
ence; however, respondents with no formal teacher training rejected
this preference more so than did respondents who had completed formal
teacher training. Results for Item 112 indicated that respondents who
had completed formal teacher training preferred that community colleges
sponsor inservice training. For those respondents who had not com-
pleted formal teacher training, preference for inservice training

sponsorship was fairly evenly divided among the community college,

university, and professional association.

Table 49.--Results of chi-square application on preferences for
inservice training, by completion or noncompletion of
formal teacher training.

Source of Variance	Item No.	Item Title	Raw Chi-Square
Completion or noncompletion of formal teacher training	108	One-day regional seminar	.51454
	109	One- to three-day seminar	7.39281*
	110	One-week residential workshop	3.58855
	111	One- to two-week residential workshop	7.99208*
	112	Community college sponsored	6.11306*
	113	University sponsored	3.36631
	114	Professional association sponsored	5.48061

*Significant at .05.

Items 109, 111, and 112 were not recomputed through combining

contingency tables because cells contained five or more responses. The

researcher determined that the original chi-square computations were

valid and denoted significance.

Hypothesis 19: There are no differences in preferences for
inservice training in regard to participation in inservice training
within the past five years.

The MANOVA test of Hypothesis 19 indicated that no significant

differences in preferences for inservice training existed among

respondents in regard to participation in inservice training within the

past five years (Table 50). Therefore, Hypothesis 19 was not rejected. The researcher attributed this nonsignificance to the fact that 80% of the respondents had participated in inservice training within the past five years.

Table 50.--Wilk's multivariate analysis of variance of preferences for inservice training, by participation in inservice training.

Source of Variance	Approximate F	df	p
Participation in inservice training	.00621	2.00	.994

Results of testing Hypothesis 19 with the chi-square technique indicated that participation in inservice training within the past five years was independent of or did not influence respondents' preference for inservice training (Table 51). Nonsignificance might be explained by the fact that nearly 80% of the respondents had participated in inservice training within the past five years.

Table 51.--Results of chi-square application on preferences for inservice training, by participation in inservice training within the past five years.

Source of Variance	Item No.	Item Title	Raw Chi-Square
Participation in inservice training within past five years	108	One-day regional seminar	1.39233
	109	One- to three-day seminar	1.51078
	110	One-week residential workshop	.47540
	111	One- to two-week residential workshop	1.84018
	112	Community college sponsored	1.87861
	113	University sponsored	.66021
	114	Professional association sponsored	5.18185

Hypothesis 20: There are no differences in preferences for
inservice training in regard to student-body headcount.

The MANOVA test of Hypothesis 20 indicated that significant

differences in preferences for inservice training existed among

respondents in regard to student-body headcount (Table 52). Therefore,

Hypothesis 20 was rejected.

Table 52.--Wilk's multivariate analysis of variance of preferences for
inservice training, by student-body headcount.

Source of Variance	Approximate F	df	p
Student-body headcount	2.65770	12.00	.003

As results of the MANOVA test of Hypothesis 20 were signifi-

cant, univariate F-tests were employed to determine which cluster(s)

contributed to this significance. Results indicated that sponsor for

inservice training contributed to the significant difference in prefer-

ence for inservice training in regard to student-body headcount (Table

53). Respondents in the headcount category of 5,001-7,500 students

viewed inservice-training sponsorship differently than did respondents

in the other six enrollment categories. However, only 7% of the

respondents were in this category.

Chi-square results for Item 111 indicated a significant

difference existed among respondents in various student-body-headcount

categories in regard to preferences for inservice training of longer

duration (Table 54). Respondents preferred one- to two-week

residential workshops in approximately 90% of the cases in the contingency tables. Data for Items 112, 113, and 114 were not available from the computer printout.

Table 53.--Results of univariate F-tests for mean ratings according to respondents' preferences for inservice training, by student-body headcount.

Source of Variance	Sum of Squares	Mean Square	F	Significance of F
Time for inservice training	4.530	.755	1.436	.209
Sponsor for inservice training	7.431	1.238	3.668	.003

Table 54.--Results of chi-square application on preferences for inservice training, by student-body headcount.

Source of Variance	Item No.	Item Title	Raw Chi-Square
Student-body headcount	108	One-day regional seminar	28.33375
	109	One- to three-day seminar	19.71271
	110	One-week residential workshop	27.13029
	111	One- to two-week residential workshop	32.87094
	112	Community college sponsored	Unavailable
	113	University sponsored	Unavailable
	114	Professional association sponsored	Unavailable

Item 111 was recomputed because approximately 80% of the cells in the contingency tables contained five or less responses. The recomputed chi-square (.168139) indicated <u>no</u> significant relationship between student-body-headcount category of respondents and the preference for a one- to two-week residential workshop (Table 55).

Table 55.--Recomputed chi-square for Item 111 on preferences for inservice training, by student-body headcount.

	Observed Value	Expected Value	Chi-Square Contribution
Column 1	6	4.88889	.0763889
	4	5.11111	.0730677
Column 2	38	39.11110	.0095486
	42	40.88890	9.13344E-03
Chi-square = .168139 df = 1			

In the following pages, findings are presented from testing the hypothesis related to factors contributing to participation in inservice training. Only the chi-square technique was applied, and the hypothesis was tested at the 0.05 level of significance. If the cells in the contingency tables contained five or less responses, the chi-square was recomputed. Instances in which the chi-square was recomputed are cited.

Hypothesis 21: There are no differences in factors contributing to participation in inservice training regarding the nine independent variables.

When Hypothesis 21 was tested using gender as the independent variable, the data derived from applying the chi-square technique showed that the factors contributing to participation in inservice training were independent of or were not influenced by respondents' gender (Table 56). Male and female respondents did not appear to differ in their choices of these items, possibly because of the predominance of male respondents in the survey.

Table 56.--Results of chi-square application on factors contributing to participation in inservice training, by gender of respondents.

Source of Significance	Item No.	Item Title	Raw Chi-Square
Gender	115	Scheduled during summer	.06613
	116	Scheduled during evening hours	.02193
	117	Scheduled during weekends	2.39295
	118	University credit granted	3.54809
	119	Inservice training credit granted by your institution	.55742
	120	Released time by your employer	2.82176
	121	Expenses reimbursed by employer	.34873
	122	Credit toward promotion and/or tenure	2.31003

The chi-square testing of Hypothesis 21 denoted a relationship between two of the items (118 and 121) concerning factors contributing to participation in inservice training and age of respondents (Table 57). However, this significance might be questionable as many of the

contingency-table cells contained fewer than five responses. Contingency tables were combined, and a new chi-square value for both item numbers was obtained.

Table 57.--Results of chi-square application on factors contributing to participation in inservice training, by age of respondents.

Source of Significance	Item No.	Item Title	Raw Chi-Square
Age	115	Scheduled during summer	4.54100
	116	Scheduled during evening hours	12.04744
	117	Scheduled during weekends	8.73024
	118	University credit granted	16.55805
	119	Inservice training credit granted by your institution	7.51794
	120	Released time by your employer	8.37015
	121	Expenses reimbursed by employer	16.24596
	122	Credit toward promotion and/or tenure	8.20459

Half of the cells in the contingency tables for Item 118 had five or less responses. The cells were combined and a new chi-square (.348488) was computed, which indicated that no significant relationship existed between the age of respondents and whether granting of university credit was a factor contributing to involvement in inservice training (Table 58).

Table 58.--Recomputed chi-square for Item 118 on the factors contribut-
ing to participation in inservice training, by age of
respondents.

	Observed Value	Expected Value	Chi-Square Contribution
Column 1	23	21.1765	.0827207
	18	14.8235	.1181770
Column 2	27	28.8235	.0607744
	22	20.17b5	.0868206

Chi-square = .348488   df = 1

More than half of the cells in the contingency tables for Item
121 had five or less responses. The cells were combined and a new chi-
square (4.16172E-03) computed, which indicated that no significant
relationship existed between age of respondents and the factor of
whether inservice training expenses would be reimbursed by the
respondent's employer (Table 59).

Table 59.--Recomputed chi-square for Item 121 on the factors contrib-
uting to participation in inservice training, by age of
respondents.

	Observed Value	Expected Value	Chi-Square Contribution
Column 1	47	47.3936	2.38801E-04
	34	33.6064	3.3677E-04
Column 2	8	2.60638	1.48787E-03
	5	5.39362	2.09828E-03

Chi-square = 4.16172E-03   df = 1

Results of testing Hypothesis 21 by chi-square analysis regarding the independent variable, teaching discipline, indicated that six of the eight items regarded as factors contributing to participation in inservice training lacked significance (Table 60). Results for Item 116 indicated that accounting and economics faculty did not prefer inservice training scheduled during evening hours, whereas data-processing faculty perceived that inservice training scheduled during evening hours was a significant or positive factor contributing to their participation. Analysis of Item 118 determined that accounting and economics faculty did not perceive the granting of university credit as an important factor contributing to their participation in inservice training. Data-processing faculty apparently held the opposite viewpoint as granting of university credit was an important factor contributing to their participation in inservice training.

Table 60.--Results of chi-square application on factors contributing to participation in inservice training, by teaching discipline of respondents.

Source of Significance	Item No.	Item Title	Raw Chi-Square
Teaching discipline	115	Scheduled during summer	5.18197
	116	Scheduled during evening hours	7.45200*
	117	Scheduled during weekends	3.12100
	118	University credit granted	6.94811*
	119	Inservice training credit granted by your institution	3.90416
	120	Released time by your employer	.14678
	121	Expenses reimbursed by employer	.13553
	122	Credit toward promotion and/or tenure	2.69317

*Significant at .05.

Responses in the contingency-table cells for both Items 116 and 118 totaled five or more; therefore, no chi-square recomputation was undertaken. Hence teaching discipline was significantly related to both variables.

Results of testing Hypothesis 21 concerning the independent variable, teaching experience, indicated that seven of the eight items regarded as factors contributing to participation in inservice training were not significantly related to respondents' community college teaching experience (Table 61). Results for Item 117 revealed that there was an association between teaching experience and respondents' preference for inservice training scheduled during weekends.

