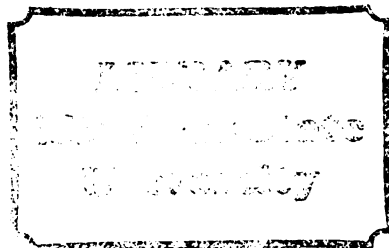THESIS

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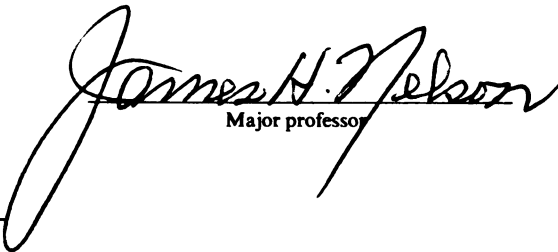
**CHANGES IN PERCEIVED INSTRUCTIONAL-DEVELOPMENT NEEDS
OF NEW PART-TIME FACULTY IN COMMUNITY COLLEGES**

presented by

Richard Dale Yarger

has been accepted towards fulfillment
of the requirements for

_____Ph.D_____ degree in _Higher Ed._

James H. Nelson
Major professor

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By

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ABSTRACT

CHANGES IN PERCEIVED INSTRUCTIONAL-DEVELOPMENT NEEDS
OF NEW PART-TIME FACULTY IN COMMUNITY COLLEGES

By

Richard Dale Yarger

Improved programs of orientation and in-service training for
new community college faculty are critically needed. To make these
programs more effective, additional information is needed on the
expectations of new faculty members as they enter the community college
and the changes in their perceptions during the initial term of teach-
ing.

A group of 145 newly hired community college faculty from 12
institutions in the Midwest and South responded to the same instrument
before and after their first term of teaching. They provided informa-
tion on (1) their perceptions of the importance of ten basic teaching
competencies for successful teaching, (2) their perceived effective-
ness in those same ten areas, and (3) the likelihood of their choosing
to participate effectively in orientation and early in-service activi-
ties offered under five sets of conditions.

The chi-square test of independence and the McNemar Test for
Significance of Changes were used to determine the extent and nature
of changes in the subjects' perceptions.

Richard Dale Yarger

The respondents were found to hold unrealistic expectations as they entered community college teaching. As a group they were less effective than they anticipated they would be but also tended to be less likely to choose to be involved in organized instructional-development activities. In spite of this decline in receptivity, required orientation and early instructional-development activities were supported by more than three-fourths of the respondents. Analysis of the lowest-rated items suggested a need to reinforce the relationship between affective and cognitive outcomes of instruction. No difference in responses was detected between subgroups of the respondents based on age, sex, occupation in addition to teaching, discipline, full-time or part-time status, institution, amount of previous teaching experience, or level of previous teaching experience.

To Marge, Kirk, and Wende for the abundant support

that I know about, and a lot more that I don't.

ACKNOWLEDGMENTS

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CHAPTER I

INTRODUCTION

This chapter contains a statement of the problem to be examined, the specific purposes of the study, the reasons it is important to conduct the study, and an overview of the generalizability and limitations of the study.

Statement of the Problem

Improved programs of orientation and in-service training for new community college faculty are critically needed. To be effective, these programs must be based on the expectations of the new faculty members. Inadequate information exists regarding these expectations. What problems do they expect to face in the community college classroom? What teaching skills do they feel will be important for success? What is their self-perceived level of competence as teachers? To what extent do they want assistance in developing their teaching skills? This study was designed to gather basic information related to the above issues from new faculty members in community colleges. This information will assist faculty developers in designing more effective orientation and in-service programs.

The largest group for whom this information is needed are the part-time or adjunct faculty, who make up a major segment of the teaching staff of almost all community colleges. These faculty members,

drawn heavily from business, industry, government, the arts, and the professions, bring to the classroom the refined and up-to-date subject-matter backgrounds necessary to provide the diverse course offerings of the comprehensive community college or the specific programs of technical colleges. "Their [part-time faculty] ability to instruct effectively and to bring to the college, in a useful form, the life experiences they have is central to community college success" (Kozoll, Means, & Weichenthal, 1978, p. 3).

Most of this group, however, enter community college teaching with little or no experience or training as teachers. As high as 98 percent lack community college teaching experience (Thomason, 1977), and one-third to two-thirds lack teacher training or experience of any kind (Grymes, 1976; Thomason, 1977). Coupled with their high turnover rate and the fact that institutions provide little or no assistance to new faculty in developing their teaching skills, the quality of the instruction provided by many new part-time faculty can be questioned.

The need to improve orientation and in-service training programs for new faculty has been widely acknowledged in the literature over the last decade (Bender & Breuder, 1973; Bender & Hammons, 1972; Brawer, 1975; Collins & Case, 1974; Gallagher, 1977; Greenwood, 1980; Hoenninger & Black, 1978; Hoffman, 1978; Leslie, Kellams, & Gunne, 1972; McDougle, 1980; Nelson, 1978; Parsons, 1980; Smith, 1981; Vogler, 1980; Weichenthal, Means, & Kozoll, 1977). There is general agreement that orientation programs and programs to improve instructional skills of new faculty are minimal to nonexistent, leading Bender and

Hammons (1972) to observe: "It is frightening to think of the number of students who help break-in new adjunct faculty each year" (p. 22). "Most colleges offer some form of orientation . . . aimed at making the new instructor aware of his surroundings and aware of the minimal expectations of the institution. However, such efforts do little to improve instruction" (Hoenninger & Black, 1978, p. 25). The call for assistance to part-time faculty comes also from the four-year college/university sector, where Gallagher (1977) stated: "Adjunct faculty can no longer simply be ignored. Too many such faculty teach too many students for this to be a viable option" (p. 6).

A major problem exists in implementing effective efforts, however, since program developers have a limited information base related to the self-perceived needs of newly hired faculty. Adult-learning theory and research as well as the experiences of staff developers confirm the necessity of basing effective orientation and training programs on the self-perceived needs of the participants (Buchan, 1979; Hoffman & Pool, 1979; Knowles, 1970; McCatty, 1973; Tough, 1968). In addition, since no generally accepted objective measure of teaching skills exists, we remain dependent on perceptions. The perceptions of students, colleagues, and administrators provide additional important measures. But they are not the subject of this research. Although needs assessments of full-time and part-time faculty exist, information specifically related to new part-time faculty in two-year colleges is inadequate. The intention of the current study is to contribute to filling this gap. It provides basic information related to the perceptions of newly hired faculty regarding

the nature of community college instruction, their personal instructional-development needs, as well as their preferred formats for receiving orientation and in-service assistance. Community college faculty cannot successfully model instructional practices after those typically found in secondary schools or universities with their different student populations and divergent goals (Cohen, 1966). The overwhelming majority of new part-time faculty members have not experienced the open-door student body with its special challenges for instruction. The information gathered in this study will assist program designers to understand better the degree to which the expectations of new faculty are realistic and to adjust the content and timing of programs appropriately.

Facing a turbulent and challenging future, community college administrators can no longer assume that subject-matter competency is adequate for the task of instruction.

> With a student population that ranges from low normal to genius, with a curriculum that includes everything from seventh grade arithmetic through calculus, and with a year-after-year attrition rate that looks like the casualty figures from the Battle of Verdun, it is ridiculous for community colleges to assume that competence in subject matter is synonymous with competence as a teacher. (Collins & Case, 1974, p. 3)

Such factors as shrinking financial support and steady inflation, declining numbers of high school graduates, more varied student profiles, societal demands for accountability and productivity, as well as new awareness by students all demand that instructional quality not be left to chance.

In summary, there is a generally acknowledged need for improved programs of orientation and in-service training for new

faculty in two-year colleges. A major problem in developing effec-
tive programs is the lack of adequate information regarding the
self-perceived instructional needs of newly hired faculty. This
lack of information is the problem addressed in this study.

Purpose of the Study

To begin to meet the challenge of consistent instructional
quality, it is necessary to understand better the faculty-development
needs of new faculty. Several needs assessments involving both full-
and part-time faculty have been reported (Black, 1979; Blue, 1979;
Eaton, 1964; Epstein, 1978; Falk, 1975; Fellows, 1975; Fent, 1978;
Grymes, 1976; Gunderson, Lindahl, & Miller, 1971; Hoffman & Pool, 1979;
Justice, 1976; Kozoll, Means, & Weichenthal, 1978; Long, 1978; Parsons,
1978; Persinger, 1977; Schultz & Roed, 1978; Smith, 1977). These
assessments tended to deal with orientation to the campus and with
administrative details such as distribution of paychecks, grade
reporting, and illness procedures. Some also considered needs related
to instruction. All of these assessments sampled part-time faculty
in general, or within a particular discipline area, or lumped
together with full-time faculty. None considered the specific self-
perceived needs of new faculty.

This study focused specifically on the instructional-
development needs of new full- and part-time faculty members for
the purpose of:

1. Determining the extent and nature of the changes that
occur in the self-perceived instructional needs of new faculty during

their initial classroom experience (first term of teaching in their current community college assignment).

2. Assessing changes in the receptivity of new faculty toward organized faculty-development activities.

3. Examining the variations in the above factors by faculty subgroups based on age, sex, amount and type of previous teaching experience, and discipline area.

4. Determining whether the perceptions of new part-time faculty differ from those of new full-time faculty in the areas described above.

Importance of the Study

This study contributes to filling an information gap in the area of the self-perceptions of new part-time faculty regarding instruction. It provides an improved basis for designing effective orientation and training programs to upgrade the quality of instruction. The following factors describe the reasons for gathering this information.

1. The need for preservice training and orientation as well as in-service assistance to part-time faculty is critical.

> One blatant omission in most reports [on community college teacher preparation] is the failure to consider the part-time faculty. Yet this group is the most rapidly growing segment of the faculty. Some accommodation to preparing them will have to be made. And it will have to come through in-service training. (Brawer, 1975, p. 17)

"This [part-time faculty] is admittedly the clientele now getting the least help though probably needing it the most" (Collins & Case, 1974, p. 9).

2. <u>It is imperative that assistance be provided early rather</u>
<u>than waiting for a crisis of student dissatisfaction as has too often</u>
<u>occurred in the past</u>. Centra (1976),in his widely recognized national
study, found that student ratings of teachers showed significant
improvement at the .001 level during the first year of teaching. In
succeeding years, improvement slowed substantially. He concluded
that beginning teachers can especially profit from teaching-improvement
activities. Considering the numbers, backgrounds, and turnover rates
of part-time faculty, early assessment of teaching skills and provision
of opportunities for development are even more significant. Early
attention to teaching skills with new faculty also serves to emphasize
the primacy of teaching in the community college. It expresses the
tangible commitment of the institution to quality teaching and should
be expected to affect positively the attitudes of new faculty members.

3. <u>To maximize the effectiveness of training efforts with</u>
<u>adults, the potential participants must be receptive to the program</u>.
Unlike children, who often learn in order to accumulate knowledge for
some unspecified future use, research suggests that adults want to
learn those things that they see as being responsive to self-perceived
problems and needs (Knowles, 1970). Tough (1978) showed that adults
engage in large amounts of self-directed learning rather than choos-
ing participation in other-directed group activities. McCatty (1973),
in a study of learning patterns among professional men, found that 75
percent of their learning activity was self-directed. One reason for
this self-direction is to maintain control over the content to be
learned and to keep learning focused on perceived needs.

Faculty-development specialists and part-time faculty themselves have confirmed the necessity to respond to perceived needs. "Part-time instructors especially resent programs that are planned solely by administrators and not tailored to meet their individual needs" (Hoffman & Pool, 1979, p. 26). Black (1979) found significant differences in the perception of the instructional needs of part-time faculty held by the faculty members themselves and by the administrators who supervised them. Buchan (1979) pointed to the failure to consider faculty needs as well as administrative needs as one of the major obstacles to successful staff-development activities. "The voluntary nature of participation in most professional development activities requires that the subject matter of these activities be relevant to the needs of the part-time faculty members" (Weichenthal, Means, & Kozoll, 1977, p. 3). Administrative perceptions of the needs of new faculty are readily available to faculty developers and provide the basis for most existing programming. This study provides another critical perception--that of the new faculty members themselves.

4. <u>Assessing changes in perceived instructional needs during the initial teaching experience assists in providing guidance when it is of greatest significance to the recipients</u>. If the concerns change over time, it is logical to sequence activities to best meet the needs at each stage of development (Book & Eisenberg, 1978). No information of this type is available related to part-time faculty in community colleges.

5. <u>By examining differences between part-time faculty sub-populations and between part-time and full-time faculty, this study assists in tailoring programs even more closely to specific needs</u>. It also serves to increase awareness in supervisors and staff developers of the particular needs of new part-time staff members from different backgrounds and disciplines.

In summary, effective instructional faculty-development programming must be based on an adequately specific understanding of the perceived instructional needs of new part-time faculty before they begin to teach <u>and</u> the changes that occur in those perceptions during the initial teaching experience. This study was intended to provide this basic information.

Overview of the Generalizability and Limitations of the Study

Data for this study were collected in 12 colleges located in six states. More general studies have shown that needs are not significantly different by institutional type (Fent, 1978) and that faculty tend to be "fairly similar" across community colleges, with greater variation existing within institutions (Brawer, 1974).

Basic instructional principles and tasks fundamental to any teaching method served as the basis for the data-gathering instrument used in this study (Davis, Alexander, & Yelon, 1974; Gagné, 1970). Thus the results may be expected to be valid in varied settings, regardless of the specific instructional delivery system in use. The data-gathering techniques and instruments are such that the study

can be duplicated on a small-scale basis in individual institutions as a check on its local validity.

Although the focus in this study is on new part-time faculty, the results should be equally applicable to new full-time faculty with similar backgrounds and levels of experience. This study may also have implications for training of graduate teaching assistants in colleges and universities, adult and community education teachers, tutors, and leaders in nonformal educational settings.