Table 61.--Results of chi-square application on factors contributing to participation in inservice training, by teaching experience of respondents.

Source of Significance	Item No.	Item Title	Raw Chi-Square
Teaching experience	115	Scheduled during summer	7.63689
	116	Scheduled during evening hours	5.05940
	117	Scheduled during weekends	13.28343*
	118	University credit granted	5.78677
	119	Inservice training credit granted by your institution	8.30000
	120	Released time by your employer	2.53060
	121	Expenses reimbursed by employer	4.83284
	122	Credit toward promotion and/or tenure	9.82165

*Significant at .05.

As half of the cells in the contingency table for Item 117 contained five or less responses, the chi-square was recomputed. The recomputed chi-square (5.68196) indicated no significant relationship between teaching experience and respondents' preference for inservice training during weekends (Table 62).

Table 62.--Recomputed chi-square for Item 117 on the factors contributing to participation in inservice training, by teaching experience of respondents.

	Observed Value	Expected Value	Chi-Square Contribution
Column 1	11	14.3678	.789416
	11	9.1954	.854152
	10	12.0690	.854680
	18	14.3678	.918216
Column 2	14	10.63220	1.066780
	5	6.80460	.478584
	11	8.93013	.479290
	7	10.63220	1.240880

Chi-square = 5.68196   df = 3

Results of the chi-square testing of the independent variable, years of higher education, revealed no significant relationship between higher education and respondents' perceptions of factors contributing to participation in inservice training (Table 63). Years of higher education apparently had no influence on respondents' choices of these factors as the majority of respondents had similar amounts of higher education.

Table 63.--Results of chi-square application on factors contributing to ·
participation in inservice training, by respondents' years
of higher education.

Source of Significance	Item No.	Item Title	Raw Chi-Square
Years of higher education	115	Scheduled during summer	4.81448
	116	Scheduled during evening hours	1.15582
	117	Scheduled during weekends	6.51172
	118	University credit granted	6.12360
	119	Inservice training credit granted by your institution	2.29667
	120	Released time by your employer	.51932
	121	Expenses reimbursed by employer	1.50815
	122	Credit toward promotion and/or tenure	4.94629

Results of the chi-square testing of the independent variable,

previous full-time employment in business/industry, revealed no sig-

nificant relationship on seven of eight items between such employment

and respondents' perceptions of factors contributing to participation

in inservice training (Table 64). Analysis of Item 122 indicated there

was an association between previous experience in business/industry and

respondents' perception that credit toward promotion and/or tenure was

a factor in inservice-training attendance. Respondents with previous

experience in business/industry regarded credit for promotion and/or

tenure as significantly more important than did those having no pre-

vious full-time employment in business/industry.

As the responses in the contingency-table cells for Item 122

equalled five or more, no recomputation of chi-square was undertaken.

Therefore, the original relationship appeared to be valid.

Table 64.--Results of chi-square application on factors contributing to participation in inservice training, by respondents' previous full-time employment in business/industry.

Source of Significance	Item No.	Item Title	Raw Chi-Square
Previous	115	Scheduled during summer	.32357
full-time	116	Scheduled during evening hours	.10038
employment in	117	Scheduled during weekends	.62703
business/	118	University credit granted	.00175
industry	119	Inservice training credit granted by your institution	.00749
	120	Released time by your employer	1.35488
	121	Expenses reimbursed by employer	.76846
	122	Credit toward promotion and/or tenure	4.45236*

*Significant at .05.

Results of the chi-square testing of the independent variable, teacher training program, indicated no significant relationship between respondents' perceptions of items contributing to participation in inservice training and their completion or noncompletion of formal teacher training (Table 65). Respondents' choices on these inservice training factors appeared to be independent of completion or noncompletion of formal teacher training programs.

Results of chi-square testing of the independent variable, completion of professional-development program or inservice training, revealed no significant differences among respondents in regard to perceptions of factors contributing to participation in inservice training (Table 66). Respondents' choices on the eight inservice

training factors were apparently independent of their participation or

nonparticipation in professional-development training within the past

five years.

Table 65.--Results of chi-square application on factors contributing to
participation in inservice training, by participants'
completion or noncompletion of formal teacher training.

Source of Significance	Item No.	Item Title	Raw Chi-Square
Teacher training program	115	Scheduled during summer	1.37879
	116	Scheduled during evening hours	2.12796
	117	Scheduled during weekends	.10412
	118	University credit granted	.00173
	119	Inservice training credit granted by your institution	.61669
	120	Released time by your employer	.01130
	121	Expenses reimbursed by employer	.78705
	122	Credit toward promotion and/or tenure	.60373

Table 66.--Results of chi-square application on factors contributing to
participation in inservice training, by respondents'
completion or noncompletion of inservice training within
the past five years.

Source of Significance	Item No.	Item Title	Raw Chi-Square
Professional development program	115	Scheduled during summer	1.55359
	116	Scheduled during evening hours	.27319
	117	Scheduled during weekends	.12302
	118	University credit granted	2.42086
	119	Inservice training credit granted by your institution	1.82850
	120	Released time by your employer	.15960
	121	Expenses reimbursed by employer	.02919
	122	Credit toward promotion and/or tenure	.09342

Results of chi-square testing of the respondents' perceptions concerning factors contributing to participation in inservice training denoted no relationship between these perceptions and student-body headcount of the respondents' colleges (Table 67). Apparently student-body headcount did not influence respondents' choices of factors contributing to participation in inservice training.

Table 67.--Results of chi-square application on factors contributing to participation in inservice training, by student-body headcount.

Source of Significance	Item No.	Item Title	Raw Chi-Square
Student-body headcount	115	Scheduled during summer	10.36385
	116	Scheduled during evening hours	4.03444
	117	Scheduled during weekends	9.38598
	118	University credit granted	3.90099
	119	Inservice training credit granted by your institution	9.26819
	120	Released time by your employer	3.75949
	121	Expenses reimbursed by employer	3.15044
	122	Credit toward promotion and/or tenure	1.70233

Results of Applying the MANOVA Technique

Multivariate analysis of variance (MANOVA) was applied to determine the effects of nine independent variables (demographic characteristics) on seven dependent variables (instructional clusters). The MANOVA analysis indicated eight of the independent variables did not contribute to statistically significant differences in perceived

instructional needs. Only one independent variable, teaching disci-
pline, contributed to significant differences in perceived instruc-
tional needs. Hence, only one of the demographic characteristics of
this study significantly affected perceived instructional needs.

Analysis of Perceived Critical Needs

Tabulation of respondents' ratings of the 36 needs-assessment
items indicated that respondents perceived certain items to be more
critical than others. Table 68 shows the nine top-priority needs-
assessment items, based on the percentage of Strongly Agree and Agree
responses to those items in the survey (the top one-fourth of the
responses). Respondents' perceptions of faculty needs focused on
classroom teaching techniques and presentation of subject matter. Two
instructional clusters dominated: Instructional Strategies and Subject
Matter (Content). Item 20, Keeping abreast in your subject matter,
received the most Strongly Agree choices (36%).

Tabulation of respondents' ratings of the 36 needs-assessment
items also indicated that certain items were not perceived to be as
critical as others. Table 69 shows the 11 lowest-priority items,
based on percentage of Disagree and Strongly Disagree responses (the
bottom one-fourth of the responses). Disagree and Strongly Disagree
responses dominated two instructional clusters: Planning Instruction
and Implementing Instruction. Additional predominantly Disagree and
Strongly Disagree items were scattered throughout the remaining five
instructional clusters.

Table 68.--The nine needs-assessment items perceived to be of top
          priority.

Item No.	Item	Strongly Agree	Agree	Total
8	Observing a demonstration of new instructional technology.	18%	60%	78%
7	Increasing repertoire of teaching methods.	12	63	75
21	Developing resource materials for your courses.	20	50	70
20	Keeping abreast in your subject matter.	36	33	69
9	Understanding the theory and application of mini- and micro-computer assisted instruction.	27	41	68
35	Improving techniques of teaching presentation.	16	51	67
29	Utilizing multi-media activities to improve instruction.	12	53	65
30	Developing more creative lectures.	17	45	62
3	Selecting instructional activities and strategies.	10	47	57

Table 69.--The 11 needs-assessment items perceived to be lowest priority.

Item No.	Item	Disagree	Strongly Disagree	Total
4	Preparing written lesson plans.	56%	19%	75%
26	Sequencing activities (step-by-step instruction).	62	8	70
28	Summarizing instructional units.	61	9	70
27	Providing immediate feedback.	55	12	67
23	Eliminating inappropriate student classroom behaviors.	42	24	66
11	Experiencing a survey of psychology of learning theories.	27	37	64
15	Grading on a contract basis.	46	17	63
5	Developing units of instruction.	50	12	62
2	Organizing instruction around course objectives.	54	7	61
17	Diagnosing student mathematics deficiencies.	43	18	61
18	Understanding educational objectives of and developing the curriculum of your discipline.	48	13	61

Note: Items 2, 17, and 18 tied in terms of total percentage of Disagree and Strongly Disagree responses.

The forced choice on the Likert scale was apparently effective as very few respondents failed to respond to items in this part of the needs assessment.

Perceived Needs Met Through Inservice Training

Analysis of responses to items concerning whether perceived instructional needs could be met through inservice training indicated that all 36 items on the needs assessment received more affirmative than negative responses. Respondents apparently sensed that inservice training indeed has a relationship to meeting perceived instructional needs. Items receiving a majority of "Yes" responses are shown, in rank order, in Table 70.

There appeared to be an overlap between needs-assessment items receiving a majority of "Yes" responses and the items judged to be of top priority, based on percentage of Strongly Agree and Agree responses. Respondents left approximately one-four to one-third of the items in this section blank. Perhaps the respondents did not sense that perceived instructional needs could be met through inservice training, or an additional choice of answer should have been included in the instrument.

Preferences for Inservice Training

Results of the MANOVA analysis indicated that three of the independent (demographic) variables (teaching discipline, previous full-time experience in business or industry, and student-body head-count) exerted a statistically significant influence on preference of sponsor for inservice training. Respondents' preferences of sponsors for inservice training are shown in Table 71. Both the first choices and the total of first and second choices indicated that respondents

Table 70.--Needs-assessment items receiving a majority of "Yes" responses concerning whether the needs can be met through inservice training (in rank order).

Item No.	Item	Yes	No	No Response
7	Increasing repertoire of teaching methods.	80%	8%	13%
8	Observing a demonstration of new instructional technology.	72	12	17
29	Utilizing multi-media activities to improve instruction.	67	7	26
3	Selecting instructional activities and strategies.	66	11	23
10	Observing and diagnosing a video-tape of peer teaching on a micro-teaching exercise.	64	14	22
22	Motivating and reinforcing students.	64	12	24
35	Improving techniques of teaching presentation.	64	14	22
9	Understanding the theory and application of mini- and micro-computer assisted instruction.	63	16	21
13	Identifying and utilizing principles of test construction.	63	12	25
30	Developing more creative lectures.	63	13	24
6	Understanding the theory and techniques of audio-tutorial, self-paced, programmed instruction.	62	14	24
21	Developing resource materials for your courses.	60	20	19
14	Constructing valid and reliable test items.	59	17	24
33	Using questioning procedures to promote class discussion.	57	15	28
1	Formulating instructional objectives in measurable terms.	54	17	28
20	Keeping abreast in your subject matter.	52	26	21
34	Training in human relations techniques (group dynamics).	52	18	29
24	Diagnosing learning problems of disadvantaged students.	51	23	25
2	Organizing instruction around course objectives.	50	19	31
11	Experiencing a survey of psychology of learning theories (Piaget, Bloom, Mager, Skinner, etc.).	50	21	28

preferred inservice training to be sponsored by either community

colleges or professional associations.

Table 71.--Respondents' preferences of sponsors for inservice training.

Sponsor	First Choice	Second Choice	Total
Community college	34%	28%	62%
University	21	28	49
Professional association	33	31	64

Analysis of respondents' preferences of time for inservice

training indicated obvious likes and dislikes. One-day regional

seminars and one- to three-day seminars predominated in the respond-

ents' choices of inservice-training times. One-week and one- to two-

week residential workshops ranked relatively low in priority and thus

were not preferred by respondents. Percentages of first- and second-

choice time preferences are shown in Table 72.

Table 72.--Respondents' preferences of time for inservice training.

Time Preference	First Choice	Second Choice	Total
One-day regional seminar	50%	24%	74%
One- to three-day seminar	38	47	85
One-week residential workshop	4	16	20
One- to two-week residential workshop	4	3	7

Additional factors contributing to participation in inservice

training and receiving 50% of more affirmative responses are shown in

Table 73.

Table 73.--Factors contributing to respondents' participation in
         inservice training.

Factor	Yes	No	No Response
Expenses reimbursed by your employer	79%	13%	8%
Released time by your employer	76	16	8
Scheduled during summer	57	28	15
Credit toward promotion and/or tenure	51	33	16
Scheduled during weekends	50	37	13

Inservice-training-preference items receiving a plurality of

negative responses in terms of their contribution to participation in

inservice training are shown in Table 74.

Table 74.--Inservice-training-preference items receiving a plurality
         of negative responses.

Factor	Yes	No	No Response
University credit granted	35%	48%	19%
Scheduled during evening hours	34	47	17
Inservice training credit granted by your institution	35	45	20

Summary of Chi-Square Results

Application of the chi-square technique, a test of significance
to determine how strongly variables are related to each other by
comparing expected frequencies with actual frequencies in contingency
tables, revealed the following significant relationships between
independent variables and preferences and nonpreferences for inservice
training:

Independent Variable	Preference for Inservice Training
Experience in business/industry	Sponsorship of inservice training
Teacher-training program	One- to three-day seminar Sponsorship of inservice training

Independent Variable	Nonpreference for Inservice Training
Teaching experience	One-week residential workshop
Teacher-training program	One- to two-week residential workshop

Analysis of the chi-square results revealed the following
significant relationships between independent variables and factors
contributing to participation in inservice training:

Independent Variable	Factors Contributing to Participation in Inservice Training
Teaching discipline	Scheduled during evening hours University credit granted
Experience in business/industry	Credit toward promotion and/or tenure

Chapter V contains a summary of the research, conclusions based
on the study findings, and recommendations for further research.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter contains a summary of the research, conclusions based on the findings of the study, and recommendations for further research.

Summary of the Research

Introduction

This study identified critical instructional needs as perceived by full-time Michigan public community college accounting, data-processing, and economics faculty. Perceptions of needs were measured by a needs-assessment questionnaire. In addition, the writer analyzed faculty perceptions regarding whether inservice training could meet instructional needs, as well as faculty preferences for inservice training and perceptions of factors contributing to participation in inservice training. The results may provide information that will enable community colleges to offer inservice opportunities that are responsive to the expressed needs and preferences of community college faculty.

Review of the Literature   .

Many writers focused on the importance of needs assessment as the logical means of identifying and quantifying perceived instructional objectives. Hence the researcher's strategy of conducting an instructional needs assessment agreed with the literature in that the findings can provide data to enable community colleges to establish inservice training based on faculty perceptions, which could improve their teaching.

Summary of the Findings

Demographic data. Respondents represented a majority of their subject-matter peers with full-time faculty status in Michigan public community colleges. At least one faculty member from 28 of the 29 public community colleges in Michigan participated in the study. Although there is a ratio of 60% part-time to 40% full-time faculty in Michigan public community colleges, part-time faculty members were not surveyed for reasons explained in the section on delimitations of the study. Respondents were experienced, career faculty members and appeared to correspond to the description of contemporary full-time community college faculty consistently noted in the literature: a stable, steady-state faculty.

The majority of the respondents were male, were in the 30- and 40-year age brackets, were full-time faculty, and had had 8 to 19 years of community college teaching experience. Most of the respondents had a master's degree but had not earned the Ph.D., had had six to nine years of higher education, had been employed in business or industry,

had not completed a formal teacher-training program, and had partici-
pated in inservice training in the past five years.

Needs-assessment analysis. Various authors have recommended
using a needs-assessment device to obtain practitioners' perceived
instructional needs. The needs-assessment instrument used in this
study was based on 34 community college needs-assessment surveys .
located through a search of ERIC documents.

The questionnaire data were tabulated and analyzed applying the
multivariate analysis of variance (MANOVA) statistical technique to
determine whether there was a relationship between demographic data and
perceived instructional needs. The MANOVA technique was also applied
to determine the effects of demographic characteristics of respondents
on their preferences for inservice training. Statistically significant
MANOVA relationships were further analyzed by applying the univariate
F-test. The chi-square technique was used to determine whether there
was a statistically significant relationship between the demographic
variables and preferences for inservice training and the factors
contributing to participation in inservice training.

Analysis of perceived instructional needs. The principal
instructional concerns of respondents centered on updating teaching
methods and on subject-matter knowledge. Updating teaching methods
focused on contemporary instructional technology and/or technical
advances in instruction. The five highest-priority needs-assessment
items, in rank order, were the following:

Item Number	Needs Assessment Item
8	Observing a demonstration of new instructional technology.
7	Increasing repertoire of teaching methods.
21	Developing resource materials for your courses.
20	Keeping abreast in your subject matter.
9	Understanding the theory and application of mini- and micro-computer assisted instruction.

These five needs-assessment items were located in Cluster B (Instructional Strategies) or Cluster D (Subject Matter [Content]). The sixth to eighth top-priority items likewise focused on instructional strategies or methods of classroom presentation. The lowest-priority needs-assessment items were found in Cluster A (Planning Instruction) and Cluster F (Implementing Instruction).

Results of MANOVA testing of relationships between demographic variables and perceived instructional needs. Application of the MANOVA technique to test the relationship between the nine independent variables (demographic factors) and the seven clusters of instructional needs detected a statistically significant relationship only between teaching discipline and perceived instructional needs. The significant MANOVA relationship was then analyzed in depth by applying the univariate F-test. The following results emerged:

Evaluating Instruction: Data-processing faculty were most disposed to perceive instructional needs in this cluster, whereas economics instructors were the least disposed to perceive instructional needs in this cluster.

Implementing Instruction: Accounting faculty were the most likely subject-matter faculty to perceive instructional needs in this cluster, whereas economics faculty were least likely to perceive instructional needs in the Implementing Instruction cluster.

Communications: Data-processing faculty were most disposed to perceive instructional needs in the Communications cluster, whereas economics instructors were the least likely group to perceive instructional needs in this cluster.

Results of the MANOVA-testing of relationships between demographic variables and preferences for inservice training. Application of the MANOVA technique indicated significant relationships between preferences for inservice training and respondents' teaching discipline, previous employment in business or industry, and student-body headcount. Results of the application of the univariate F-test at the 0.05 level were as follows:

1. The sponsor of inservice training, rather than time for inservice training, contributed to the significant differences regarding inservice-training preferences. Data-processing faculty preferred inservice training sponsored by universities, whereas economics faculty preferred inservice training to be sponsored by community colleges.

2. Respondents with no previous full-time employment in business or industry preferred that community colleges sponsor inservice training, whereas respondents who had previously been employed full

time in business or industry did not specify a preference for
inservice-training sponsor.

3. Sponsor for inservice training was the source of variance
that contributed to the significant difference in preference for
inservice training in relation to student-body headcount. Test analy-
sis revealed that respondents in the student-body-headcount category of
5,001 to 7,500 pupils viewed inservice-training sponsorship differently
than did respondents in the other six headcount categories. However,
only 7% of the respondents were in this headcount category.

Results of chi-square testing of relationships between demo-
graphic variables and preference for inservice training. Application
of the chi-square procedure indicated the following statistically sig-
nificant relationships between demographic characteristics and respond-
ents' preferences for inservice training:

1. Respondents with less community college teaching experience
were more opposed to one-week residential workshops than were respond-
ents with longer teaching experience.

· 2. Respondents with no previous full-time employment in busi-
ness or industry preferred that community colleges sponsor inservice
training, whereas respondents with previous full-time experience in
business or industry apparently had no sponsorship preferences.