Any of the following factors may limit the validity of the results reported. Data were collected in institutions located primarily in the midwestern section of the United States. These institutions were selected on the basis of their practical accessibility to the researcher. Instruments were distributed by a contact person in each institution, and beyond provision of specific instructions to these individuals (Appendix A), uniformity of distribution procedures cannot be guaranteed. The participation of potential subjects in the research was solicited by each institutional contact person; however, response was voluntary.

The data-gathering instrument used was short, based on the perception that adequate levels of voluntary participation would not result if an extensive and time-consuming questionnaire was used. This limitation restricts the specificity of the results but was considered to provide data adequate for responding to the research questions of this study.

Finally, no adequate means exists to determine whether subjects provided their real perceptions or responded as they felt they

should. In other words, to what extent were subjects truthful in their responses? This difficulty exists in all survey research, and no adequate system for checking is available.

Summary

The need for improved orientation and in-service activities for newly hired faculty in community colleges is widely acknowledged. Research and experience have shown that effective instructional programs for adults must be designed around self-perceived needs of the participants. The self-perceptions of new faculty in community colleges are not adequately understood. The purpose of this study is to examine the perceptions of newly hired faculty regarding the nature of community college instruction, their personal instructional-development needs, and their preferred formats for receiving assistance. The results are intended to assist instructional-development-program designers provide effective orientation for new faculty, to make programs more responsive to perceived faculty needs, to provide various types of assistance when it is most relevant to the recipients, and to determine whether programming should be tailored to particular faculty subgroups.

CHAPTER II

REVIEW OF RELATED LITERATURE

The review of related literature is divided into four major

sections as follows: (1) Status of Part-Time Faculty in Community

Colleges, (2) Quality of Instruction Provided by Part-Time Faculty,

(3) Needs Assessments of Part-Time Faculty, and (4) Status of Orien-

tation Programs and In-Service Programs for Part-Time Faculty.

Status of Part-Time Faculty in Community Colleges

The literature that describes the status of part-time faculty

is fairly extensive and of recent vintage.

Extent of Use

The number of part-time faculty has grown steadily over the

past two decades; however, consistent figures are hard to find. The

American Association of Community and Junior Colleges reported that.

part-time faculty made up about 33 percent of the total number of

faculty in 1960, about 40 percent by 1970, 53 percent by 1975, and

56 percent in 1979 (AACJC, 1961, 1971, 1976, 1980). Guthrie-Morse

(1979) reported even more startling figures: an 88 percent increase

between 1973 and 1977 in the use of part-time faculty nationally,

with only a 1 percent increase in full-time faculty over the same

period. Cohen and Brawer (1977) reported a 78 percent increase in

Florida between 1970 and 1974 and an 8 percent <u>decrease</u> in full-time during the same period. Total numbers increased from less than 49,000 in 1971 to nearly 120,000 in 1979 (Sanchez, 1980). Clearly, the growth in the use of part-time faculty in community/junior colleges over the past decade has been rapid and substantial.

Use of part-time faculty is not uniform across disciplines. Generally, use is heavier in vocational-technical areas and in business. Use is also heavier off campus, at night, and in noncredit areas. Lesser concentrations also occur in the arts, social sciences, communication, and mathematics (Hunt, 1979; St. John, 1979; Sewell, Brydon, & Plosser, 1976; Waddell, 1978).

The number of part-time faculty employed in higher education can be expected to continue to increase over the next decade. As resources available to higher education decline, the financial advantages of using part-timers will take on greater importance. In addition, since full-time faculty wages continue to fall further and further behind the private sector, talented individuals may opt for nonacademic careers and be available to higher education only in a part-time capacity (Leslie, Kellams, & Gunne, 1982).

Advantages of Using Part-Time Faculty

From the institutional perspective, the reasons for the rapid growth in use of part-time faculty are many. The following advantages were culled from several sources (Albert & Watson, 1978; Harris, 1980; Koltai, 1976, 1977; Leslie, Kellams, & Gunne, 1982; Weichenthal, Means, & Kozoll, 1977):

- Lower rates of pay
- Few, if any, fringe benefits
- Limited office space
- Flexibility; no long-term commitments
- Ability to staff new and diverse course offerings
- Up-to-date subject-matter backgrounds and practical experience
- Credibility for the college in the community

Part-time faculty are usually paid on an hourly or a per-class basis. Savings are estimated from 20 to 80 percent of the cost of an equivalent full-time instructor (Hoffman, 1980; Lombardi, 1976). The rationale offered in defense of lower rates of pay for part-time instruction is that teaching represents only a portion of the total responsibility of full-time faculty (Lombardi, 1976).

Part-time faculty are typically hired to teach a particular class or classes during a particular time period and are re-employed only when and if the specific need reoccurs. They are generally not eligible for tenure status (Albert & Watson, 1978). Since many part-time faculty are employed outside the college in the areas that they are teaching, they often are more aware of current developments in their area of expertise (Bender & Hammons, 1972). Part-time faculty also provide a direct link between the college and the community it serves. They are often able to speak to the community with a different kind of credibility from those whose loyalties to the college are full-time (Weichenthal, Means, & Kozoll, 1977).

Disadvantages of Using
Part-Time Faculty

Heavy use of part-time faculty also creates problems for institutions. Harris (1980) pointed out that it is difficult to

attract, hire, and retain qualified part-timers; tenure and pro-rata
pay are growing concerns; part-time faculty create problems of commu-
nication with students since they often are not fully aware of events
and services available in the institution; and they require increased
management resources. He concluded that the problems created may,
in the 1980s, make the financial rationale seem short-sighted.
Leslie, Kellams, and Gunne (1982) stated:

> Many faculty members and administrators we have interviewed
> confess openly to serious doubts [about part-time faculty].
> They have little question about the qualifications, enthusiasm,
> or good faith of their part-time faculty. But lack of commu-
> nication channels, absence of information and feedback, and the
> at-best informal evaluation leave them very uncomfortable about
> whether part-timers can be an integrated part of any coordinated
> instructional program. (p. 86)

Several part-time issues have received substantial legal and
legislative attention. These include job security and the right to
tenure, equitable compensation, inclusion of part-timers in full-time
collective bargaining units, fair representation for part-timers in
collective bargaining, position of part-time faculty during program
cutbacks, and circumstances under which part-timers must be accorded
procedural protection of their civil rights (due process) (Leslie &
Head, 1979). Although there is considerable inconsistency from one
jurisdiction to another, courts have generally found that part-time
faculty can establish a property right to continued employment and
must be accorded reasonable due process. Generally, pro-rata pay or
"equal pay for equal work" has not been upheld on the basis that
duties are not equal. The general trend has been for inclusion of
part-time in collective bargaining units and strengthening of their

position therein. This final trend is important since it allows tenure, pro-rata pay, and other issues to be subjects of collective negotiation and further strengthens part-timers' claims by establishing a legal "community of interest" with full-time faculty (Head & Kelly, 1978). Although courts and legislatures have clearly strengthened the position of part-time faculty, the question of the extent to which that has occurred is unclear. Plosser and Hamel (1976) concluded that, at that time, court cases had, in general, restricted college rights. Leslie and Head (1979) found as follows:

> In legal terms, part-time faculty members are indeed the marginal persons of academic employment policy. Their rights have been carefully circumscribed in ways that seem to preserve administrative prerogative and the vested interests of full-time faculty. (p. 66)

It is probable that both of these statements are accurate, differing only in their frame of reference.

Still other negative issues that have been typically raised include limited commitment to the institution, lack of understanding of the community colleges' purpose and philosophy, inadequate comprehension of the diversity and special needs of an open-door student body, inaccessibility of students outside the classroom, and lower academic qualifications. McCabe and Brezner (1978) concluded that part-time faculty are often overused for the wrong reason (to reduce costs) without regard for program and other implications.

Perspective of the Part-Time Faculty

The part-time faculty themselves raise several complaints that stem, in part, from the advantages for the college. Turner

(1979) found low pay, no fringe benefits, and no job security were the main sources of dissatisfaction. Beman (1980) held that part-time faculty are held to higher standards than full-time since poor performance brings quick dismissal. Able (1977) contended that part-time teachers are denied the opportunity to prove themselves and then are penalized for not showing merit. She suggested that commitment to the college, an often-noted problem, is usually measured by "visibility." With off-hour schedules, inadequate office space, and systematic exclusion from college, division, and department affairs, it is hard to be visible. Greenwood (1980) stated, "It is curious that the routine means of dealing with full-time faculty are not even considered for part-time faculty members" (p. 55). He offered, as one example, office space. This is automatic for full-time but seldom provided for part-time. When it is provided, it is usually a "bull pen" arrangement. This does not meet the need for student-teacher conferences, is demeaning to the individual, and sends a subliminal message to students that this person is second-rate in the eyes of the college.

Characteristics of Part-Time Faculty

The stereotype of the part-time faculty member is the mature person with a full-time job elsewhere who teaches mainly for the enjoyment of it. This stereotype persists in the literature. "Since these individuals teach because they want to, rather than to make a living. . ."(Harris & Parsons, 1975, p. 3). Still another source referred to part-time faculty as mature personal and professional role

models (Ernst & McFarlane, 1978). By contrast, the national survey of Cohen and Brawer (1977) showed that nearly half were 35 years of age or younger, and fully one-third had no employment other than part-time teaching. Grymes (1976) found that the most commonly listed reason for part-time teaching (65 percent) was money. Quanty (1976) found that 17 percent of the faculty at a particular college derived more than half of their income from part-time teaching.

Variety characterizes the part-time faculty member, as described in the literature: the graduate student, the employed person "moonlighting" to make money, the person teaching just for enjoyment and stimulation, the housewife "sunlighting" and only wishing to work part-time, the retired person, business and professional people, technicians, permanent part-timers who would like to be full-time, and even commuting part-timers who make full-time work out of more than one part-time teaching job. Leslie (1978) pointed out the need to avoid preconceptions and to resist generalities in treating part-time issues.

Summary

The number of part-time faculty has increased rapidly in recent years. They are not uniformly distributed across discipline areas. Major advantages of using part-time faculty are economics and flexibility. Problems seem to focus on overuse. In the past decade, courts and legislatures have provided some clarification of the legal rights of part-time faculty and of the colleges that hire them. Part-time faculty contend that they are second-class citizens, not

integrated into the mainstream of the institution economically or politically. They are a highly varied group of people without which community colleges would be hard pressed to operate. Friedlander (1979) concluded as follows:

> If college administrators wish to employ part-time faculty without sacrificing the quality of services provided to students, they will have to change their policy toward adjunct faculty from one of neglect to one of concern and they will have to treat their part-time instructors as professionals whose work is vital to the success of the college rather than treating them as hourly employees who can be hired and fired at will. (p. 70)

Quality of Instruction by Part-Time Faculty

The literature in this area is decidedly divided, and a definitive assessment cannot be offered. Most existing studies seek to compare the quality of instruction offered by part-time faculty to that offered by full-time faculty. Various reports have suggested that part-time quality is either better than, the same as, or worse than full-time. Although the current study does not assume or require that a difference exists, it is relevant to examine the topic.

Friedlander (1979b) indicated that there is no statistical evidence that part-time instruction is inferior to full-time. He then proceeded to show that part-time faculty, on the basis of three separate national studies, show distinct differences from full-time faculty in areas likely to affect the quality of instruction (teaching experience, continuity of employment, degree attainment, amount of participation in selection of course materials, required reading, use of media, use of out-of-class activities, use of instructional support services, grading practices, availability to students, and

involvement in professional-growth activities). Based on their significantly lower scores, Friedlander concluded that to the extent that these factors affect quality instruction, part-time quality is lower.

In a study of use of instructional resources by 138 full- and part-time vocational-technical teachers, Lolly (1980) found significant differences in the use of 6 of 21 resources known to be available to all of these teachers. In spite of this, he concluded that no significant overall difference existed. Seitz (1971) found part-time faculty less well prepared for teaching both academically and experientially, less knowledgeable about the educational environment, less committed to community college education, and holding less favorable attitudes toward their college. Tuckman and Caldwell (1979) suggested that lack of incentive for part-time faculty to improve their skills, in the form of salary scales, may lead to lowered quality of instruction. Smith (1980) summed up this side of the issue when he said: "If the basic goal is promote student learning, the first step is to face the issue of how to help adjunct faculty improve the quality of their instruction" (p. 24).

From the alternative perspective, Koltai (1977) suggested that part-time faculty are an "intrinsic part of the success and quality of community college education" (p. 20). Able (1977) strongly defended part-timers against charges of lack of commitment and underqualification. Ernst and McFarlane (1978), in an article entitled "Are We Shortchanging Our Students by Using Part-Time Faculty?," responded with a strong "no" and, in fact, concluded that

part-time faculty have enhanced the quality of instruction. Cruise, Furst, and Klimes (1980) compared full- and part-time instruction using three measures: students' evaluation of instruction, teacher self-evaluation, and administrator evaluation. They found differences on individual items on the three evaluation instruments but no statistically significant differences on the evaluations as a whole. They concluded, therefore, that part-time instruction was more cost effective.

In a study using student ratings, student-retention ratios, and subsequent student achievement in advanced courses as dependent variables, Willett (1980) found no significant differences between full- and part-time faculty. The number of students followed into advanced courses was small (48), and the nature of the data suggested the desirability of replicating this portion of the research with a larger sample.

Leslie, Kellams, & Gunne (1982) suggested that it is not the characteristics of the part-time faculty themselves that determine whether they enhance or detract from the quality of instruction. Rather, the key is how they are selected, supported, and assigned in each institution.

In summary, no definitive answer to the question of quality of part-time instruction can be offered. Some impressive data have suggested lower quality, but no conclusive evidence can be presented. It is useful to offer a caution with regard to lumping together all part-time faculty as "good" or "bad." As is true of most characteristics

of community colleges, great variety surely exists. The evidence that at least some need assistance with teaching is clear.

Needs Assessments of Part-Time Faculty

A number of needs assessments involving part-time faculty were reported in the literature. Assessing and comparing these in detail is difficult because the type of group being sampled and the methods and instruments used are highly variable. The findings of several of these assessments are found in Appendix B. Some generalizations are possible, based on these assessments.

1. When discipline or subject-matter concerns are included in the assessment, they are highly rated. (Note Justice, 1976; Long, 1978; and Schultz & Roed, 1978 in Appendix B.)