3. Respondents who had not completed formal teacher training
preferred one- to three-day seminars more than did respondents who had
completed formal teacher training.

4. Respondents with no formal teacher training rejected one-to two-week residential workshops more than did respondents who had completed formal teacher training.

5. Respondents who had completed formal teacher training preferred that community colleges sponsor inservice training, whereas preferences of respondents who had not completed formal teacher training were evenly divided among community college, university, and professional association sponsorship.

Results of chi-square testing of relationships between demographic variables and factors contributing to participation in inservice training. The chi-square procedure indicated the following statistically significant relationships existed between demographic variables and factors contributing to participation in inservice training:

1. Accounting and economics faculty did not prefer inservice training scheduled during evening hours, whereas data-processing faculty perceived inservice training scheduled during evening hours to be a positive factor contributing to their participation in such training.

2. Accounting and economics faculty did not perceive that granting of university credit was an important factor contributing to participation in inservice training, whereas data-processing faculty did hold this view.

3. Respondents with previous full-time experience in business or industry regarded granting of credit for promotion and/or tenure as more important than did respondents with no such experience.

Results of responses to preferences for inservice training. The majority of respondents indicated the following preferences for inservice training:

--one- to two-day seminars

--sponsored by community colleges or professional associations

--inservice training scheduled during the summer

--to be granted released time and have expenses reimbursed by the employer

--to receive credit for promotion and/or tenure

Conclusions

The researcher drew a number of conclusions based on the findings of the study. He attempted to speculate and elaborate on the data and to provide insights into implications of the findings.

Only one independent variable or demographic factor influenced the perception of instructional needs: respondents' subject-matter discipline. The researcher concluded that only this demographic variable significantly affected perceived instructional needs because the respondents appeared to be quite similar as a group. They were similar in the following characteristics: gender, age, faculty status, years of community college teaching experience, years of higher education, experience in business/industry, and participation in inservice training.

The top-ranked (9 of 36 items) perceived instructional needs focused on teaching strategies and subject matter (content). The author surmised that the dynamic nature of the three disciplines and changing instructional technology contributed to the respondents' instructional concerns.

Seventy-eight percent of the respondents had participated in inservice training within the past five years, yet these respondents, regardless of demographic characteristics, perceived that inservice training could meet all 36 assessed needs. Therefore, the researcher questions the value or effectiveness of the respondents' inservice-training experiences within the past five years. Possibly inservice-training programs are not serving respondents' contemporary needs.

Study findings indicated that approximately 25% of the items concerning whether inservice training could meet instructional needs were left blank. The researcher was unable to determine whether respondents were confused about the interpretation of the questions they left unanswered or whether respondents were unsure of the relationship between perceived instructional needs and inservice training.

Respondents indicated that the sponsorship of inservice training was more important to their inservice-training preferences than was the scheduled time for inservice training. Their preference for sponsorship by professional associations might have been due to changing content within the three subject-matter disciplines. The researcher assumed that the respondents' preference for community

college sponsorship might have been related to their perception that community colleges are much closer to the community college teaching/ learning situation than are four-year colleges. Respondents also might have felt that some community colleges are innovative in implementing alternative teaching strategies and contemporary instructional technology.

Where respondents' perceptions differed significantly in four of the instructional clusters according to teaching discipline, the following observation was revealed. Data-processing faculty were most likely to perceive instructional needs, whereas economics instructors were least likely to perceive instructional needs in these clusters. The writer surmised that data-processing faculty expressed a stronger perception of instructional needs because they had had fewer years of academic training and possessed fewer advanced degrees than accounting and economics faculty. All accounting and economics respondents had at least a master's degree, whereas only 61% of the data-processing respondents had a master's degree.

Respondents clearly indicated their preference for shorter time sequences, one- to three-day seminars rather than one- to two-week residential workshops, for inservice training. The researcher concluded that this preference for shorter seminars, regardless of demographic characteristics, might have been due to the fact that the respondents as a group were primarily in their 30's and 40's and probably had professional and family obligations that contributed to their opposition to longer inservice sessions.

Recommendations for Further Research

Based on the results of this research project, the following topics are recommended for further research:

1. Because this study was the first of its kind for full-time Michigan community college faculty, the study should be replicated.

2. A needs assessment and inservice-training survey should be conducted for part-time accounting, data-processing, and economics faculty in Michigan public community colleges. This type of survey could attempt to describe and analyze a contemporary trend in Michigan community colleges--that the majority of faculty members over the past several years have been part-time teachers.

3. A study should be undertaken to determine the ratio of full-time to part-time faculty in the disciplines of accounting, data processing, and economics in Michigan community colleges and to identify trends corresponding to this ratio. The present ratio is 60% part-time to 40% full-time total faculty in Michigan public community colleges.

4. The focus of recent and planned inservice-training programs in Michigan public community colleges should be determined to see if topics are based on faculty perceptions of instructional needs.

5. A study should be undertaken to discover why 20% of the accounting, data-processing, and economics faculty in Michigan's 29 public community colleges have not participated in inservice training in the past five years. Are inservice training opportunities available? If so, why are faculty not enrolling in such programs?

6. Respondents checked a majority of Strongly Agree and Agree responses for 12 of the 36 needs-assessment items concerning the extent of perceived instructional needs. Research should be conducted to discover how effectively these instructional needs have been met through recent inservice-training programs, which 80% of the respondents had attended.

7. A study should be designed to assess instructional needs as perceived by a sample of Michigan public community college students who are currently enrolled in accounting, data-processing, and economics courses.

APPENDICES

APPENDIX A

TABLES

Table A1.--Frequency and percentage distribution of responses to the 36-item needs assessment (N = 103).

Item		Strongly Agree	Agree	Disagree	Strongly Disagree	Left Blank
1. Formulating instructional objectives in measurable terms.	N	7	36	53	6	1
	%	7%	35%	51%	6%	1%
2. Organizing instruction around course objectives.	N	10	29	56	7	1
	%	10%	28%	54%	7%	1%
3. Selecting instructional activities and strategies.	N	10	48	35	8	2
	%	10%	47%	34%	8%	2%
4. Preparing written lesson plans.	N	3	19	58	20	3
	%	3%	18%	56%	19%	3%
5. Developing units of instruction.	N	3	34	51	12	3
	%	3%	33%	50%	12%	3%
6. Understanding the theory and techniques of audio-tutorial, self-paced, programmed instruction.	N	6	40	37	16	4
	%	6%	39%	36%	16%	4%
7. Increasing repertoire of teaching methods.	N	12	65	18	5	3
	%	12%	63%	17%	5%	3%
8. Observing a demonstration of new instructional technology.	N	19	62	13	5	4
	%	18%	60%	13%	5%	4%
9. Understanding the theory and application of mini- and micro-computer assisted instruction.	N	28	42	24	6	3
	%	27%	41%	23%	6%	3%

121

Table A1.--Continued.

Item		Strongly Agree	Agree	Disagree	Strongly Disagree	Left Blank
10. Observing and diagnosing a video-tape of peer teaching on a micro-teaching exercise.	N %	12 12%	40 39%	34 33%	13 13%	4 4%
11. Experiencing a survey of psychology of learning theories (Piaget, Bloom, Mager, Skinner, etc.).	N %	6 6%	26 25%	28 27%	38 37%	5 5%
12. Establishing a study skills laboratory.	N %	7 7%	35 34%	33 32%	24 23%	4 4%
13. Identifying and utilizing principles of test construction.	N %	13 13%	36 35%	45 44%	7 7%	2 2%
14. Constructing valid and reliable test items.	N %	13 13%	40 39%	40 39%	7 7%	3 3%
15. Grading on a contract basis.	N %	6 6%	24 23%	47 46%	18 17%	8 8%
16. Diagnosing student reading and writing deficiencies.	N %	13 13%	30 29%	36 35%	20 19%	4 4%
17. Diagnosing student mathematics deficiencies.	N %	12 12%	24 23%	44 43%	19 18%	4 4%
18. Understanding educational objectives of and developing the curriculum of your discipline.	N %	10 10%	28 27%	49 48%	13 13%	3 3%

Table Al.--Continued.

Item		Strongly Agree	Agree	Disagree	Strongly Disagree	Left Blank
19. Determining content to be taught.	N	9	32	51	9	2
	%	9%	31%	50%	9%	2%
20. Keeping abreast in your subject matter.	N	37	34	25	5	2
	%	36%	33%	24%	5%	2%
21. Developing resource materials for your courses.	N	21	52	23	4	3
	%	20%	50%	22%	4%	3%
22. Motivating and reinforcing students.	N	14	42	35	8	4
	%	14%	41%	34%	8%	4%
23. Eliminating inappropriate student classroom behaviors.	N	5	26	43	25	4
	%	5%	25%	42%	24%	4%
24. Diagnosing learning problems of disadvantaged students.	N	8	36	31	23	5
	%	8%	35%	30%	22%	5%
25. Coping with problems relating to student attitudes, indifference, and attendance.	N	15	28	40	17	3
	%	15%	27%	39%	17%	3%
26. Sequencing activities (step-by-step instruction).	N	4	21	64	8	6
	%	4%	20%	62%	8%	6%
27. Providing immediate feedback.	N	8	21	57	12	5
	%	8%	20%	55%	12%	5%

123

Table A1.--Continued.

		Strongly Agree	Agree	Disagree	Strongly Disagree	Left Blank
28.	Summarizing instructional units.	N	4	21	63	9	6
		%	4%	20%	61%	9%	6%
29.	Utilizing multi-media activities to improve instruction.	N	12	55	22	7	7
		%	12%	53%	21%	7%	7%
30.	Developing more creative lectures.	N	17	46	30	4	6
		%	17%	45%	29%	4%	6%
31.	Using student/peer tutorial assistance.	N	10	28	47	11	7
		%	10%	27%	46%	11%	7%
32.	Implementing closure: to establish a link between familiar material and the new.	N	9	29	49	9	7
		%	9%	28%	48%	9%	7%
33.	Using questioning procedures to promote class discussion.	N	16	35	41	5	6
		%	16%	34%	40%	5%	6%
34.	Training in human relations techniques (group dynamics).	N	11	34	39	13	6
		%	11%	33%	38%	13%	6%
35.	Improving techniques of teaching presentation.	N	16	53	25	2	7
		%	16%	51%	24%	2%	7%
36.	Developing sensitivity to needs and feelings of others.	N	7	26	53	9	8
		%	7%	25%	51%	9%	8%

Table A2.--Preference of sponsor for inservice training (N = 103).

Sponsor		First Choice	Second Choice	Third Choice	Left Blank
Community college sponsored	N	35	29	25	14
	%	34%	28%	24%	14%
University sponsored	N	22	29	41	11
	%	21%	28%	40%	11%
Professional association sponsored	N	34	32	24	13
	%	33%	31%	23%	13%

Table A3.--Preference of time for inservice training (N = 103).

Time		First Choice	Second Choice	Third Choice	Fourth Choice	Left Blank
One-day regional seminar	N	51	25	10	8	9
	%	50%	24%	10%	8%	9%
One- to three-day seminar	N	39	48	8	-	8
	%	38%	47%	8%	-	8%
One-week residential workshop	N	4	16	68	1	14
	%	4%	16%	66%	1%	14%
One- to two-week residential workshop	N	4	3	3	80	13
	%	4%	3%	3%	78%	13%

Table A4.--Factors contributing to participation in inservice training.

Factor		Yes	No	Left Blank
Scheduled during summer	N	59	29	15
	%	57%	28%	15%
Scheduled during evening hours	N	35	48	20
	%	34%	47%	19%
Scheduled during weekends	N	50	37	16
	%	49%	36%	16%
University credit granted	N	36	49	18
	%	35%	48%	17%
Inservice training credit granted by your institution	N	36	46	21
	%	35%	45%	20%
Released time by your employer	N	78	16	9
	%	76%	16%	9%
Expenses reimbursed by employer	N	81	13	9
	%	79%	13%	9%
Credit toward promotion and/or tenure	N	53	34	9
	%	51%	33%	9%

126

Table A5.--Means and standard deviations of the 36 items in the needs assessment, rank ordered by means (possible mean = 4.0).

Item	Mean	S.D.
20. Keeping abreast in your subject matter.	2.961	.989
8. Observing a demonstrating of new instructional technology.	2.845	.916
9. Understanding the theory and application of mini- and micro-computer assisted instruction.	2.835	.991
21. Developing resource materials for your courses.	2.816	.905
7. Increasing repertoire of teaching methods.	2.757	.834
35. Improving techniques of teaching presentation.	2.670	.994
30. Developing more creative lectures.	2.621	1.001
29. Utilizing multi-media activities to improve instruction.	2.563	1.016
3. Selecting instructional activities and strategies.	2.544	.849
14. Constructing valid and reliable test items.	2.515	.906
22. Motivating and reinforcing students.	2.514	.958
13. Identifying and utilizing principles of test construction.	2.495	.873
33. Using questioning procedures to promote class discussion.	2.485	1.008

Table A5.--Continued.

Item	Mean	S.D.
10. Observing and diagnosing a video-tape of peer teaching on a micro-teaching exercise.	2.417	.985
1. Formulating instructional objectives in measurable terms.	2.408	.747
2. Organizing instruction around course objectives.	2.388	.795
19. Determining content to be taught.	2.359	.838
25. Coping with problems relating to student attitudes, indifference, and attendance.	2.340	1.015
34. Training in human relations techniques (group dynamics).	2.301	1.018
18. Understanding educational objectives of and developing the curriculum of your discipline.	2.282	.912
6. Understanding the theory and techniques of audio-tutorial, self-paced, programmed instruction.	2.272	.931
16. Diagnosing student reading and writing deficiencies.	2.272	1.040
32. Implementing closure: to establish a link between familiar material and the new.	2.233	.972
31. Using student/peer tutorial assistance.	2.223	.999
5. Developing units of instruction.	2.214	.800

Table A5.--Continued.

Item	Mean	S.D.
17. Diagnosing student mathematics deficiencies.	2.204	1.004
24. Diagnosing learning problems of disadvantaged students.	2.184	1.027
12. Establishing a study skills laboratory.	2.165	.991
27. Providing immediate feedback.	2.146	.901
36. Developing sensitivity to needs and feelings of others.	2.146	.954
26. Sequencing activities (step-by-step instruction).	2.087	.818
28. Summarizing instructional units.	2.078	.825
23. Eliminating inappropriate student classroom behaviors.	2.029	.923
15. Grading on a contract basis.	2.019	.980
4. Preparing written lesson plans.	1.990	.786
11. Experiencing a survey of psychology of learning theories (Piaget, Bloom, Mager, Skinner, etc.).	1.903	1.024

Table A6.--Seven instructional clusters ranked by means, plus standard deviations (possible mean = 4.0).

Cluster	Mean	S.D.
D. Subject Matter (Content)	2.568	.820
G. Communications	2.379	.918
B. Instructional Strategies	2.345	.840
A. Planning Instruction	2.237	.732
E. Instructional Management	2.223	.856
F. Implementing Instruction	2.193	.906
C. Evaluating Instruction	2.173	.883

Reliability Analysis

Reliability coefficients for the seven instructional clusters using the Cronbach alpha technique:

Instructional Cluster	Alpha
A. Planning Instruction	.79709
B. Instructional Strategies	.81294
C. Evaluating Instruction	.76653
D. Subject Matter (Content)	.83261
E. Instructional Management	.79802
F. Implementing Instruction	.92639
G. Communications	.90164

Research Question 2. Means and standard deviations of the seven instructional clusters, by gender (N = 103).

Instructional Cluster	Male (N=89)		Female (N=14)	
	Mean	S.D.	Mean	S.D.
A. Planning Instruction	2.245	.735	(2.457)	.809
B. Instructional Strategies	2.311	.842	2.082	.706
C. Evaluating Instruction	2.151	.902	2.329	.771
D. Subject Matter (Content)	(2.562)	.801	2.036	.848
E. Instructional Management	2.219	.865	2.393	.859
F. Implementing Instruction	2.159	.928	2.235	.692
G. Communications	2.312	.954	2.196	.482

Research Question 4. Means and standard deviations of the seven instructional clusters, by teaching discipline (N = 103).

Instructional Cluster	Accounting (N=39)		Data Processing (N=33)		Economics (N=31)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
A. Planning Instruction	2.210	.631	2.521	.477	2.181	1.049
B. Instructional Strategies	(2.582)	.651	2.255	.935	2.249	.934
C. Evaluating Instruction	2.308	.769	2.279	.901	(2.452)	1.141
D. Subject Matter (Content)	2.538	.608	2.121	.603	2.081	1.052
E. Instructional Management	2.378	.711	(2.591)	.817	2.363	1.163
F. Implementing Instruction	2.348	.690	2.229	.881	2.166	1.207
G. Communications	2.545	.754	2.220	.817	2.129	1.120

Research Question 3. Means and standard deviations of the seven instructional clusters, by age of respondents (N = 103).

Instructional Cluster	26-30 Years (N=2)		31-35 Years (N=18)		36-40 Years (N=23)		41-45 Years (N=19)		46-50 Years (N=20)		51-55 Years (N=10)		56-60 Years (N=7)		Over 60 Years (N=4)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
A. Planning Instruction	2.7000	.990	2.522	.418	2.417	.928	2.674	.719	2.690	.718	2.240	1.045	2.200	1.033	2.900	.200
B. Instructional Strategies	2.786	1.111	2.270	.710	2.180	.922	2.564	.507	2.086	1.019	2.471	.747	2.102	.999	2.036	.732
C. Evaluating Instruction	3.100	.707	2.267	.879	2.278	.867	2.832	.867	2.370	.793	2.440	1.271	1.943	1.370	2.500	.757
D. Subject Matter (Content)	3.000	1.414	2.250	.500	2.076	.934	2.645	.529	1.987	.860	2.400	.810	1.929	.773	2.688	.625
E. Instructional Management	2.875	1.237	2.389	.787	2.141	1.120	2.974	.571	2.438	.756	2.825	.921	2.143	1.088	2.750	.707
F. Implementing Instruction	2.786	1.111	2.476	.373	2.255	1.006	2.541	.995	1.857	1.122	2.757	.828	2.184	1.093	2.500	.644
G. Communications	1.750	2.475	2.278	.401	2.185	.995	2.461	.863	2.138	.995	2.150	1.150	2.393	.556	2.375	.924

133

Research Question 5. Means and standard deviations of the seven instructional clusters, by community college teaching experience (N = 103).

Instructional Cluster	0-3 Years (N=10)		4-7 Years (N=20)		8-11 Years (N=21)		12-15 Years (N=22)		16-19 Years (N=24)		Over 20 Years (N=6)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
A. Planning Instruction	2.400	.327	(2.500)	.641	2.324	.843	2.691	.364	2.442	1.145	(2.833)	.612
B. Instructional Strategies	1.700	1.215	2.229	.683	2.143	.631	2.630	.478	2.387	.751	1.786	1.567
C. Evaluating Instruction	2.560	.310	2.150	.868	(2.495)	.731	2.682	.848	2.225	1.242	2.333	1.343
D. Subject Matter (Content)	(2.750)	.486	2.062	.579	2.274	.905	2.398	.635	2.250	.912	2.042	1.279
E. Instructional Management	2.175	.334	2.350	.620	2.119	1.164	(2.761)	.624	(2.448)	1.156	2.792	.579
F. Implementing Instruction	2.400	.314	2.429	.454	2.231	.865	2.669	.763	1.851	1.318	2.429	1.340
G. Communications	2.325	.921	2.212	.508	2.095	.831	2.625	.702	2.240	1.136	1.417	1.158

134

Research Question 6. Means and standard deviations of the seven instructional clusters, by years of higher education (N = 103).