2. Other areas consistently rated high in the surveys are ways to teach, ways to motivate students, and how students learn. The assessment that relates most directly to instruction-related needs found part-time faculty members responding most positively in two areas: miscellaneous items (handling paperwork, use of audiovisual equipment) and evaluation items (Black, 1979).

3. There is substantial interest expressed by part-time faculty in instructional-development activities, depending on the way the questions are asked. Fent (1978) found 65 to 75 percent expressing interest in the areas included in his study (Appendix B). Justice (1976) found interest levels as high as 51 percent. Schultz and Roed (1978) found 30 to 60 percent positive response, and Black (1979) up to 88 percent. Long (1978), using a Likert-type scale, found a range

of means from 3.8 to 4.5 on a 5-point scale for the ten items listed in Appendix B and had only one rating below 3.0 among all 22 items in his survey.

Fellows (1975), by contrast, used open-ended questions and received very little response. The questions "What skills or knowledge would help you do a better job?" and "In what specific areas related to teaching would you like more information?" were asked by an administrator in an interview situation. Fifty-four of 75 subjects failed to identify any needs, and most of the remainder identified only one need. Fellows attributed this low level of need identification to a failure of the subjects to recognize the possibilities. Clearly, however, the setting itself contained an element of threat, which may have affected the subjects' willingness to expose their true perceived needs.

4. <u>Needs assessments show limited differences between faculty in different teaching areas</u>. Kozoll, Means, & Weichenthal (1978) reported great similarity between the needs of vocational-technical faculty and other part-time faculty. Epstein (1978) concluded that experiential and academic differences do not significantly affect perceptions of in-service needs.

5. <u>Need perceptions of part-time faculty and their supervisors do seem to differ, however</u>. In her study of deans/directors of continuing education, department chairpersons, and part-time faculty, Black (1979) found significant differences in the perceptions of the three groups. One-hundred percent of the deans/directors, 97 percent of the chairpersons, and 88 percent of the part-time faculty

saw a need for instruction-related assistance. When the specific
areas of need were addressed, however, chi-square tests showed sig-
nificant differences between the groups on 36 of 45 questionnaire
items.

6. <u>Data related specifically to the needs of newly hired</u>
<u>part-time faculty or to changes in part-time faculty perceptions over</u>
<u>time could not be located.</u> Longitudinal data were collected in a
study of graduate and undergraduate teaching assistants at Michigan
State University (Book & Eisenberg, 1978). This study examined the
"communication concerns" of 94 subjects at the beginning, midterm,
and end of an academic quarter. Responses to an open-ended question-
naire were grouped according to:

> Concerns related to <u>Self</u>--credibility, acceptance by students,
> subject-matter competence, ability to control the class,
> nervousness, etc.
>
> Concerns related to <u>Method</u>--lecturing, organization of the
> class, responding to questions, grading, etc.
>
> Concerns related to <u>Impact</u>--motivating students, are students
> learning, intellectual development, etc.

At the beginning of the session, Self concerns made up 32 percent of
the total statements, Method concerns 24 percent, and Impact concerns
15 percent. At midterm, Self and Method had reversed: Method 29 per-
cent, Self 24 percent, Impact 15 percent. By term-end, Self concerns
had further declined, with Method and Impact concerns staying constant:
Method 29 percent, Self 21 percent, Impact 15 percent.

Differences were also found among subgroups of the population.
Examples include significant negative correlation between education
training or experience and Self concerns as well as significant

positive correlation between education training and Impact concerns. To the extent that this study is generalizable, it supported the existence of changes in the perceptions of part-time community college faculty during their initial teaching experience in the community college. These researchers concluded that the content of training sessions offered before, during, and after exposure to the students in the classroom should be different (Book & Eisenberg, 1978).

In summary, several needs assessments of part-time faculty using varied methods and samples were reported. They showed significant interest in subject-matter concerns as well as instructional development related to teaching. Limited evidence suggested that needs are similar among part-time faculty across various disciplines but differ between part-time faculty and the administrators who supervise them. One study showed changes over time in the perceptions of teaching assistants at the university level.

Status of Orientation Programs and In-Service Programs for Part-Time Faculty

The literature provided some limited information on faculty-development programming for part-time faculty. The need for such programming was commonly noted. Persons without teacher training or experience are often fearful of the teaching process and the classroom (Sellen, 1980). Administrators charged with recruitment of part-time faculty have reported to the writer that qualified persons sometimes refuse opportunities to teach because of fear or insecurity related to the teaching process. Book and Eisenberg (1978) found that the most common type of concern among new graduate and undergraduate

teaching assistants in a university was concern about their own personal competence and relationships with students.

Part-time faculty are often more willing than full-time to engage in development activities. Reasons for this observation probably relate to a desire to reduce their feelings of isolation and less likelihood to see themselves "finished products" with reference to teaching. In addition, since they do see themselves as "part-time" educators, admitting a need for instructional improvement is inherently less threatening (Gallagher, 1977).

Programs, however, seem to be less common than are the suggestions that programming is needed. Thomason (1977) found part-time orientation programs in 60 percent of Texas community colleges. No mention was made of instruction in his list of topics covered by these programs. Moe (1977), in a survey of 114 community colleges, found 68 percent had some orientation program for part-time faculty, 15 percent required attendance, and 17 percent provided compensation for attendance. None of these colleges indicated that they had formally surveyed part-time faculty needs, and very few included opportunities to improve teaching. Leslie, Kellams, and Gunne (1982) found that 31 percent of community colleges provide a formal orientation; however, only about 20 percent provide information about students or teaching methods. They stated, "Knowing what to teach, how to teach it, and something about the audience they will be facing remains a prime need until--by trial and error--they learn the answers by hard experience" (p. 82). Greenwood (1980) commented, "Mundane administrative details

that grow from making sure 'What's-his-face' has a classlist, a desk copy of the text and a shove in the direction of the classroom predominate in the hustle of term opening" (p. 55).

Sewell, Brydon, and Plosser (1976) found that 70 percent of California community colleges offered in-service for full-time, but only 37 percent included part-timers. Lhota (1976), in a survey of 178 colleges nationally, found that 54 percent provided a staff-development program for full-time but only 20 percent for part-time. More recently, in a national survey, 413 two-year colleges reported having an organized program of staff development. Only 60 percent of these acknowledged that "to increase the effectiveness of part-time faculty" was a goal of their program. Further, activities for part-time faculty received low effectiveness ratings in the survey. A major recommendation of this research was the placing of greater emphasis on meeting developmental goals of personnel other than full-time faculty, especially part-time faculty and support staff (Smith, 1981).

The need for improved delivery models for part-time faculty development has frequently been cited in the literature. This need was documented in research with 82 "extended-day directors" in the southwestern United States. Significant differences were found between the existing and the preferred practices in recruitment, selection, orientation, supervision, and evaluation of part-time faculty (Hoffman, 1978).

Several models have been proposed for development programs. Typical examples include a six-step model involving recruitment,

orientation, continuous communication, support services, instructional development, and evaluation (Parsons, 1980). Nelson (1978) proposed a competency-based teacher-education model offered on the local campus over 16 weeks. Contents of this course included planning, evaluation, instructional aids, classroom management, and using local resources. Weichenthal, Means, and Kozoll (1977) developed an extensive handbook for facilitators of part-time professional development. Their recommendations related primarily to the orientation process or were very general in nature.

McDougle (1980) provided an example of the structure and content of a minimal but common type of orientation program for part-time faculty. It consisted of a packet of written materials and a pre-session meeting with key college personnel. The contents of the packet were also typical of many reported in the literature. These included: (1) gradebook; (2) library handbook; (3) procedures relating to faculty duties; (4) guidelines for preparing a course syllabus; (5) handbook entitled "Tips for Teaching"; (6) procedures for submitting grade reports; (7) payroll information; (8) procedures for getting course materials typed and duplicated; (9) information on how to obtain faculty office space, faculty mailbox, and parking decal; and (10) sample copy of student-evaluation form.

Finally, Vogler (1980) proposed a comprehensive plan for development of part-time faculty, based on an evaluation model. He included three phases: (1) a competency-based system for recruitment and hiring to assure the selection of well-qualified persons; (2) a renewal system once they have been hired, which includes formative

evaluation, clear developmental expectations, linkage to a full-time employee (buddy system), and inclusion in all in-service activities of the institution; and (3) a broad-based evaluation procedure with expanded reward options built in. These "expanded rewards" included such things as positive communications, stress on success and progress, and quick institutional decision making, which tends to shift lead-time flexibility to the part-time faculty member.

In summary, programs of orientation and staff development are offered to part-time faculty by some institutions. The content of almost all tends to focus on administrative details, some of which are clearly necessary. Few, if any, adequately deal with questions of instructional improvement. The comment of Bender and Breuder (1973) remains appropriate nearly a decade later: "It can be concluded that very little is done to assist part-time faculty to improve their instruction or to have a better understanding of the people they serve" (p. 34).

CHAPTER III

DESIGN OF THE STUDY

This chapter consists of the following sections: Introduction, Definitions of Important Terms, Overview of Research Design, Research Questions, Research Hypotheses, Population and Sample, Instrument and Data Collection, Statistical Model of Analysis, and Validity Concerns.

Definitions of Important Terms

The following operational definitions provide a common basis for understanding.

Faculty: Staff members who (1) work directly with students and (2) have as their primary function instruction, including planning, delivery, and evaluation.

Part-time faculty (adjunct faculty): Faculty employed to teach less than full-time, as defined by the employing institution.

New faculty: Those faculty who are in the first term at their current institution.

Community college (junior college, technical college): Refers to all types of two-year postsecondary institutions.

Faculty development: Process intended to assist faculty to increase their job efficiency or effectiveness.

Instructional development: One component of faculty development designed specifically to address the process of teaching.

Instructional-development activities: Organized institutional programs for the development of the instructional skills of faculty. May use a variety of formats, locations, or times.

Skill limitations: Performance at a level that is less than ideal. This term is intended to include but not be restricted to those shortcomings that are serious, gross, or below average.

Instructional needs: Skill limitations directly related to the teaching process.

Self-perceived instructional needs: Those teaching-skill limitations that are consciously recognized by an individual.

Receptivity: A self-report measure of the degree to which a subject is willing to spend time and effort in organized instructional-development activities aimed at improving instructional skills.

Experimentally accessible population: All new faculty at the institutions at which questionnaires were distributed.

Overview of Research Design

This study took the form of a longitudinal survey of new faculty members in selected community colleges. A panel of subjects responded to the same instrument before and after the completion of their initial term of teaching in order to explore time-ordered relationships in perceived instructional needs and receptivity to organized instructional-development activities. This allowed analysis of changes in individuals and subpopulations. Subjects were surveyed at the

beginning of their teaching assignment. They then experienced a "treatment," teaching for one term, and were resurveyed. It was <u>not</u> the intention of this study to establish causal relationships but rather to examine the <u>extent and nature of the changes</u> that occurred for purposes of instructional-development-program design. This research builds on existing general needs assessments by focusing on the changes that occur in the self-perceived needs and receptivity of new part-time faculty during their initial period of teaching. These self-perceptions have been shown to be vitally important in terms of adult-learning theory and faculty-development experience.

<div align="center">Research Questions</div>

Answers to research questions such as the following are helpful to faculty-development-program planners. <u>First,</u> do changes occur in the perceived <u>importance</u> of selected basic teaching competencies during the initial term of teaching and, if so, what is the nature of these changes? Response to this question will allow faculty-development-program planners to understand better the expectations of new faculty as they enter community college teaching. It will also allow those program planners to evaluate the changes that occurred during that initial experience as well as to compare both preteaching and postteaching expectations to the conclusions of experienced community college teachers and researchers.

<u>Second,</u> do changes occur in self-perceived <u>effectiveness</u> in these same basic teaching competencies over the same period and, if so, what is the nature of these changes? This information assists

program planners in understanding the self-perceived strengths and weaknesses of new part-time teachers, and how realistic those initial perceptions are, based on the changes that occur.

Third, do changes occur in perceived instructional needs? These first three research questions provide a basis for tailoring the content and timing of training activities to maximize the potential effect on participants.

Fourth, do changes occur in receptivity to organized instructional-development activities during the initial term of teaching and, if so, what is the nature of these changes? This information will assist program planners in decisions regarding necessary incentives for faculty participation as well as program formats and timing.

Finally, do the changes that occur in perceived importance, perceived effectiveness, instructional needs, and receptivity vary between defined faculty subgroups and, if so, what is the nature of this variation? Response to this final research question provides input to faculty-development-program planners regarding the degree to which activities should be tailored for specific faculty subgroups.

Research Hypotheses

From the research questions for this study, the following hypotheses were drawn.

1. Preteaching perceived importance ratings will differ from postteaching ratings.

2. Preteaching self-perceived <u>effectiveness</u> ratings will differ from postteaching ratings.

3. Preteaching <u>instructional need</u> will differ from postteaching instructional need.

4. Preteaching <u>receptivity</u> ratings will differ from post-teaching ratings.

5. The changes that occur in ratings of importance, effectiveness, instructional need, and receptivity will differ between faculty subgroups defined on the basis of the amount of previous teaching experience and the level of previous teaching experience.

6. The changes that occur in ratings of importance, effectiveness, instructional needs, and receptivity will <u>not</u> differ between faculty subgroups defined on the basis of age, sex, current occupation in addition to teaching, discipline, full-time or part-time status, and institution.

Significant percentages of new part-time faculty have been shown to be inexperienced in working with postsecondary students and adults, to be unfamiliar with the diversity resulting from the "open door" policy of most community colleges, and to be new to teaching in general. Thus their initial perceptions of importance and effectiveness, before exposure to students and the classroom, are expected to be somewhat unrealistic. If, as predicted, changes in one or both of the first two hypotheses occur, then changes in instructional needs are also to be expected.

No adequate evidence exists to justify prediction in the area of receptivity. The hypothesis that differences will occur is based

on personal experiences of the researcher in working with community college personnel in instructional development and on the fact that differences are anticipated in the first three hypotheses. If changes occur in perceived importance, effectiveness, and instructional needs, it is reasonable to anticipate changes in the subjects' willingness to spend time and effort in organized training activities.

Since the amount and type of previous teaching experience are the significant factors leading to prediction of differences in the preceding hypotheses and since they are directly related to the subjects' perceptions of the teaching process, they are expected to produce differences when isolated as independent variables.

The factors in Hypothesis 6 are not directly related to the teaching process and are not, therefore, anticipated to produce differences when isolated. Limited and mixed previous research generally supports this prediction (Blue, 1979; Book & Eisenberg, 1978; Epstein, 1978).

Population and Sample

The target population of this study consisted of new full-time and part-time faculty in two-year community colleges. The term "part-time" is not used consistently in the literature. The operational definition employed here avoided the unnecessary problem of evaluating hours taught, type of contract, method of compensation, and many other defining factors used by various institutions. It also defined the group that each institution would see as potential candidates for part-time faculty instructional-development activities.

The definition of "new" faculty was selected because it describes the population a staff developer would be working with in orientation and early in-service activities. Persons having previous community college experience qualify as "new" if they are new to the current institution. Although it is reasonable to expect that this subgroup may show smaller changes in perceived need due to their previous experience, there was no reason to exclude them from the sample.

Specifically excluded from this study were experienced full-time faculty members teaching on an overload basis, nonteaching counselors and librarians, as well as tutors and others performing similar limited instructional functions.

The experimentally accessible population for this study consisted of all persons fitting the given definitions from 12 community colleges in six midwestern and southern states. These institutions were selected on the basis of the availability of persons willing to serve as an institutional coordinator for purposes of identifying persons who qualified as subjects and distributing questionnaires to them in a time frame compatible with the design requirements of this research.

The investigator attempted to reach all members of the experimentally accessible population. It is clear that some potential subjects were missed due to the number of institutions and individuals involved and the need to make initial contact in a timely fashion. The requirement of a second response from subjects also resulted in a loss of some subjects.

Instrument and Data Collection

Data were collected using an instrument developed specifically for this study (Appendix C). Design requirements included a questionnaire brief enough to allow for efficient administration and appropriate to the varied discipline areas and teaching methods present in the sample. No adequate pre-existing form could be located.

Items A through G on the front side of the preteaching questionnaire collected background data on the participants. This information was used to distribute postteaching questionnaires and to divide the sample for analysis of subgroups.

Part A of the instrument was designed around basic principles of effective instruction (Appendix D) as presented by Davis, Alexander, and Yelon (1974) and Gagné (1970). These authors regarded the principles, or events, of instruction as fundamental to effective teaching regardless of the age of the students, the nature of the subject matter, or the teaching method in use. For purposes of the instrument, the principles were stated in terms of faculty competencies. Ten competencies were described, nine based on the principles and one (the second item in Part A) to reflect the commonly acknowledged community college problem of teaching students with widely divergent backgrounds, abilities, and goals in the same classroom. Language was altered to remove terminology that would not be expected to be familiar to the noneducators who made up a large part of the sample. The subjects were asked to rate each of the ten basic teaching competencies in Part A on a five-point Likert-type scale, in terms of

(1) its perceived <u>importance</u> for successful teaching in the community college and (2) his/her own self-perceived <u>effectiveness</u> in that area.

An <u>instructional need</u> was considered to exist when a subject perceived that the importance of a particular competency exceeded his/her own effectiveness. The numerical values for instructional need were generated by subtracting the effectiveness rating from the importance rating for each teaching competency and setting all negative results to zero.

Part B sought information regarding the participants' perceptions of various formats for providing instructional-development programming. Five statements reflected programming options commonly reported in the literature: voluntary participation, required attendance, payment for participation, and individualized self-study materials. Subjects were asked to indicate the likelihood of their choosing to participate under each set of conditions.

The postteaching questionnaire (Appendix E) differed from the preteaching form in two ways: (1) replacement of the background-data items on the front side with a statement recalling the individuals' previous choice to participate and a review of relevant information related to the purposes and procedures of the study and (2) a change from future to past tense in the question regarding effectiveness. All questionnaire items were identical on the preteaching and postteaching forms.

The instrument was pilot-tested with a sample of 21 subjects. Included were staff-development personnel representing potential

users of this research, faculty members representing the potential subjects, and persons from the community who were not presently connected with a two-year college, representing noneducators who are typically employed as part-time faculty. Primary concerns in the pilot test were the length of time required to complete the instrument, clarity of format and layout, elimination of confusing language or jargon, and general reactions to the questionnaire and to the individual items it contained. The special concern was to avoid making the instrument too simplistic for experienced teachers while maintaining adequate clarity for noneducators. Minor changes in language and format of the instrument resulted.

To respond to the research questions of this study, initial data collection was required in the relatively brief period of time after new part-time faculty had been employed but before they began to teach. This presented special problems for three reasons: (1) various institutions begin their sessions at different times, (2) it is common for part-time faculty to receive notice of teaching assignments only a few days or even a few hours before the beginning of the class, and (3) the last days before a term opening are usually hectic and confusing times for supervisors of part-time faculty. Given these considerations, participating institutions were selected on the basis of the availability of a person inside the institution willing to serve as a coordinator. These persons identified potential subjects based on written guidelines (Appendix A), distributed the questionnaires at the appropriate time for their institution,

received returns in sealed envelopes to preserve confidentiality, and forwarded these to the researcher for analysis.

The second phase of the data collection occurred near the end of the subjects' first teaching experience. The postteaching instrument was distributed through the institutional coordinators to all the initial respondents. The second questionnaires were returned through the campus coordinators. Again, sealed envelopes were used to protect confidentiality. A direct mail follow-up was conducted with all nonrespondents.

Statistical Model of Analysis

Hypotheses 1, 2, 3, and 4 predict that preteaching ratings of importance, effectiveness, instructional need, and receptivity will differ from postteaching ratings. Importance, effectiveness, instructional need, and receptivity ratings were tabulated in contingency tables in which preteaching ratings were the column variables and postteaching ratings were the row variables. A set of ten tables was generated for each of the first three hypotheses, one table for each of the ten items in Part A of the data-gathering instrument (Appendix C). A set of five tables was generated for Hypothesis 4, one table for each of the five items in Part B of the data-gathering instrument. A second identical group of tables was generated using only the part-time portion of the sample.

The McNemar Test for Significance of Changes was used to search for differences between preteaching and postteaching perceptions (McNemar, 1962, pp. 224-27). This test is particularly suited

to designs of the type used in this study in which the same individuals are sampled before and after an experience and in which measurement is on an ordinal scale (Siegel, 1956). The McNemar Test is based on frequency counts entered in a table of the following general type.

Before

		-	+
After	+	A	B
	-	C	D

Cell A contains subjects who increased their rating from pretest to posttest, that is, expressed greater importance, greater effectiveness, greater need, or greater receptivity on the posttest. Cell D contains those subjects who decreased their rating, that is, expressed less importance, effectiveness, need, or receptivity on the posttest. Cells B and C contain those subjects who did not change their rating from pretest to posttest. The null hypothesis (H_o) predicts that A and D are equal to the quantity $\frac{1}{2}(A + D)$; that is, change in both directions is the same.

Evaluating the expression $\frac{(A - D)^2}{A + D}$ yields values distributed as chi-square with df = 1, provided the sum A + D equals 20 or more (McNemar, 1962, p. 227). For smaller values of A + D, a correction for continuity is necessary. This correction involves subtracting one from the absolute value of the quantity A - D.

Use of this nonparametric McNemar test sacrificed some sensitivity in detecting small differences, that is, increased the probability of a Type II error (β). Where the data allow comparison with a parametric t-test, the power-efficiency is approximately 95 percent when A + D is small, decreasing to about 63 percent when A + D is large (Siegel, 1956). This restriction was not considered a major problem for this research since small differences are not of substantial interest to potential users, instructional-development-program designers.

A basic chi-square test of independence $X^2 = \Sigma \frac{(0 - E)^2}{E}$ was used for tests of Hypotheses 5 and 6, which compare subgroups from the total sample. Where appropriate, the correction for continuity was incorporated. The data from each question for each variable (importance, effectiveness, instructional need, and receptivity) were tabulated in 2 x k contingency tables. The subgroups were the column variables, subjects who changed their rating from pretest to posttest was one row variable, and subjects who did not change their rating was the other row variable. This resulted in 35 tables for each of the eight sets of subgroups in Hypotheses 5 and 6. The initial subgroups, derived from the data-gathering instrument, were combined as necessary to meet the requirement that 80 percent of the expected cell frequencies (E) be 5 or more and that all E values be 2 or more.

All tests were carried out at the α = .05 level of significance. A significant chi-square value did not indicate where in the table/sample changes occurred or, in the case of the chi-square test of independence, the direction of those changes. The additive

property of the chi-square values, however, allowed examination of
the contributions of each cell of a table to the total chi-square
value for the table, thereby showing whether the change was uniform
across the sample or concentrated in particular cells. Comparison
of the observed and expected values in each cell gave evidence of
the direction of change.

Validity Concerns

Validity concerns are of two general types defined by Campbell
and Stanley (1966). Internal validity, in the context of this study,
relates to whether changes detected in the subjects are real and
whether major undetected change occurred. External validity refers
to whether the results of the study are applicable to the target
population in general or are in some way unique to this sample. Since
the current study is survey research designed to detect change in the
sample but not to establish cause, the sources of concern for internal
validity are limited. Whereas internal validity is a necessary pre-
condition for meaningful research of any type, the more complex ques-
tion for this study is whether the results may be used beyond the
experimental setting.

Internal validity for survey research relates to the question
of whether or not the instrument elicits the actual perceptions of
subjects. One can never be sure in assessing perceptions or opinions
that the subject's responses on a questionnaire reflect his/her actual
feelings on the subject. The response that seems to be desired by
the researcher or that is socially acceptable sometimes vies with the

truth in the mind of the respondent. No adequate "lie detector" scale exists (Bradburn & Sudman, 1980, p. 174). The tendency consciously or unconsciously to shade responses increases with the level of threat of the questionnaire items (Bradburn & Sudman, 1980). Although an attempt was made to avoid highly threatening language, questions of personal effectiveness may create anxiety for inexperienced faculty. The design of the instrument and the data-collection procedures were designed to minimize this threat. The degree to which it affected the responses, however, cannot be determined.

Since instruments were distributed by an institutional coordinator in each college, uniformity of distribution procedures cannot be guaranteed. Guidelines for identification of potential subjects were provided to the coordinators (Appendix A), and all instructions to the subjects themselves were included in writing on the questionnaire. Possible variation in the responses caused from this source was considered to be minimal.

Effects from all of the above sources were further minimized by the fact that the major concern of this researcher was changes in perception from the initial to the final questionnaire. Since these concerns would be expected to operate in the same way on both the initial and the final forms, their effect on the presence or absence of change in the subject's perceptions was reduced.

Statistical regression did not represent a viable source of change in this sample because the subjects were not selected on the basis of their extreme views.

In summary, the instrument and procedures used were expected to provide internally valid data regarding changes in the perceptions of the research subjects.

Threats to <u>external validity</u> are related to the extent to which the results of this survey can be applied to institutions and faculty members other than the research subjects. External validity can never be proven, due to the basically illogical nature of generalization. Generalization is always based on the assumption that a myriad of factors affecting the experimental group and the population either have no significant effect or affect both groups in the same way. The researcher can only isolate those factors that would seem to be potentially significant and disregard the rest (Campbell & Stanley, 1966). In spite of these facts, history has proven the usefulness of generalization.

A basic concern for external validity is sampling error or population validity. Do the institutions or individuals included in the sample differ in significant ways from the remainder of the target population? The fact that multiple institutions were used and that they varied in geographic location, size, and mission provides some evidence of representativeness. In addition, Brawer (1974), in an in-depth study of three colleges, found greater variety in faculty members within institutions than between institutions.

A related concern was whether the group of volunteer subjects was disproportionately sensitive to teaching concerns. Although participation was not required, it was hoped that distributing and collecting questionnaires through a personal contact in each institution

would encourage participation and result in reaching a large portion of the experimentally accessible population. In addition, since the majority of instructional-development programming for part-time faculty is offered on a voluntary-participation basis, the sample is likely to reflect the group that might be expected to use materials developed on the basis of this study.

Testing concerns, the effects of a pretest and posttest, are unavoidable in longitudinal research. The question is whether the content of the preteaching and/or postteaching questionnaires or the process of completing them sensitized subjects to teaching concerns and thus altered the changes that occurred as compared to a non-surveyed group. The use of a nonpretested control group was considered and rejected due to the number of subjects in the experimentally accessible population. Since the time interval between pretest and posttest was substantial (at least several weeks) and it was percep-tions that were being measured, not achievement, the effect should be expected to be small. It is also important to consider that in those institutions that might choose to use the results of this study in program planning, new part-time faculty are likely to be subjected to a local needs-assessment instrument, making the experimental and application settings similar.

As with any longitudinal panel study, mortality is a poten-tial problem. Mortality refers to the introduction of differences due to differential characteristics of those subjects who continue in the research and those who drop out. Does a common difference exist among those who dropped out that makes the completers

unrepresentative of the population? No such difference was identified in this sample.

Several factors that typically affect the validity of longitudinal research in general were not of importance in this study. The nature of the instrument used and the nature of the sample did not suggest that an instrument x sample interaction should be expected; that is, no sufficient reason existed to anticipate that the instrument affected this sample differently from the population.

The possibility exists that some factor related to when the research was done served to alter the results and make them specific to the group surveyed. Did something happen in one or more of the subject institutions, i.e., strike, student unrest, promulgation of new regulations, that served to create or suppress change in the subject group? No major events of this type are known to have occurred. Replication of the survey would give evidence with regard to this concern.

The Hawthorne effect, the extent to which being part of an "experiment" affected the subjects' reactions, was also considered to be possible. Did being asked to complete the questionnaire by a person of authority alter the responses as compared to a group solicited by mail, or compared to an unsurveyed group? Since the use of control groups was considered impractical, no direct evidence was available. If such an effect occurred, it can again be noted that institutions choosing to use the results of this research would be likely to make similar requests of new faculty.