Instructional Cluster	4-5 Years (N=17)		6-7 Years (N=56)		8-9 Years (N=13)		10-11 Years (N=4)		Over 12 Years (N=6)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
A. Planning Instruction	2.224	.552	2.554	.528	2.189	1.243	2.000	1.376	(2.900)	.919
B. Instructional Strategies	2.597	.561	2.270	.822	2.373	.729	1.357	1.584	2.000	1.042
C. Evaluating Instruction	2.506	.571	2.389	.861	2.567	1.076	1.300	1.536	2.100	1.384
D. Subject Matter (Content)	(2.618)	.524	2.268	.684	2.250	.840	1.250	.866	2.042	1.600
E. Instructional Management	2.353	.750	2.469	.842	(2.639)	.900	(2.313)	1.560	1.875	1.412
F. Implementing Instruction	2.151	.928	2.342	.852	2.475	1.024	1.857	1.304	2.000	1.414
G. Communications	2.538	.606	2.223	.765	2.375	1.033	1.250	1.458	1.917	1.489

Research Question 7. Means and standard deviations of the seven instructional clusters, by previous full-time employment in business/industry (N = 103).

Instructional Cluster	Yes (N=86)		No (N=17)	
	Mean	S.D.	Mean	S.D.
A. Planning Instruction	2.209	.768	(2.624)	.514
B. Instructional Strategies	2.341	.800	2.042	.945
C. Evaluating Instruction	2.147	.845	2.106	1.015
D. Subject Matter (Content)	(2.549)	.792	2.044	.867
E. Instructional Management	2.177	.832	2.250	.927
F. Implementing Instruction	2.154	.926	2.319	.780
G. Communications	2.340	.915	2.132	.862

Research Question 8. Means and standard deviations of the seven instructional clusters, by completion of a formal teacher training program (N = 103).

Instructional Cluster	Yes (N=45)		No (N=58)	
	Mean	S.D.	Mean	S.D.
A. Planning Instruction	2.280	.654	2.452	.845
B. Instructional Strategies	2.235	1.023	2.397	.657
C. Evaluating Instruction	2.356	.828	2.366	1.013
D. Subject Matter (Content)	(2.667)	.792	2.250	.802
E. Instructional Management	2.306	.884	(2.496)	.904
F. Implementing Instruction	2.213	.979	2.392	.910
G. Communications	2.344	1.031	2.336	.817

Research Question 9. Means and standard deviations of the seven instructional clusters, by participation in inservice training or professional development in the past five years (N = 103).

Instructional Cluster	Yes (N=80)		No (N=23)	
	Mean	S.D.	Mean	S.D.
A. Planning Instruction	2.232	.741	2.530	.759
B. Instructional Strategies	2.402	.849	2.416	.869
C. Evaluating Instruction	2.172	.921	2.609	.819
D. Subject Matter (Content)	(2.587)	.814	2.283	.907
E. Instructional Management	2.272	.865	(2.728)	.907
F. Implementing Instruction	2.280	.854	2.242	1.176
G. Communications	2.491	.905	2.576	1.015

Research Question 10. Means and standard deviations of the seven instructional clusters, by student-body headcount (N = 103).

Instructional Cluster	0-2,500 (N=19)		2,501-5,000 (N=14)		5,001-7,500 (N=7)		7,501-10,000 (N=13)		10,001-12,500 (N=18)		12,501-15,000 (N=3)		Over 15,001 (N=28)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
A. Planning Instruction	2.232	.449	2.614	.906	(2.257)	1.106	2.308	.922	(2.589)	.468	3.067	.643	(2.357)	.887
B. Instructional Strategies	2.271	.908	2.112	.850	1.796	.872	2.462	.485	2.222	.870	3.000	.937	2.311	.793
C. Evaluating Instruction	2.200	.757	(2.800)	.419	1.914	1.051	2.262	.950	2.478	.792	3.067	.808	2.107	1.167
D. Subject Matter (Content)	(2.368)	.747	2.321	.953	1.679	.910	2.250	.621	2.333	.575	2.917	.722	2.107	.846
E. Instructional Management	2.263	.489	2.696	.530	1.964	1.055	(2.750)	.791	2.486	1.096	2.667	.382	2.161	1.072
F. Implementing Instruction	2.158	.677	2.673	.446	1.837	1.005	2.099	1.125	2.373	.756	(3.095)	.787	2.163	1.085
G. Communications	2.289	.962	2.625	.678	1.964	.904	2.500	.797	2.403	.508	1.500	1.323	2.063	.973

138

APPENDIX B

COMMUNICATIONS AND NEEDS-ASSESSMENT QUESTIONNAIRE

LANSING COMMUNITY COLLEGE
A Quarter Century of Occupational Education

August 15, 1983

Dear Fellow Professor:

This "alert" letter will precede by three weeks a pilot study seeking information concerning accounting, data processing, and economics education in the 29 Michigan public community colleges. The final questionnaire will serve as a Ph.D. dissertation in Business Education at Michigan State University.

Public community colleges have been the fastest growing institutions in higher education in Michigan. However, no descriptive or analytical study exists concerning accounting, data processing and economics in our state's public two-year colleges.

Major purposes of the study are:

1. To compile a fact-finding status study,

2. To determine the perceived instructional needs of Michigan public community college accounting, data processing, and economics faculty through a needs assessment questionnaire, and

3. To correlate demographic variables associated with needs perception.

The findings, reflecting your professional concerns, could serve as an empirical base for inservice training, such as workshops or seminars. The findings might provide implications for preservice programs, recruiting and staffing policies, and evaluation of existing programs.

This pilot study questionnaire should take no more than 30 minutes to complete. This pilot study, which will be validated by a panel of experts, will provide information concerning content, layout, clarity of questions, feedback on interpretation of questions, and recommendations for improvement for the state-wide questionnaire mailed in November 1983.

Sincerely,

Leonard G. Peterson
Associate Professor, Economics
Lansing Community College
(517) 483-1606

Lansing Community College

Serving the Heart
of Michigan

September 6, 1983

Dear Fellow Professor:

Three weeks ago you received an "alert" letter indicating that a pilot study would be sent to you. The enclosed pilot study seeks information concerning accounting, data processing, and economics education in the 29 Michigan public community colleges. The final questionnaire will serve as a Ph.D. dissertation in Business Education at Michigan State University.

Major purposes of the study are:

1. To compile a fact-finding status study;

2. To determine the perceived instructional needs of Michigan public community college accounting, data processing, and economics faculty through a needs assessment questionnaire; and

3. To correlate demographic variables associated with needs perception.

The findings, reflecting your professional concerns, could serve as an empirical base for inservice training, such as workshops or seminars. The findings might provide implications for preservice programs, recruiting and staffing policies, and evaluation of existing programs.

This pilot study questionnaire should take no more than 20 minutes to complete. You may be assured of complete confidentiality. The pilot study will be validated by a panel of experts to provide information concerning content, layout, clarity of questions, feedback on interpretation of questions, and recommendations for improvement for the state-wide questionnaire to be mailed about November 1, 1983.

Thank you for your time.

Sincerely,

Leonard G. Peterson
Associate Professor, Economics
Lansing Community College
(517) 483-1606

PART A: DEMOGRAPHIC DATA

INSTRUCTOR INFORMATION: In order to properly evaluate your responses, It is necessary to collect information regarding your background, your professional experience, and Information concerning your Institution. Please complete all questions that apply to you by placing a check or [X] In the appropriate box or line. Please fill in Items 1 and 2.

1. NAME OF FACULTY MEMBER (Optional) _____

2. DEPARTMENT _____

3. Gender: [ ] Male   [ ] Female

4. Age: [ ] Under 25 years   [ ] 36 to 40 years   [ ] 51 to 55 years
                     [ ] 26 to 30 years   [ ] 41 to 45 years   [ ] 56 to 60 years
                     [ ] 31 to 35 years   [ ] 46 to 50 years   [ ] Over 60 years

5. Faculty Status: [ ] Full-time Faculty Member
                     [ ] Part-time Faculty Member
                     [ ] Other _____

6. Major Teaching Discipline: [ ] Accounting   [ ] Data Processing   [ ] Economics

7. Community College Teaching Experience: (Include both full- and part-time experience):
                     [ ] 0-3 years   [ ] 8-11 years   [ ] 16-19 years
                     [ ] 4-7 years   [ ] 12-15 years   [ ] Over 20 years

8. Your Highest Degree is held in which Discipline?
                     [ ] Accounting   [ ] Economics   [ ] Social Science
                     [ ] Business   [ ] Education   [ ] Other
                     [ ] Data Processing

9. Years of Attending Higher Education:
                     [ ] 4 to 5 years   [ ] 8 to 9 years   [ ] Over 12 years
                     [ ] 6 to 7 years   [ ] 10 to 11 years

10. Previous Full-Time Employment in Business/Industry?   [ ] Yes   [ ] No

11. Have you Completed a Formal Teacher Training Program? (Program would include student teaching
        for certification, or a supervised teaching internship, teaching assistantship or teaching
        practicum.)
                     [ ] Yes   [ ] No

12. Have you Attended an Inservice Training or Professional Development Program In the Past Five
        Years concerning your Teaching Discipline? (Training may include a workshop in media
        selection or a seminar In student evaluation.)
                     [ ] Yes   [ ] No

12. (continued)

If your answer is <u>Yes</u>, please place an [X] in the appropriate box or boxes concerning your two MOST RECENT inservice training experiences:

	EXPERIENCE 1		EXPERIENCE 2	
	YES	NO	YES	NO
University sponsored?	[ ]	[ ]	[ ]	[ ]
Professional Association sponsored?	[ ]	[ ]	[ ]	[ ]
University Credit granted?	[ ]	[ ]	[ ]	[ ]
Summer Workshop?	[ ]	[ ]	[ ]	[ ]
Subject Matter faculty involved in the selection of training topics?	[ ]	[ ]	[ ]	[ ]

INSTITUTION INFORMATION: Please fill in Item 1 and place an [X] in the appropriate box in Items 2, 3 and 4.