Finally, Campbell and Stanley (1966) called for making experimental conditions as similar as possible to the application setting in order to maximize generalizability. Snow (1974) expanded on this concept in what he called "representative design." He argued that an educational system should be treated as an ecology in which many variables interact with one another and with the human actors in a complex and largely uncontrollable fashion. Thus, to maximize generalizability, experimental conditions should be representative of the natural environment in which the results will be used. The design of this study was highly representative in that it sampled real colleges and their new faculty members, identified local personnel to distribute and collect the data-gathering instruments, treated the subject's actual teaching assignment as the "experimental treatment," and used a survey process similar to that which would be anticipated in institutions choosing to make use of the results of the study.

In summary, although external validity can never be fully established, evidence was presented that the results of this research can be used in instructional-development program design for new faculty in community colleges.

Summary

An instrument specifically designed for this study was used to survey newly hired faculty in community colleges before and at the completion of their first term of teaching. The subjects indicated their perceptions of the importance of ten basic faculty-member

competencies for successful teaching, their self-perceived effective-
ness in each of these ten competencies, and the likelihood of their
choosing to participate in instructional-development activities under
five different sets of conditions. The McNemar Test for Significance
of Changes and the chi-square test of independence were used to search
for changes in the subjects' perceptions during their initial teaching
experience. Hypotheses of change were based on the general finding
that new faculty in community colleges tend to be inexperienced as
teachers and unfamiliar with the diversity found in community college
classrooms. The primary concern for internal validity in the study
related to the extent to which the responses of the subjects were
truthful. No appropriate scale was available. Concerns for external
validity included sampling error, use of volunteer subjects, testing
concerns, mortality, and the Hawthorne effect. The experimental
design was highly representative of the natural environment in which
the results would be used by instructional-development-program
planners.

CHAPTER IV

PRESENTATION AND DISCUSSION OF RESULTS

This chapter contains the characteristics of the study respond-
ents, tests of hypotheses, and a summary of the results of the study.

Characteristics of the Study Respondents

Responses to the initial questionnaire were received from
180 subjects representing 12 institutions. The percentage of the
experimentally accessible population represented is not known with
accuracy due to the unavailability of figures for the total number of
newly hired faculty in all participating institutions. In three of
the larger institutions, which together contributed about two-thirds
of the total sample, the percentages were approximately 75 percent,
65 percent, and 45 percent. In a few of the smaller institutions,
100 percent of the new faculty were included. These known figures
suggest that an appropriate estimate of the percentage of the experi-
mentally accessible population who responded to the preteaching ques-
tionnaire lies between 50 and 75 percent. Usable postteaching responses
were received from 145 subjects, or 81 percent of those responding to
the preteaching form.

Table 1 summarizes the demographic characteristics of all
respondents, the full-time segment, the part-time segment, and the
nonrespondents--that is, the group who completed the first questionnaire

Table 1.--Summary of descriptive variables for respondents and nonrespondents.[a]

Descriptive Variables	% of Total Respondents[b]	% of Full-Time	% of Part-Time	% of Non-respondents
AGE				
Under 30	35	45	32	37
30-39	47	39	50	37
40 and over	17	15	18	26
SEX				
Female	52	61	49	43
Male	48	39	51	57
CURRENT OCCUPATION IN ADDITION TO TEACHING				
Related to courses taught	48	27	54	59
Not related to courses taught	21	12	23	21
Others	32	61	23	21
DISCIPLINE				
Business	28	21	30	23
Sciences	21	33	17	9
Arts	15	21	14	17
Health careers	15	12	16	9
Vocational/technical	11	12	11	26
Others	10	0	14	17
STATUS				
Part-time	77	0	100	89
Full-time	23	100	0	11
INSTITUTION				
College A	43	0	55	60
College B	17	30	14	17
College C	10	0	14	6
College D	10	24	5	14
Others	20	45	13	3
AMOUNT OF PREVIOUS TEACHING EXPERIENCE				
More than one year	65	67	64	45
One year or less	16	21	14	24
None	20	12	22	30
LEVEL OF PREVIOUS TEACHING EXPERIENCE				
Elementary/secondary only	12	3	15	9
Four-year college/univ. only	15	24	13	6
Community college only	14	0	18	6
None	19	12	22	29
Other or combinations	40	61	33	51

[a]Total may not equal 100 percent due to rounding.

[b]Percentages are based on a total of 145 respondents, 33 full-time, 110 part-time, and 35 nonrespondents.

but who failed to respond to the second questionnaire. Examination of this table shows that the subjects were young, 35 percent under 30 years of age and 83 percent under 40 years of age. The full-time segment was slightly younger, and the part-time segment was slightly older. The nonrespondents showed a noticeable increase in the oldest group. These findings parallel the findings of Cohen and Brawer (1977) who found, in a national study, that nearly half of the part-time faculty population was 35 years of age or younger.

The total respondents and the part-time segment were evenly balanced by sex. The full-time segment had fewer men, whereas the nonrespondents showed fewer women.

Sixty-nine percent of the total respondents and 77 percent of the part-time segment had other employment. This supports the generally reported finding that most part-time faculty are teaching in addition to another job. Approximately half of both the total respondents and the part-time segment were employed in a field related to the courses they were teaching. Only about one-quarter of the full-time were so employed.

The largest percentages, by discipline, were in business (28 percent) and the sciences including the social sciences and mathematics (21 percent). The full-time segment was concentrated in the arts and sciences (54 percent) with a reduced number in business (21 percent) and none in the category "Others." The part-time faculty were most numerous in the "Business" and "Other" categories. The literature reported heavier use of part-time faculty in business/vocational/technical, and noncredit areas. This is compatible with

the findings of this study. Nonrespondents showed a different pattern, with fewer in business, sciences, and health careers and more in the remaining categories, especially vocational/technical.

A slightly larger percentage of the nonrespondents were part-time faculty. This finding was expected since institutions tend to have poorer communication with part-timers and thus they might be less likely to receive or return the final form.

The institutions in the study were different in size as well as in their tendency to employ part-time faculty (Appendix F). Consequently, the largest institution in the sample, which employed several hundred part-time faculty, provided 43 percent of the total respondents and 55 percent of the part-time respondents. Four of the 12 institutions provided 80 percent of the total respondents and 87 percent of the part-time. The zeros for Institutions A and C reflect the fact that the new full-time faculty at these schools were not surveyed. The major effect of this omission was to increase the part-time to full-time ratio. That ratio was higher for the sample (77 percent) than was reported in the literature (56 percent) (AACJC, 1980). Nonrespondents were concentrated in Institutions A, B, and C. There was a very small nonresponse rate in the eight smaller institutions included in the "Other" category.

The two previous-teaching-experience variables, amount and level, produced little variation between the total respondents and the part-time segment. The full-time segment did show some significant variation, with a smaller portion having no previous experience and a larger portion coming from a four-year college background. The

"Other or Combinations" category contained a wide variety of nonformal educational experiences or varying combinations of the preceding categories. The larger number of full-time faculty in this category suggested that they may have had more diverse teaching backgrounds than did the part-timers. These results were compatible with the findings of Friedlander (1979b) and Seitz (1971), who reported that part-time faculty had lower levels of previous teaching experience than did full-time. The nonrespondents were also concentrated in the lower experience categories. Twenty-nine percent of the respondents had some previous teaching experience in a community college, either alone or in combination with experience at other levels. The majority of these were one year or less; however, as much as five or six years of community college experience was present.

Tables 2 and 3 summarize additional information related to the initial respondents and the final respondents. The chi-square test of independence was applied to each of the eight descriptive variables, yielding the results in Table 2. Each of these eight tests showed no statistically significant difference between the respondent subgroups and the nonrespondent subgroups. Table 3 compares the preteaching responses of the respondents and the nonrespondents, again using the chi-square test of independence. No significant differences in ratings of "importance," "instructional needs," or "receptivity" were found. Two of the ten "effectiveness" ratings did differ between the two groups. These were Item 4, "open communication," and Item 7, "make learning as pleasant as possible." In both cases, a significant number of nonrespondents rated their expected effectiveness

Table 2.--Comparison of number of respondents and nonrespondents in descriptive variable subgroups.[a]

Variable: Age	N	Under 30	30-39	40 & Over
	179	64	81	34
Respondents	144	51	68	25
Nonrespondents	35	13	13	9

Chi-square[b] = 1.69 (df = 2, table value = 5.99)

Variable: Sex	N	Female	Male
	180	90	90
Respondents	145	75	70
Nonrespondents	35	15	20

Chi-square = 0.57 (df = 1, table value = 3.84)

Variable: Occupation Other Than Teaching	N	Related to Courses Taught	Not Related to Courses Taught	None
	154	89	37	28
Respondents	120	69	30	21
Nonrespondents	34	20	7	7

Chi-square = 0.36 (df = 2, table value = 5.99)

Variable: Discipline	N	Business	Sciences	Arts	Health Careers	Voc./ Tech.	Others
	180	48	33	28	25	25	21
Respondents	145	40	30	22	22	16	15
Nonrespondents	35	8	3	6	3	9	6

Chi-square = 8.95 (df = 5, table value = 11.07)

Variable: Status	N	Full-Time	Part-Time
	178	37	141
Respondents	143	33	110
Nonrespondents	35	4	31

Chi-square = 1.66 (df = 1, table value = 3.84)

Variable: Institution	N	College A	College B	College C	College D	Others
	180	83	31	17	19	30
Respondents	145	62	25	15	14	29
Nonrespondents	35	21	6	2	5	1

Chi-square = 8.00 (df = 4, table value = 9.49)

Variable: Amount of Teaching Experience	N	More Than One Year	One Year or Less	None
	174	106	30	38
Respondents	141	91	22	28
Nonrespondents	33	15	8	10

Chi-square = 4.04 (df = 2, table value = 5.99)

Variable: Level of Teaching Experience[c]	N	El./Sec. or 4-Year College	Community College	None
	104	44	22	38
Respondents	87	39	20	28
Nonrespondents	17	5	2	10

Chi-square = 4.41 (df = 2, table value = 5.99)

[a]Persons who responded to the first questionnaire but not to the second.

[b]Calculated using the basic chi-square test of independence.

[c]Respondents with experience at several levels were eliminated, resulting in lower N for this variable.

Table 3.--Comparison of preteaching responses of respondents and nonrespondents[a] (chi-square values)

Questionnaire Item[b]	Importance	Effectiveness	Instructional Need	Questionnaire Item	Receptivity
1. Meaningfulness	3.62[c]	0.38[d]	2.47[d]	11. Seek Out Information	0.31
2. Different Ability	1.54	0.57	0.55	12. Volunteer	0.05**
3. Demonstrate	0.94	0.33	0.00**	13. If Paid	2.12
4. Open Communication	3.80	13.68*	0.10	14. Individualized	0.97
5. Maintain Attention	0.73	0.10[d]	0.26	15. If Required	0.51
6. Practice and Review	0.01**	2.72	0.31		
7. Learning Pleasant	0.08***	7.36*	0.33		
8. Organize Class	2.75	3.13	0.53		
9. Prepare Tests	1.25	1.18	0.28		
10. Variety of Methods	1.79	2.72	0.00**		

[a]Persons who responded to the first questionnaire but not to the second.

[b]Exact wording of items contained in Appendix C.

[c]$df = 2$, table value = 5.99. Data in Appendix G.

[d]Items 1 and 5 in Effectiveness column and all values in Need column: $df = 1$, table value = 3.84.

*$p < .05$.

**$p > .95$.

lower on these items. This difference may be explained by the fact that nonrespondents were more likely to have little or no previous teaching experience.

In summary, initial responses were received from 180 subjects representing 12 institutions and an estimated 50 to 75 percent of the experimentally accessible population. The postteaching response was 145 or 81 percent of the initial respondents. The demographics of the sample generally matched information reported in the literature for part-time faculty. The subjects were young (83 percent less than 40 years of age), evenly divided by sex, and largely employed in addition to their teaching (69 percent). By discipline, they concentrated in business (28 percent) and the sciences (21 percent), with fewer than expected in vocational/technical areas (11 percent). Seventy-seven percent of the respondents were part-time. Two-thirds had more than one year of teaching experience, whereas 20 percent had none. The level of previous teaching experience was widely and evenly distributed. Twenty-nine percent of the respondents had at least some previous exposure to community college teaching. When the respondents were compared to the group who failed to respond to the postteaching questionnaire, no meaningful differences were detected.

Tests of Hypotheses One, Two, Three, and Four

The following section reports the results of tests of each hypothesis. Statistical results for each of the first four hypotheses are summarized in Tables 4, 6, 7, and 9. Entries in these tables for each questionnaire item include the number of subjects who responded

to the item, the number who rated the item lower on the postteaching questionnaire, the number who rated the item higher on the post-teaching questionnaire, the total percentage of respondents who changed their rating of the item, and a chi-square value showing whether there was significant directional change in the group response. At the bottom of each table are mean values for the first three columns. These mean values were used to calculate the overall values for percentage of changed ratings and group chi-square, which appear at the bottom of the final two columns. The data on which these tables are based are included in Appendix H.

Two types of change in the sample are represented by the values in the two right-hand columns of these tables. The first is the percentage of individuals who had a different perception after teaching than they had before, without regard to the direction of the change. This measure relates to the question of how realistic the perceptions of the new faculty members were as they entered community college teaching. The second is whether the group of respondents shifted toward a significantly higher or lower rating for each item after teaching. This second measure relates to whether the group of new faculty changed significantly from their preteaching perception. To illustrate in another way, it would be possible for 100 percent of the subjects to change their rating from pretest to posttest, a fact of interest to a faculty-development-program designer; however, if half increased and half decreased their rating, no group directional change would result, and the calculated chi-square value would be zero.

These two measures relate to change/no change and increase/decrease dimensions of the data. A third measure of change in the respondents is shown in Tables 5 and 8. These consist of a tabulation of the actual preteaching and postteaching responses of the subjects. Frequency counts for each scale position (1-5) are expressed as a percentage of the total response for each questionnaire item for each variable (importance, effectiveness, need, and receptivity). This permits analysis of (1) which questionnaire items were rated higher or lower, (2) the distribution of the ratings for each item, and (3) how the distribution of ratings changed from preteaching to postteaching. It allows response to the question of how much the ratings changed.

Appendix I contains the mean preteaching and postteaching ratings for readers who prefer the data in that form. This presents the same type of information as Tables 5 and 8.

Hypothesis One

> Preteaching perceived importance ratings will differ from postteaching ratings.

Table 4 summarizes results related to Hypothesis One. The overall group chi-square value of 1.21 was NOT SIGNIFICANT at the .05 level and did not support the hypothesis. Two of the ten individual items did receive significantly lower importance ratings on the postteaching questionnaire: Item 5, "maintain student attention and interest," and Item 7, "make learning as pleasant as possible." The remaining eight items showed no significant directional change.

Table 4.--Differences between preteaching and postteaching ratings for Hypothesis One: Importance.

Questionnaire Item[a]	All Respondents					Part-Time				
	n	No. of Decreased Ratings	No. of Increased Ratings	% of Changed Ratings	Chi-Square[b]	n	No. of Decreased Ratings	No. of Increased Ratings	% of Changed Ratings	Chi-Square
1. Make learning more meaningful.	144	30	25	38	0.45	109	21	20	38	0.02
2. Adapt to students of different abilities.	144	36	29	45	0.75	109	33	24	52	1.42
3. Effectively demonstrate physical or mental skills.	142	33	34	47	0.01	107	26	26	49	0.00
4. Create atmosphere of open communication.	145	38	28	46	1.52	110	29	22	46	0.96
5. Maintain student attention and interest.	144	46	19	45	11.22*	109	36	15	47	5.56*
6. Provide opportunities for practice and review.	144	44	34	54	1.28	109	34	25	54	1.69
7. Make learning as pleasant as possible.	142	41	21	44	6.45*	107	31	14	42	6.42*
8. Organize class in ways that help students learn.	143	32	29	43	0.15	108	25	21	43	0.35
9. Prepare effective tests.	144	37	37	51	0.00	109	28	28	51	0.00
10. Use a variety of teaching methods.	144	38	37	52	0.01	109	33	25	53	1.10
Mean values	144	38	29	47	1.21	109	30	22	48	1.23

[a]Exact wording of items contained in Appendix C.
[b]Calculated using the McNemar Test for Significance of Changes (df = 1, table value = 3.84)
*p < .05.

Isolation of the part-time portion of the respondents showed nearly identical results. The overall group chi-square value of 1.23 was not significant at the .05 level. The same two individual items were seen as less important by the part-time group. The trend for all items was for equal or lesser perceived importance after experience with teaching. The two items on which significant change occurred were similar in that they both related to affective aspects of student learning. The reason for the perceived decrease in importance of these items was not clear from these data alone.

The percentage of individuals who changed their importance rating showed a mean value of 47 percent for the total sample, 48 percent for the part-time portion, and a range of 38 percent to 54 percent for both. Thus, on the average, nearly half of the subjects changed their perception of the importance of these teaching competencies during their initial term of teaching. Whereas more individuals expressed a lower perceived importance, ratings were divided such that no significant group change resulted.

Table 5 shows that the items were given high importance ratings. Between 63 and 95 percent of the respondents rated the ten competencies to be of "major" or "critical" importance for successful teaching. The items receiving the largest percentage of "critical" (5) ratings on the pretest were Item 4, "open communication"; Item 5, "maintain attention and interest"; and Item 1, "meaningfulness." The lowest ranking of importance went to Item 10, "use a variety of methods."

Table 5.--Listing of preteaching and postteaching ratings[a]--importance and effectiveness.

| Questionnaire Item | | IMPORTANCE | | | | | | | | | | EFFECTIVENESS | | | | | | | | | |
| | | Total Responses | | | | | Part-Time Responses | | | | | Total Responses | | | | | Part-Time Responses | | | | |
		1[b]	2	3	4	5	1	2	3	4	5	1[c]	2	3	4	5	1	2	3	4	5
1. Make subject matter more meaningful. Pre		0	1	5	47	47	0	1	6	51	43	0	0	9	78	13	0	0	8	78	15
Post		0	1	8	44	47	0	2	9	44	45	0	0	12	79	9	0	0	8	81	10
2. Adapt to students of different abilities. Pre		0	0	19	47	33	0	0	19	46	35	0	2	18	71	9	0	1	16	76	7
Post		0	1	20	52	27	0	1	22	50	28	0	2	28	60	10	0	1	28	59	12
3. Demonstrate physical or mental skills. Pre		0	4	16	44	36	0	4	17	46	34	1	0	15	65	20	1	0	14	67	18
Post		0	1	18	47	34	0	1	21	49	30	1	1	11	73	16	0	0	8	75	17
4. Create an atmosphere of open communication. Pre		0	1	5	41	54	0	1	4	45	51	0	1	6	47	46	0	1	7	44	48
Post		0	1	8	43	48	0	0	7	47	46	1	0	8	58	33	0	0	8	60	32
5. Maintain student attention and interest. Pre		0	0	8	43	49	0	0	7	40	52	0	0	9	81	10	0	0	8	79	13
Post		0	1	11	53	35	0	1	7	57	35	0	2	13	73	13	0	0	10	77	13
6. Provide opportunities for practice and review. Pre		0	3	22	47	29	0	3	21	48	28	0	1	16	59	25	0	1	18	57	25
Post		1	2	25	48	24	0	2	27	51	20	0	4	28	57	11	0	2	31	58	9
7. Make learning as pleasant as possible. Pre		0	2	29	41	28	0	2	27	42	29	0	0	18	62	19	0	0	17	61	22
Post		0	4	32	44	19	0	4	34	43	20	0	3	21	62	14	0	2	20	61	18
8. Organize class in ways that help students learn. Pre		0	0	8	51	41	0	0	8	51	41	0	0	16	67	18	0	0	15	68	17
Post		0	0	8	54	38	0	0	10	52	38	0	1	20	68	11	0	1	18	70	11
9. Prepare effective tests. Pre		1	4	24	42	29	1	5	23	44	28	0	4	18	69	9	0	5	15	72	9
Post		1	2	21	50	26	1	3	20	51	26	1	4	28	56	11	1	5	27	54	13
10. Use a variety of teaching methods. Pre		0	7	26	47	19	0	7	26	47	20	0	2	35	45	18	0	2	35	49	15
Post		0	6	27	47	20	0	8	28	44	19	1	7	32	52	8	1	6	35	51	8

[a]Expressed as percentages. n = approximately 145 and 110. May not equal 100 percent due to rounding.

[b]1 = Not Important, 2 = Minor Importance, 3 = Moderate Importance, 4 = Major Importance, 5 = Critical Importance.

[c]1 = Never Effective, 2 = Seldom Effective, 3 = Occasionally Effective, 4 = Usually Effective, 5 = Always Effective.

Items 4 and 1 remained high on the posttest, but Item 5 showed the largest decrease in "critical" ratings, 14 percent from 49 percent to 35 percent. Item 7, "make learning pleasant," showed the lowest posttest rating of importance and also showed a significant decrease from the pretest.

Item 2, "adapt to students of different abilities," is commonly listed as an important skill for success in an open-door community college classroom. It received an average rating on both the pretest and posttest as compared to the other competencies.

Hypothesis Two

> Preteaching self-perceived effectiveness ratings will
> differ from postteaching ratings.

Table 6 summarizes results related to Hypothesis Two. <u>The overall group chi-square value of 5.45 was SIGNIFICANT at the .05 level and supported the hypothesis.</u> Six of the ten individual items received significantly lower effectiveness ratings on the postteaching questionnaire: Item 4, "create an atmosphere of open communication"; Item 6, "provide opportunities for practice and review"; Item 7, "make learning as pleasant as possible"; Item 8, "organize class in ways that help students learn"; Item 9, "prepare effective tests"; and Item 10, "use a variety of teaching methods."

Isolation of the part-time portion of the respondents resulted in an overall group chi-square value of 3.10, which was large but <u>not</u> significant at the .05 level. Four of ten individual items achieved significance, all in the direction of lower perceived effectiveness after teaching. These were Item 4, "create an atmosphere of open

Table 6.--Differences between preteaching and postteaching ratings for Hypothesis Two: effectiveness.

Questionnaire Item[a]	All Respondents					Part-Time				
	n	No. of Decreased Ratings	No. of Increased Ratings	% of Changed Ratings	Chi-Square[b]	n	No. of Decreased Ratings	No. of Increased Ratings	% of Changed Ratings	Chi-Square
1. Make learning more meaningful.	142	26	15	29	2.95	107	20	14	32	1.06
2. Adapt to students of different abilities.	143	35	24	41	2.05	108	24	17	38	1.20
3. Effectively demonstrate physical or mental skills.	142	26	20	32	0.78	107	13	16	27	0.31
4. Create atmosphere of open communication.	144	42	21	44	7.00*	109	33	18	47	4.41*
5. Maintain student attention and interest.	144	23	16	27	1.26	109	13	11	22	0.17
6. Provide opportunities for practice and review.	142	49	12	43	22.44*	108	40	10	46	18.00*
7. Make learning as pleasant as possible.	141	36	17	38	6.81*	107	24	12	34	4.00*
8. Organize class in ways that help students learn.	142	34	14	34	8.33*	107	23	13	34	2.78
9. Prepare effective tests.	138	34	19	38	4.25*	103	25	15	39	2.50
10. Use a variety of teaching methods.	142	49	25	52	7.78*	107	33	17	47	5.12*
Mean values	142	35	18	37	5.45*	107	25	14	36	3.10

[a]Exact wording of items contained in Appendix C.

[b]Calculated using the McNemar Test for Significance of Changes (df = 1, table value = 3.84).

*$p < .05$.

communication"; Item 6, "provide opportunities for practice and review"; Item 7, "make learning as pleasant as possible"; and Item 10, "use a variety of teaching methods."

The percentage of individuals who changed their rating showed mean values of 37 percent and 36 percent for the total and part-time respondents, respectively. The range was slightly different: 27 percent to 52 percent for the total respondents and 22 percent to 47 percent for the part-time portion.

These results indicate that the anticipated level of effectiveness of a significant portion of the subjects was unrealistic. Comparing these effectiveness responses to those related to importance in Hypothesis One, more change occurred in Hypothesis One (47 percent) than in Hypothesis Two (37 percent); however, there was greater agreement regarding the direction of change in Hypothesis Two. Note that only one item, Item 7, "make learning as pleasant as possible," showed significant change on both importance and effectiveness. The subjects were less effective than they anticipated but also saw this competency as being less important.

Table 5 showed that the ten competencies were given high effectiveness ratings, although not as high as their ratings of importance. Between 60 and 92 percent of the sample indicated on the posttest that they were "usually" or "always" effective. The highest pretest ratings went to Item 4, "open communication"; Item 1, "meaningfulness"; and Item 5, "maintain attention and interest." The lowest pretest rating of effectiveness went to Item 10, "variety of teaching methods." These are the same items that received the highest

and lowest pretest ratings of importance. This suggests that while the anticipated levels of effectiveness were unrealistic, the subjects did accurately predict those competencies on which they would be most and least effective.

The three high-ranked items remained high on the posttest, and Item 10 continued to have the lowest rating. As with importance, Item 2, "adapt to students of different abilities," received an average rating. Unlike its importance rating, it showed a sharp posttest decline in "usually effective" ratings (4) and a sharp increase in "occasionally effective" ratings (3).

Hypothesis Three

> Preteaching instructional need will differ from post-teaching instructional need.

Table 7 summarizes results related to Hypothesis Three. The overall chi-square value of 0.72 was NOT SIGNIFICANT at the .05 level and did not support the hypothesis. Two of the ten individual items did receive significantly higher instructional need ratings on the postteaching questionnaire. These were Item 4, "create an atmosphere of open communication," and Item 6, "provide opportunities for practice and review." The remaining eight items showed no significant directional change.

Isolation of the part-time portion of the respondents resulted in a group chi-square of 0.11, which was not significant. Neither did any individual item achieve statistical significance.

The percentage of individuals who changed their rating of instructional need showed a mean value of 37 percent for the total

Table 7.--Differences between preteaching and postteaching ratings for Hypothesis Three: instructional needs.

Questionnaire Item[a]	All Respondents					Part-Time				
	n	No. of Decreased Ratings	No. of Increased Ratings	% of Changed Ratings	Chi-Square[b]	n	No. of Decreased Ratings	No. of Increased Ratings	% of Changed Ratings	Chi-Square
1. Make learning more meaningful.	143	24	28	36	0.31	108	18	22	37	0.40
2. Adapt to students of different abilities.	143	30	37	47	0.73	108	23	25	44	0.08
3. Effectively demonstrate physical or mental skills.	141	23	23	33	0.00	106	20	12	30	2.00
4. Create atmosphere of open communication.	144	17	31	33	4.08*	109	14	24	35	2.63
5. Maintain student attention and interest.	144	37	27	44	1.56	109	29	18	43	2.57
6. Provide opportunities for practice and review.	143	15	33	34	6.75*	108	13	22	32	2.31
7. Make learning as pleasant as possible.	140	16	16	23	0.00	106	12	11	22	0.04
8. Organize class in ways that help students learn.	143	21	34	38	3.07	108	18	24	39	0.86
9. Prepare effective tests.	139	26	33	42	0.83	104	20	24	42	0.36
10. Use a variety of teaching methods.	142	17	24	29	1.20	108	15	15	28	0.00
Mean values	142	23	29	37	0.72	107	18	20	36	0.11

[a]Exact wording of items contained in Appendix C.
[b]Calculated using the McNemar Test for Significance of Changes (df = 1, table value = 3.84).
[c]$p < .05$.

respondents and 36 percent for the part-time portion. The range was 23 percent to 47 percent and 22 percent to 44 percent, respectively. These levels were lower than those for importance (Table 4) but equal to those for effectiveness (Table 6).