1. NAME OF YOUR INSTITUTION: _____

2. Size of Student Body Headcount (Include both full- and part-time enrollment as of September 1983).

    [ ] 0 to 2,500   [ ] 7,501 to 10,000   [ ] 12,501 to 15,000

    [ ] 2,501 to 5,000   ·   [ ] 10,001 to 12,500   [ ] Over 15,001

    [ ] 5,001 to 7,500

3. Number of Students Presently Enrolled in Courses in your Teaching Discipline?

    [ ] 0 to 100   [ ] 301 to 400   [ ] 601 to 700

    [ ] 101 to 200   [ ] 401 to 500   [ ] 701 to 800

    [ ] 201 to 300   [ ] 501 to 600   [ ] Over 801

4. Is Your Institution Considered an Urban or Non-Urban College?

    [ ] Urban   [ ] Non-Urban

PART B: NEEDS ASSESSMENT AND INSERVICE TRAINING

DIRECTIONS: Each of the following 36 statements represents a teaching skill or competency effective for community college teaching. Beside each statement check one of the four positions reflecting the degree of perceived needs and whether the perceived needs could be met through inservice training and your preferences for the arrangements or delivery model for inservice training. The four choices for degree of perceived need are:

(SA)   STRONGLY AGREE: If you feel that you definitely perceive a need in this statement, place an [X] in the box under the letters (SA) in Column I.

(A)   AGREE: If you feel that the statement is important to you in terms of need perception, place an [X] in the box under the letter (A) in Column I.

(D)   DISAGREE: If you feel that the statement is unimportant to you in terms of need perception, place an [X] in the box under the letter (D) in Column I.

(SD)   STRONGLY DISAGREE: If you are certain that no perception of need is evident in the statement, place an [X] in the box under the letters (SD) in Column I.

COLUMN I

I have a need in
this area

COLUMN II

I feel the need
could be met through
inservice training

SA A D SD		YES NO
[ ] [ ] [ ] [ ]	A. PLANNING INSTRUCTION	
[ ] [ ] [ ] [ ]	1. Formulating of instructional objectives in measurable terms.	[ ] [ ]
[ ] [ ] [ ] [ ]	2. Organizing instruction around course objectives.	[ ] [ ]
[ ] [ ] [ ] [ ]	3. Selecting instructional activities and strategies.	[ ] [ ]
[ ] [ ] [ ] [ ]	4. Preparing written lesson plans.	[ ] [ ]
[ ] [ ] [ ] [ ]	5. Developing units of instruction.	[ ] [ ]

COMMENTS: _____

_____

B. IMPLEMENTING INSTRUCTION:

SA A D SD		YES NO
[ ] [ ] [ ] [ ]	6. Sequencing activities (step-by-step instruction).	[ ] [ ]
[ ] [ ] [ ] [ ]	7. Providing immediate feedback.	[ ] [ ]
[ ] [ ] [ ] [ ]	8. Summarizing instructional units.	[ ] [ ]
[ ] [ ] [ ] [ ]	9. Utilizing multi-media activities to improve instruction.	[ ] [ ]
[ ] [ ] [ ] [ ]	10. Developing more creative lectures.	[ ] [ ]
[ ] [ ] [ ] [ ]	11. Using student/peer tutorial assistance.	[ ] [ ]
[ ] [ ] [ ] [ ]	12. Implementing closure: to establish a link between familiar material and the new.	[ ] [ ]

COMMENTS: _____

_____

(SA) = Strongly Agree; (A) = Agree; (D) = Disagree; (SD) = Strongly Disagree

COLUMN I

COLUMN II

I have a need in
this area

I feel the need
could be met through
inservice training

SA	A	D	SD		C. EVALUATING INSTRUCTION:	YES	NO
[ ]	[ ]	[ ]	[ ]	13.	Identifying and utilizing principles of test construction.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	14.	Constructing valid and reliable test items.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	15.	Grading on a contract basis.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	16.	Diagnosing student reading and writing deficiencies.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	17.	Diagnosing student mathematics deficiencies.	[ ]	[ ]

COMMENTS: _____

_____

D. SUBJECT MATTER (CONTENT):

[ ]	[ ]	[ ]	[ ]	18.	Understanding educational objectives of and developing the curriculum of your discipline.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	19.	Determining content to be taught.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	20.	Keeping abreast in your subject matter.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	21.	Developing resource materials for your courses.	[ ]	[ ]

COMMENTS: _____

_____

E. INSTRUCTIONAL MANAGEMENT:

[ ]	[ ]	[ ]	[ ]	22.	Motivating and reinforcing students.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	23.	Eliminating inappropriate student classroom behaviors.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	24.	Diagnosing learning problems of disadvantaged students.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	25.	Coping with problems relating to student attitudes, indifference, and attendance.	[ ]	[ ]

COMMENTS: _____

_____

F. COMMUNICATIONS:

[ ]	[ ]	[ ]	[ ]	26.	Using questioning procedures to promote class discussion.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	27.	Training in human relations techniques (group dynamics).	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	28.	Improving techniques of teaching presentation.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	29.	Developing sensitivity to needs and feelings of others.	[ ]	[ ]

COMMENTS: _____

_____

(SA) = Strongly Agree;   (A) = Agree;   (D) = Disagree;   (SD) = Strongly Disagree

COLUMN I   COLUMN II

I have a need in   I feel the need
this area   could be met through
                                                                           inservice training

SA	A	D	SD		C. INSTRUCTIONAL STRATEGIES:	YES	NO
[ ]	[ ]	[ ]	[ ]	30.	Understanding of the theory and techniques of audio-tutorial, self-paced, programmed instruction.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	31.	Increasing repertoire of teaching methods.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	32.	Observing a demonstration of new instructional technology.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	33.	Understanding of the theory and application of mini- and micro-computer assisted instruction.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	34.	Observing, diagnosing, and critique of a video-tape of peer teaching on a micro-teaching exercise.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	35.	Experiencing a survey of psychology of learning theories (X and Y factor, McGregor, etc.).	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	36.	Establishing a study skills laboratory.	[ ]	[ ]

COMMENTS: _____

_____

PART C: INSERVICE TRAINING PREFERENCE AND ATTENDANCE

1. Your Preference for Inservice Training: (Please rank order your preference for inservice training arrangements:

                    (1) = First choice,
                    (2) = Second choice
                    (3) = Third choice
                    (4) = Fourth choice

        [ ] a. One-day regional seminar
        [ ] b. One-week residential workshop
        [ ] c. University sponsored
        [ ] d. Professional Association sponsored

2. Factors contributing to your Inservice Training attendance: (Place |X| in appropriate box).

        YES   NO
        [ ]   [ ]   a. Scheduled during summer
        [ ]   [ ]   b. Scheduled during evening hours.
        [ ]   [ ]   c. Scheduled during weekends
        [ ]   [ ]   d. University credit granted
        [ ]   [ ]   e. Inservice training credit granted by your institution
        [ ]   [ ]   f. Released time by your employer
        [ ]   [ ]   g. Expenses reimbursed by employer

September 8, 1983

Dear Dr. Rubin:

Am currently a Ph.D candidate in Business Education at Michigan State
University and will soon conduct a pilot study in the 29 Michigan public
community colleges. Purpose of the study: To determine the perceived
instructional needs of accounting, data processing, and economics faculty,
and to correlate various demographic variables associated with needs per-
ception. The findings could serve as an empirical base for inservice
training, such as workshops or seminars. The findings might well provide
implications for preservice programs, recruiting and staffing policies,
and evaluation of existing programs.

While undertaking the review of literature, your name frequently appears
under the descriptor inservice training and/or staff (faculty) development.
Would you consider evaluating or refereeing the 36-item needs assessment
questionnaire after its pilot testing? If your answer is yes; I will pro-
vide information concerning the eight taxonomy models used to establish
the teacher proficiencies on the needs assessment. If your answer is no;
I fully understand how we are all pressed for time.

Thank you.

Sincerely,

Leonard G. Peterson
Associate Professor, Economics
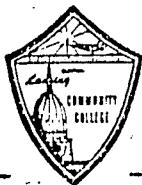
Lansing Community College

Serving the Heart
of Michigan

November 21, 1983

Dear Fellow Professor:

The enclosed questionnaire seeks information concerning accounting, data
processing, and economics education in the 29 Michigan public community
colleges. The results of the questionnaire will be analyzed as a Ph.D.
dissertation in Business Education at Michigan State University.

Public community colleges have been the fastest growing institutions in
higher education in Michigan. However, no descriptive or analytical study
exists concerning accounting, data processing, and economics instruction in
our state's public two-year colleges.

Major purposes of the study:

1. To compile a fact-finding status study,
2. To determine the perceived instructional needs of Michigan
   public community college accounting, data processing, and
   economics faculty through a needs assessment questionnaire,
   and,
3. To correlate various demographic variables with needs perception.

The findings, reflecting your professional concerns, could serve as an empir-
ical base for inservice training such as workshops or seminars. The findings
might provide implications for preservice programs, recruiting and staffing
policies, and evaluation of existing programs.

The questionnaire should take no more than 20 minutes to complete. You may
be assured of complete confidentiality. This questionnaire has been pilot-
tested and validated by a panel of experts. Your participation in this
study is deeply appreciated and should be helpful in providing the necessary
information and direction for inservice education.

Thank you for your time.

Sincerely,

Leonard G. Peterson
Associate Professor, Economics
Lansing Community College
(517) 483-1606

Please check here if you wish a
copy of the resulting tabulation.
/_/

Enclosure

PART I: DEMOGRAPHIC DATA

INSTRUCTOR INFORMATION: In order to properly evaluate your responses, it is necessary to collect information regarding your background, your professional experience, and information concerning your institution. Please complete all questions that apply to you by placing a check [√] or [X] in the appropriate box or line. Please fill in items 1 and 2.