Both of the significant individual items in this table suggest greater perceived instructional need after teaching. The majority of the other items also showed larger numbers in the "increased" column. Item 5, "maintain student attention and interest," is a notable exception, showing a large difference toward lower need on both lists. This would appear to be related to the fact that this item also showed significantly lower importance ratings in Table 4 but was unchanged in Table 6, effectiveness.

Table 8 shows the calculated preteaching and postteaching instructional-needs ratings. These were generated by subtracting the effectiveness rating for each item from the importance rating for that same item and setting negative results to zero. Thus the instructional-needs ratings ranged from zero to four and reflected the amount by which importance was perceived to exceed effectiveness.

Only a small number of differences greater than one are reflected in the table. The largest pretest instructional-need percentages were on Item 1, "meaningfulness"; Item 5, "maintain attention and interest"; and Item 8, "organize the class in ways that help students learn." The smallest pretest need was on Item 6, "practice and review"; Item 7, "make learning pleasant"; and Item 10, "use a variety of teaching methods."

Table 8.--Listing of preteaching and postteaching ratings[a]--instructional needs and receptivity.

INSTRUCTIONAL NEEDS

Questionnaire Item	Pre/Post	Total Responses					Part-Time Responses				
		0[b]	1	2	3	4	0	1	2	3	4
1. Meaningfulness	Pre	56	42	2	0	0	61	37	2	0	0
	Post	55	41	4	0	0	57	41	2	0	0
2. Different Abilities	Pre	65	30	5	0	0	67	29	5	0	0
	Post	59	36	3	1	1	64	31	4	1	1
3. Demonstrate Skills	Pre	72	26	2	0	0	71	26	3	0	0
	Post	72	24	3	0	1	78	20	2	0	0
4. Open Communication	Pre	72	27	1	0	0	74	25	1	0	0
	Post	63	35	1	1	0	65	34	1	0	0
5. Maintain Attention	Pre	57	39	4	0	0	56	41	3	0	0
	Post	63	34	2	1	0	65	34	1	0	0
6. Practice & Review	Pre	80	20	1	0	0	79	20	1	0	0
	Post	70	25	4	1	1	73	23	4	0	0
7. Learning Pleasant	Pre	77	22	1	0	0	79	21	0	0	0
	Post	79	19	2	0	0	82	16	2	0	0
8. Organize Class	Pre	62	34	4	0	1	62	33	4	0	1
	Post	55	41	4	1	0	57	39	4	0	0
9. Prepare Tests	Pre	68	28	3	1	0	71	26	2	1	0
	Post	64	28	7	1	0	68	24	7	1	0
10. Variety of Methods	Pre	75	19	6	0	0	73	20	6	0	0
	Post	70	25	4	1	0	71	24	5	1	0

RECEPTIVITY

Questionnaire Item	Total Responses					Part-Time Responses				
	1[c]	2	3	4	5	1	2	3	4	5
11. Seek Out Information	2	16	35	36	11	3	17	35	37	8
	4	16	43	23	13	5	19	43	21	13
12. Volunteer	1	7	36	43	14	1	7	36	43	13
	4	9	31	48	9	4	11	33	43	9
13. If Paid	1	3	23	39	35	1	4	21	40	34
	0	4	27	36	33	0	5	28	37	31
14. Individualized	2	13	33	41	12	3	13	29	44	12
	5	8	34	44	8	6	10	32	46	7
15. If Required	2	5	10	32	51	3	6	11	33	48
	2	5	18	37	39	2	6	19	35	38

[a]Expressed as percentages. n = approximately 145 and 110. May not equal 100 percent due to rounding.

[b]Calculated values (see p. 68). Numbers do not carry descriptive captions.

[c]1 = Would Not Choose, 2 = Unlikely to Choose, 3 = Moderate Likelihood, 4 = Very Likely to Choose, 5 = Definitely Would Choose.

On the posttest, Items 8 and 1 remained high; however, Item 5 dropped, being replaced by Item 2, "adapt to students of different abilities." Item 7, "make learning pleasant," had by far the lowest posttest rating.

Items showing the largest increases in instructional-need ratings from pretest to posttest were Items 4 and 6, "open communication" and "provide practice and review." These were the same items that showed significant chi-square values in Table 7. Item 5, "maintain attention and interest," showed the largest decrease in perceived need from pretest to posttest.

Hypothesis Four

> Preteaching receptivity ratings will differ from post-teaching ratings.

Table 9 summarizes results related to Hypothesis Four. The overall group chi-square value of 1.32 was NOT SIGNIFICANT at the .05 level and did not support the hypothesis. One of the five items did receive significantly lower receptivity ratings on the postteaching questionnaire: Item 15, "participate effectively if participation was required." The remaining four items showed no significant directional change.

Isolating the part-time portion of the respondents yielded an overall chi-square of 2.05, which was not significant. Two individual items from the five did achieve significance: Item 12, "participate on a volunteer basis," and Item 15, "participate effectively if participation was required."

Table 9.—Differences between preteaching and postteaching ratings for Hypothesis Four: receptivity.

Questionnaire Item[a]	All Respondents					Part-Time				
	$\underline{n}$	No. of Decreased Ratings	No. of Increased Ratings	% of Changed Ratings	Chi-Square[b]	$\underline{n}$	No. of Decreased Ratings	No. of Increased Ratings	% of Changed Ratings	Chi-Square
11. Seek out information about activities.	142	44	35	56	1.03	107	35	25	56	1.67
12. Participate on a volunteer basis.	143	47	31	55	3.28	108	40	22	57	5.23*
13. Participate if paid to do so.	142	36	32	48	0.24	108	30	22	48	1.23
14. Participate in an individualized/unscheduled program.	143	38	38	53	0.00	108	32	28	56	0.27
15. Participate effectively if participation required.	143	51	27	55	7.38*	108	38	21	55	4.90*
Mean values	143	43	33	53	1.32	108	35	24	55	2.05

[a]Exact wording of items contained in Appendix C.

[b]Calculated using the McNemar Test for Significance of Changes (df = 1, table value = 3.84).

[c]$\underline{p}$ < .05.

The percentage of individuals who changed their receptivity ratings was the highest for any of the four hypotheses, showing a mean value of 53 percent and a range from 48 to 56 percent for the total respondents. The part-time portion showed a mean of 55 percent and a range from 48 to 57 percent.

These results are especially interesting in light of the responses to previous hypotheses. The highest level of total change for the first four hypotheses was registered here. With the exception of Item 14, decreased receptivity uniformly exceeded increased receptivity. The subjects were significantly less likely to volunteer and significantly less amenable to required participation after their term of teaching. Hypotheses One and Two showed limited change in perceived importance of the teaching competencies and significantly lower perceived effectiveness. On the surface, the results seem contradictory.

Although the causes of change were not the subject of this research, it is relevant to speculate about some possible reasons for these apparently contradictory findings. One is the pressure of time, a very common reason given for failure to be involved in staff development. Teaching may have been more time consuming than anticipated. Other activities on the job or in the individual's personal life may have higher priority than teaching-improvement activities. This is especially true for part-time faculty, many of whom have other employment (77 percent in this study) and do not see teaching as their primary job.

Another possibility relates to the fact that the subjects'
originally high expectations for the role of faculty member in an
institution of higher education were dashed by the reality of the
classroom, creating a kind of general disillusionment. Part-time
faculty have been characterized as the "stepchildren" of the community
college, not being allowed full participation in the life and services
of most institutions. This, too, may have created or enhanced a sense
of disappointment during the initial term of teaching.

A third possibility is that, having become a part of the
institutional system rather than a newly hired faculty member, some
subjects were less intimidated at the end of their first term of
teaching and consequently were freer to respond in ways apparently
less acceptable to the institution.

Finally, the fact that they were not as effective as they
anticipated may have made teaching-improvement activities more threat-
ening for some subjects and thus decreased rather than increased the
likelihood of participation.

Faculty expressed substantial interest in instructional-
development activities, a result that supports similar findings in
other studies reported in the literature. Even though Item 12,
"participate on a volunteer basis," and Item 15, "participate effec-
tively in a required program," showed significant decreases from pre-
teaching to postteaching (Table 9), their postteaching ratings remained
high.

Table 8 showed that pretest and posttest ratings of recep-
tivity were somewhat lower than ratings of importance and effectiveness

in Table 5. The courses of action indicated as most likely both before and after teaching were Item 15, "participate effectively if required," and Item 13, "participate if paid for doing so." The lowest ratings went to Item 11, "seek out information so that you could participate."

Fifty-seven percent of the sample indicated, both before and after teaching, that they would be very likely to "choose to participate on a volunteer basis." Seventy-six percent indicated on the posttest that they would be very likely to "participate effectively" in a required program. At the opposite extreme, 20 percent indicated that they would be unlikely to "seek out information," 13 percent that they would be unlikely to "participate in a voluntary program," and 7 percent that they would be unlikely to "participate effectively" in a required program.

In summary, tests of the first four hypotheses found no overall difference in preteaching and postteaching ratings of importance (Hypothesis One), instructional need (Hypothesis Three), and receptivity (Hypothesis Four). Ratings of effectiveness (Hypothesis Two) were significantly lower on the postteaching questionnaire, indicating that the subjects felt that they were not as effective as they predicted they would be. Significant differences on individual items occurred for each hypothesis. Two of ten competencies were rated as being of less perceived importance. Six of ten competencies had significantly lower effectiveness ratings. Two of ten competencies had significantly higher instructional-need ratings. Respondents indicated lower receptivity on two of five items.

All items were generally highly rated. Items that consistently showed the highest ratings on the first three variables (importance, effectiveness, and instructional need) were Item 1, "make subject matter more meaningful"; Item 4, "create an atmosphere of open communication"; and Item 5, "maintain student attention and interest." The lowest-rated items across the three variables were Item 10, "use a variety of teaching methods," and Item 7, "make learning as pleasant as possible." On the fourth variable, receptivity, the highest-rated items were Item 15, "participate effectively in a required program," and Item 13, "participate if paid." The lowest-rated item was Item 11, "seek out information so that you could participate."

Tests of Hypotheses Five and Six

Hypotheses Five and Six differ from the others in that they concern differences in the responses of subgroups of the sample. Subgroups were constructed based on amount of previous teaching experience, level of previous teaching experience, age, sex, current occupation in addition to teaching, discipline, status, and institution. Contingency tables were created with the subgroups as the column variables and change from pretest to posttest/no change from pretest to posttest as the row variables. Each variable yielded 35 contingency tables--ten for ratings of importance, ten for ratings of effectiveness, ten for ratings of instructional need, and five for ratings of receptivity. Consequently, each set of subgroups yielded 35 chi-square values for use in responding to the hypothesis. Data for Hypotheses Five and Six are included in Appendix J.

Hypothesis Five

The changes that occur in ratings of importance, effectiveness, instructional need, and receptivity will differ between faculty subgroups defined on the basis of the amount of previous teaching experience and the level of previous teaching experience.

Table 10 summarizes results related to Hypothesis Five. The small number of significant differences detected did NOT SUPPORT the hypothesis.

Hypothesis Six

The changes that occur in ratings of importance, effectiveness, instructional need, and receptivity will not differ between faculty subgroups defined on the basis of age, sex, current occupation in addition to teaching, discipline, full-time or part-time status, and institution.

Table 10 summarizes results related to Hypothesis Six. The small number of significant differences detected SUPPORTED the hypothesis.

The number of tests showing statistical significance was almost exactly equal to that which would be expected on the basis of 35 tests at the .05 level if no real difference existed in the population. Only the status and discipline variables exceeded expectations, and neither of these was adequate to suggest any practical significance. The results indicated that the changes that occurred in the subjects' perceptions were not significantly influenced by any of the eight descriptive variables measured in this study. The results suggested that it is not necessary for instructional-development-program designers to tailor programming on the basis of these eight variables.

Table 10.--Summary of multiple comparisons of faculty subgroups[a]--
Hypothesis Five and Six.

Descriptive Variable	# of Tests Showing Sig. Diff. Between Subgroups[b]	% of Tests Showing Sig. Diff. Between Subgroups
Hypothesis Five		
Amount of previous teaching experience	2	5.7
Level of previous teaching experience	2	5.7
Total for two variables	4	5.7
Hypothesis Six		
Age	2	5.7
Sex	1	2.9
Current occupation in addition to teaching	0	0
Discipline	3	8.6
Status (full- or part-time)	4	11.4
Institution	2	5.7
Total for six variables	12	5.7

[a]Detailed data in Appendix J.

[b]n = 35 tests per variable, $p < .05$.

In summary, <u>no significant difference</u> was detected between the preteaching and postteaching responses of subgroups based on the eight descriptive variables in Hypotheses Five and Six. This did <u>not</u> support Hypothesis Five, which predicted that differences would exist based on the level and amount of previous teaching experience. The finding supported Hypothesis Six, which predicted no difference between subgroups based on age, sex, current occupation in addition to teaching, discipline, status, and institution.

Summary of Results

One hundred eighty subjects, an estimated 50 to 75 percent of the experimentally accessible population, responded to the preteaching questionnaire in this study. One hundred forty-five subjects or 81 percent of the initial respondents made up the final group of respondents. Analysis of the descriptive variables that were collected showed the respondents to be similar to the descriptions of part-time faculty reported in the literature. Comparison of the respondents with those who failed to respond to the postteaching questionnaire showed no meaningful difference between the two groups.

Table 11 summarizes the results of tests of the hypotheses in this study. The subjects' overall perceptions of the <u>importance</u> of the ten teaching competencies and their <u>instructional needs</u> related to the competencies did not change significantly from preteaching to postteaching. The self-perceptions of <u>effectiveness</u> expressed by the subjects were significantly lower after teaching. No overall change in <u>receptivity</u> was detected. <u>Significant change was indicated in</u>

Table 11.--Summary of research findings from this study.