1. NAME OF FACULTY MEMBER (Optional) _____

2. DEPARTMENT _____

3. Gender: [ ] Male   [ ] Female

4. Age: [ ] Under 25 years   [ ] 36 to 40 years   [ ] 51 to 55 years
      [ ] 26 to 30 years   [ ] 41 to 45 years   [ ] 56 to 60 years
      [ ] 31 to 35 years   [ ] 46 to 50 years   [ ] Over 60 years

5. Faculty Status: [ ] Full-time Faculty Member
      [ ] Part-time Faculty Member
      [ ] Other _____

6. Major Teaching Discipline: [ ] Accounting   [ ] Data Processing   [ ] Economics

7. Community College Teaching Experience: (Include both full- and part-time experience):

      [ ] 0-3 years   [ ] 8-11 years   [ ] 16-19 years
      [ ] 4-7 years   [ ] 12-15 years   [ ] Over 20 years

8. In Which Discipline(s) Do You Hold the Following Degrees?

    (a) BA/BS   [ ] Accounting   [ ] Economics   [ ] Social Science
                 [ ] Business   [ ] Education   [ ] Other
                 [ ] Data Processing

    (b) MA/MS/MBA   [ ] Accounting   [ ] Economics   [ ] Social Science
                 [ ] Business   [ ] Education   [ ] Other
                 [ ] Data Processing

    (c) Ph.D.   [ ] Accounting   [ ] Economics   [ ] Social Science
                 [ ] Business   [ ] Education   [ ] Other
                 [ ] Data Processing

9. Years of Attending Higher Education:

      [ ] 4 to 5 years   [ ] 8 to 9 years   [ ] Over 12 years
      [ ] 6 to 7 years   [ ] 10 to 11 years

10. Previous Full-Time Employment in Business/Industry?   [ ] YES   [ ] NO

    If YES, how many years?   [ ] Less than 2 years   [ ] 6 to 9 years
                         [ ] 2 to 5 years   [ ] Over 10 years

11. Have you completed a Formal Teacher Training Program which would include student teaching for certification, a supervised teaching internship, teaching assistantship, or teaching practicum?

      [ ] YES   [ ] NO

12. Have you Attended an Inservice Training or Professional Development Program in the past five years related to your teaching?

      [ ] YES   [ ] NO

If your answer Is YES, please place an [X] in the appropriate box or boxes concerning your two MOST RECENT inservice training experiences:

	EXPERIENCE 1		EXPERIENCE 2	
	YES	NO	YES	NO
Community College sponsored	[ ]	[ ]	[ ]	[ ]
Professional Association sponsored?	[ ]	[ ]	[ ]	[ ]
University Credit granted?	[ ]	[ ]	[ ]	[ ]
Summer Workshop?	[ ]	[ ]	[ ]	[ ]
Subject Matter faculty involved in the selection of training topics?	[ ]	[ ]	[ ]	[ ]

INSTITUTION INFORMATION: Please fill in Item 1 and place an [X] in the appropriate box in Items 2, and 3.

1. NAME OF YOUR INSTITUTION: _____

2. Size of Student Body Headcount (include both full- and part-time enrollment as of Fall 1983)

      [ ] 0 to 2,500   [ ] 7,501 to 10,000   [ ] 12,501 to 15,000

      [ ] 2,501 to 5,000   [ ] 10,001 to 12,500   [ ] Over 15,001

      [ ] 5,001 to 7,500

3. Number of Students Presently Enrolled in Courses in your Teaching Discipline?

      [ ] 0 to 100   [ ] 301 to 400   [ ] 601 to 700

      [ ] 101 to 200   [ ] 401 to 500   [ ] 701 to 800

      [ ] 201 to 300   [ ] 501 to 600   [ ] Over 801

PART II: NEEDS ASSESSMENT AND INSERVICE TRAINING

DIRECTIONS: Each of the following 36 statements represents a teaching skill or competency effective for community college teaching. Beside each statement check one of the four positions relating to the degree of perceived needs and whether the perceived needs could be met through inservice training. The four choices for degree of perceived need are:

(SA) STRONGLY AGREE: If you feel that you perceive a strong, professional need in this statement and would rank it first priority, place an [X] in the box under the letters (SA) in Column I.

(A) AGREE: If you feel that the statement reflects a second priority need in importance to you, place an [X] in the box under the letter (A) in Column I.

(D) DISAGREE: If you feel that the statement is important but about which you are sufficiently current, place an [X] in the box under the letter (D) in Column I.

(SD) STRONGLY DISAGREE: If you feel that the statement is not important nor a personal responsibility to your job, place an [X] in the box under the letters (SD) in Column I.

COLUMN 1

I have a need in
this area

COLUMN 2

I feel the need
could be met through
inservice training

SA	A	D	SD	A. PLANNING INSTRUCTION :	YES	NO
[ ]	[ ]	[ ]	[ ]	1. Formulating instructional objectives in measurable terms.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	2. Organizing instruction around course objectives.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	3. Selecting instructional activities and strategies.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	4. Preparing written lesson plans.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	5. Developing units of instruction.	[ ]	[ ]

COMMENTS: _____

_____

B. INSTRUCTIONAL STRATEGIES:

SA	A	D	SD		YES	NO
[ ]	[ ]	[ ]	[ ]	6. Understanding of the theory and techniques of audio-tutorial, self-paced, programmed instruction.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	7. Increasing repertoire of teaching methods.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	8. Observing a demonstration of new instructional technology.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	9. Understanding of the theory and application of mini- and micro-computer assisted instruction.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	10. Observing and diagnosing a video-tape of peer teaching on a micro-teaching exercise.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	11. Experiencing a survey of psychology of learning theories (Piaget, Bloom, Mager, Skinner, etc.)	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	12. Establishing a study skills laboratory.	[ ]	[ ]

(SA) = STRONGLY AGREE: (A) = AGREE: (D) - DISAGREE: (SD) - STRONGLY DISAGREE

COLUMN 1						COLUMN 2	
I have a need in this area						I feel the need could be met through inservice training	
SA	A	D	SD		C. EVALUATING INSTRUCTION.	YES	NO
[ ]	[ ]	[ ]	[ ]	13.	Identifying and utilizing principles of test construction.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	14.	Constructing valid and reliable test items.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	15.	Grading on a contract basis.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	16.	Diagnosing student reading and writing deficiencies.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	17.	Diagnosing student mathematics deficiencies.	[ ]	[ ]

COMMENTS: _____

_____

D. SUBJECT MATTER (CONTENT):

[ ]	[ ]	[ ]	[ ]	18.	Understanding educational objectives of and developing the curriculum of your discipline.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	19.	Determining content to be taught.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	20.	Keeping abreast in your subject matter.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	21.	Developing resource materials for your courses.	[ ]	[ ]

COMMENTS: _____

_____

E. INSTRUCTIONAL MANAGEMENT:

[ ]	[ ]	[ ]	[ ]	22.	Motivating and reinforcing students.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	23.	Eliminating inappropriate student classroom behaviors.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	24.	Diagnosing learning problems of disadvantaged students.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	25.	Coping with problems relating to student attitudes, indifference, and attendance.	[ ]	[ ]

COMMENTS: _____

_____

F. IMPLEMENTING INSTRUCTION:

[ ]	[ ]	[ ]	[ ]	26.	Sequencing activities (step-by-step instruction).	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	27.	Providing immediate feedback.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	28.	Summarizing instructional units.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	29.	Utilizing multi-media activities to improve instruction.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	30.	Developing more creative lectures.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	31.	Using student/peer tutorial assistance.	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	32.	Implementing closure: to establish a link between familiar material and the new.	[ ]	[ ]

153

(SA) = STRONGLY AGREE;   (A) = AGREE;   (D) = DISAGREE: (SD) = STRONGLY DISAGREE

COLUMN 1   COLUMN 2

have a need In   I feel the need
his area   could be met through
                                                                       inservice training

SA   A   D   SD   C.   COMMUNICATIONS: YES   NO

[ ] [ ] [ ] [ ]   33. Using questioning procedures to promote class discussion.   [ ]   [ ]

[ ] [ ] [ ] [ ]   34. Training in human relations techniques (group dynamics).   [ ]   [ ]

[ ] [ ] [ ] [ ]   35. Improving techniques of teaching presentation.   [ ]   [ ]

[ ] [ ] [ ] [ ]   36. Developing sensitivity to needs and feelings of others.   [ ]   [ ]

          COMMENTS: _____

          _____

PART III: INSERVICE TRAINING PREFERENCE AND ATTENDANCE

Your Preference in Terms of Time for Inservice Training: (Please rank order your preference):

                    (1) = First choice   (3) = Third choice
                    (2) = Second choice   (4) = Fourth choice

     [ ] a. One-day regional seminar
     [ ] b. One to three-day seminar
     [ ] c. One-week residential workshop
     [ ] d. One to two week residential workshop

Your Preference in Terms of Sponsor for Inservice Training: (Please rank order your preference):

                    (1) = First choice   (3) = Third choice
                    (2) = Second choice

     [ ] a. Community College sponsored
     [ ] b. University sponsored
     [ ] c. Professional Association sponsored

Factors contributing to your Inservice Training attendance: (Place [X] in appropriate box).

              YES   NO
              [ ]   [ ]   a. Scheduled during summer
              [ ]   [ ]   b. Scheduled during evening hours
              [ ]   [ ]   c. Scheduled during weekends
              [ ]   [ ]   d. University credit granted
              [ ]   [ ]   e. Inservice training credit granted by your institution
              [ ]   [ ]   f. Released time by your employer
              [ ]   [ ]   g. Expenses reimbursed by employer
              [ ]   [ ]   h. Credit toward promotion and/or tenure

Lansing Community College

Serving the Heart
of Michigan

January 3, 1984

Dear Fellow Professor:

Last month you received a questionnaire which sought information
concerning accounting, data processing, and economics education in the
29 Michigan community colleges.

The purposes of the study: to compile a fact-finding status study,
to determine perceived instructional needs, and to correlate demographic
variables with perceived needs. The findings could serve as an empirical
base for in-service training such as workshops or seminars.

The returns have been gratifying (45% return rate) and the information
revealing. Would you please complete and return the questionnaire? The
questionnaire was sent to a fairly small number of community college faculty
(182 in all). Hence, it is important that your opinions be included in
the study if the results accurately represent the perceptions of accounting,
data processing, and economics faculty in Michigan.

If you did not receive the questionnaire or if it has been mislaid,
please let me know and I will send another questionnaire.

Thank you for your time.

Sincerely,

Leonard G. Peterson

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155

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