Hypothesis	% Changed Rankings[a]	Items Showing Sig. Diff. Pre to Post[b]	Overall Chi-Square	Decision	Preteaching[c] Highest-Rated Items	Preteaching[c] Lowest-Rated Items	Postteaching Highest-Rated Items	Postteaching Lowest-Rated Items
PART A								
1. IMPORTANCE	47%	Item 5, Item 7	1.21	Not Supported	Item 1, Item 4, Item 5	Item 10	Item 1, Item 4	Item 7
2. EFFECTIVENESS	37%	Item 4, Item 6, Item 7, Item 8, Item 9, Item 10	5.45*	Supported	Item 1, Item 4, Item 5	Item 10	Item 1, Item 4, Item 5	Item 10
3. INSTRUCTIONAL NEEDS	37%	Item 4, Item 6	0.72	Not Supported	Item 1, Item 5, Item 8	Item 6, Item 7, Item 10	Item 1, Item 2, Item 8	Item 7
4. RECEPTIVITY	53%	Item 12, Item 15	1.32	Not Supported	Item 13, Item 15	Item 11	Item 13, Item 15	Item 11

Hypothesis	% of Items Tested Showing Sig. Diff.[d]	Decision
PART B		
5. AMOUNT & LEVEL OF EXPERIENCE	5.7%	Not Supported
6. AGE, SEX, OCCUPATION, DISCIPLINE, STATUS, INSTITUTION	5.7%	Supported

[a]Refer to Tables 4, 6, 7, and 9.

[b]Item 1 = Meaningfulness
Item 2 = Different Abilities
Item 3 = Demonstrate Skills
Item 4 = Open Communication
Item 5 = Maintain Attention

Item 6 = Practice & Review
Item 7 = Learning Pleasant
Item 8 = Organize Class
Item 9 = Prepare Tests
Item 10= Variety of Methods

Item 11 = Seek Out Information
Item 12 = Volunteer
Item 13 = If Paid
Item 14 = Individualized
Item 15 = If Required

[c]Refer to Tables 5 and 8.

[d]Refer to Table 10.

*$p < .05$.

<u>individual items under each of these four variables</u>. When the respondents were subdivided on the basis of the eight descriptive variables in Hypotheses Five and Six, no meaningful differences were observed.

The total percentage of subjects who changed their perceptions from preteaching to postteaching ranged from a low of 37 percent in Hypotheses Two and Three to a high of 53 percent in Hypothesis Four. This suggests that large numbers of new faculty brought perceptions and expectations to the teaching situation that were unrealistic. Examining the preteaching and postteaching ratings showed that all items received generally high ratings for all four variables.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter consists of the following sections: Summary of the Research, Conclusions, and Recommendations.

Summary of the Research

Introduction

This study examined the perceptions of newly hired faculty in community colleges regarding the nature of community college instruction, their personal instructional-development needs, and their preferred formats for receiving assistance. The purpose of the study was to provide important pieces of basic information necessary for effective orientation and in-service program design. The results are intended to assist instructional-development-program designers in providing assistance early in the faculty member's tenure, to make programs more responsive to perceived faculty needs, to provide various types of assistance when it is most relevant to the recipients, and to determine whether programming should be tailored to particular faculty subgroups.

Review of Literature

The overwhelming majority of new faculty are part-time, their numbers having increased rapidly in recent years. The literature

related to part-time faculty was confined almost entirely to the past decade. They are not uniformly distributed across discipline areas, being concentrated in business, vocational/technical, and noncredit programs. Major advantages of using part-time faculty are economics and flexibility. Problems focus on overuse. In the past decade, courts and legislatures have provided some clarification of the legal rights of part-time faculty and of institutions. Part-time faculty contend that they are second-class citizens, not integrated into the mainstream of the institution economically or politically. They are a varied group of people without whom community colleges would be hard pressed to operate.

The quality of instruction provided by part-time faculty has been questioned; however, no definitive conclusions are possible. Some data suggest lower quality, but no conclusive evidence can be presented. As is true of most characteristics of community colleges, great variety surely exists. There is evidence that at least some new faculty need assistance with teaching.

Several needs assessments of part-time faculty, using varied methods and samples, have been reported. They have shown significant interest in subject-matter concerns as well as instructional development related to teaching. Limited evidence has suggested that needs are similar among part-time faculty across various disciplines but differ between part-time faculty and the administrators who supervise them. One study showed changes over time in the perceptions of teaching assistants at the university level.

Programs of orientation and staff development are offered to part-time faculty by some institutions. The content of almost all tends to focus on administrative details, some of which are clearly necessary. Few, if any, adequately deal with questions of instructional improvement.

Design of the Study

This study took the form of a longitudinal survey of new faculty members in selected community colleges. Subjects responded to the same instrument before and after their initial term of teaching. It was not the intention of this study to establish causal relationships but rather to examine the extent and nature of perceived changes that occurred for purposes of instructional-development-program design.

Five research questions were examined. The first four research questions sought to determine the extent and nature of changes in (1) the subjects' perceived importance of ten basic teaching competencies, (2) their self-perceived effectiveness in those same areas, (3) changes in instructional needs in those same areas, and (4) changes in receptivity to organized programs of instructional development. The fifth research question sought to compare subgroups from the total respondents.

The target population for this study consisted of newly hired full-time and part-time faculty in community colleges. The experimentally accessible population consisted of all persons fitting this definition from 12 colleges in six midwestern and southern states.

Data were collected using an instrument specifically designed for this study. The first part of the instrument was based on basic principles of effective instruction, which were stated as faculty competencies. The second part contained sets of conditions under which instructional-development programming might be offered. Instruments were distributed and collected in sealed envelopes by a volunteer coordinator in each institution.

Contingency tables were generated from the data and analyzed using the chi-square test of independence and the McNemar Test for Significance of Changes. All tests were carried out at the $\alpha = .05$ level.

The primary concern for internal validity in the study related to the extent to which the responses of the subjects were truthful. No lie-detector scale was available. Concerns for external validity included sampling error, use of volunteer subjects, testing concerns, mortality, and the Hawthorne effect. The experimental design was highly representative of the natural environment in which the results will be used by instructional-development-program designers.

Results of the Study

Responses to the preteaching questionnaire were received from 180 subjects representing 12 institutions and an estimated 50 to 75 percent of the experimentally accessible population. The final research group consisted of 145 subjects or 81 percent of those who responded to the preteaching questionnaire. Demographic information was collected and analyzed. Results showed the respondents to be

similar to part-time faculty nationally as they were described in the literature. No meaningful differences were detected between the respondents and the nonrespondents.

Changes in the perceptions of subjects were recorded in three ways: (1) the percentage of subjects who changed their ratings from preteaching to postteaching; (2) whether the resulting group change was significantly directional--that is, significantly higher, significantly lower, or divided; and (3) direct comparison of pretest and posttest responses.

Hypothesis One predicted significant change in ratings of importance. Forty-seven percent of the subjects changed their rating. Two of ten individual items showed significant change. The group chi-square value of 1.21 was not significant and did not support the hypothesis.

Hypothesis Two predicted significant change in ratings of effectiveness. Thirty-seven percent of the subjects changed their rating. Six of ten individual items showed significant change. The group chi-square value of 5.45 was significant at the .05 level and supported the hypothesis.

Hypothesis Three predicted significant change in ratings of instructional need. Thirty-seven percent of the subjects changed their rating. Two of ten individual items showed significant change. The group chi-square value of 0.72 was not significant and did not support the hypothesis.

Hypothesis Four predicted significant change in ratings of receptivity. Fifty-three percent of the subjects changed their rating.

Two of five individual items showed significant change. The group chi-square value of 1.32 was not significant and did not support the hypothesis.

Hypothesis Five predicted difference between the response patterns of subgroups defined on the basis of the amount and the level of previous teaching experience. A difference between subgroups was indicated in only 4 of 70 individual tests, and the hypothesis was not supported.

Hypothesis Six predicted no significant differences between subgroups created on the basis of age, sex, current occupation in addition to teaching, discipline, full-time or part-time status, and institution. Difference between subgroups was indicated in only 12 of 210 individual tests, supporting the hypothesis of no significant difference.

Conclusions

This section analyzes the results in terms of their implications for potential users of the research. Responses to the research questions posed in this study should assist faculty developers with designing effective orientation and early in-service materials for new faculty.

1. <u>Do changes occur in the perceived importance of selected basic teaching competencies during the initial term of teaching, and, if so, what is the nature of these changes?</u> The results showed that a meaningfully large number (38 to 54 percent) of the subjects changed their perceptions from preteaching to postteaching. This suggests

that the expectations of new faculty regarding what skills will be important for success are somewhat unrealistic. Orientation programs should include information on the community college student profile and the kinds of teaching skills that experienced faculty have found to be important.

The overall group chi-square value of 1.21 did <u>not</u> suggest a significant directional shift in importance ratings. This masks the fact that two items, Item 5, "maintain student attention and interest," and Item 7, "make learning as pleasant as possible," did show a significant decrease in importance ratings. Both of these items are basically affective in nature and indicate a need to reinforce with new faculty the important relationship between affective and cognitive outcomes of instruction.

The items receiving the lowest importance ratings were Item 7, "make learning pleasant," and Item 10, "use a variety of teaching methods." Training programs should indicate clearly the reasons why these are considered to be important for effective instruction.

2. <u>Do changes occur in self-perceived effectiveness in the ten basic teaching competencies during the initial term of teaching, and, if so, what is the nature of these changes?</u> The results showed that a meaningfully large number (27 to 54 percent) of the subjects changed their perceptions from preteaching to postteaching. This suggests that the expectations of new faculty regarding their own competency are somewhat unrealistic. The overall group chi-square value of 5.45 supported the existence of a significant shift toward lower ratings of effectiveness on the postteaching form. On individual

items, the respondents indicated that they were significantly less effective than anticipated in "maintaining open communication" (Item 4), "providing opportunities for practice and review" (Item 6), "making learning pleasant" (Item 7), "organizing the class" (Item 8), "testing" (Item 9), and "using a variety of teaching methods" (Item 10). Item 10 also received the lowest effectiveness ratings.

These findings indicate that programs of orientation and in-service for new faculty should include (1) emphasis on the importance of affective variables like open communication and pleasant learning conditions as well as practical methods for achieving these ends; (2) suggested organizational patterns that incorporate a systematic approach to setting learning objectives, using effective presentation skills, and providing the practice, review, and feedback necessary to assist comprehension and retention; (3) basic principles and methods of classroom evaluation, and (4) description of alternative teaching methods and information on sources of assistance in planning for and using these alternate methods.

3. <u>Do changes occur in instructional needs?</u> The results showed that a meaningfully large number (23 to 47 percent) of the subjects changed their perceptions from preteaching to postteaching. The overall group chi-square value of 0.72 indicated no significant directional change. The two individual items that showed directional change, Item 4, "open communication," and Item 6, "provide opportunities for practice and review," were both in the direction of greater need after teaching. The trend of the other items was also toward greater need with the exception of Item 5, "maintain student attention

and interest," which showed a notable but <u>not</u> statistically signifi-
cant trend toward less need. The opposite trend for this item related
to the fact that it was seen as substantially less important in
Table 4.

The items most frequently identified as "needs" on the post-
test were Item 1, "meaningfulness" (45 percent); Item 2, "adapt to
students with different abilities" (41 percent); and Item 8, "organ-
ize the class in ways that help students learn" (46 percent). Training
should obviously include information related to these areas of per-
ceived need.

These results would seem to indicate that training activities
would be increasingly effective as the first term of teaching pro-
gresses and need increases. Two factors may affect the validity of
this conclusion, however. First is the fact that the needs shown
here were determined by analyzing a discrepancy between effectiveness
and importance ratings, which may not be consciously perceived by the
individual subject. Second is the results of Hypothesis Four, which
showed lower postteaching receptivity.

4. <u>Do changes occur in receptivity to organized instructional-
development activities, and, if so, what is the nature of these changes?</u>
The number of subjects who changed their perceptions regarding recep-
tivity was the largest in the study, ranging from 48 to 56 percent.
The questions asked under this hypothesis were phrased in terms of the
likelihood of the subject's "choosing" a particular course of action
and thus were attitudinal in nature. Consequently, the results repre-
sented a meaningfully large shift in the attitudes of the subjects

toward instructional-development activities. The overall group chi-square value of 1.32 did not indicate significant directionality for the set of responses. Analysis of the individual items that showed significant change clearly indicated lower receptivity. After teaching, subjects were less likely to volunteer and less likely to participate effectively if participation was required. This seems contrary to the fact that Table 7 showed increased levels of need on individual items and Table 6 showed lower levels of perceived effectiveness after teaching. Some possible explanations of this result were presented previously. (See pages 72-73.)

These results emphasize the need for effective orientation and for providing meaningful programming early, before receptivity declines. Also indicated is the need for appropriate incentives to encourage new faculty to assess and develop their teaching competencies. If required programming is contemplated by program developers, the results suggest that orientation activities will be better received than later in-service activities.

Analysis of the preteaching and postteaching responses showed that in both cases the highest-rated items were Item 13, "participate if paid," and Item 15, "participate if required." In spite of the fact that a decrease occurred from preteaching to postteaching, the level of positive response to these items supported requiring orientation activities and/or using payment for participation as an incentive.

The conclusions drawn under each of these hypotheses were based on the dominant group responses. Examining Table 9 shows, for

example, that in contrast to the group as a whole, nearly one in four subjects indicated <u>increased</u> receptivity after teaching. An effective program should provide the early activities for the dominant group but also recognize the 23 percent who are more likely to choose programs offered later in the term. This same caution may be applied to all of the conclusions drawn. It is necessary to remember that individuals, not groups, participate in and benefit from activities.

5. <u>Do the changes that occur in perceived importance, perceived effectiveness, instructional needs, and receptivity vary between faculty subgroups, and, if so, what is the nature of that variation?</u> Results of Hypotheses Five and Six clearly indicated that no meaningful differences existed between the faculty subgroups defined in this study. The results did not support a need to tailor programming to particular subgroups.

In summary, the results of this research supported the following conclusions:

1. New faculty hold partially unrealistic expectations as they enter community college teaching.

2. Orientation programs should include information on the community college student profile and the teaching competencies that experienced faculty have found to be important in the community college classroom.

3. There is a need to reinforce the important relationship between affective and cognitive classroom outcomes.

4. Orientation and in-service programs should include practical methods for achieving affective outcomes, ways to organize a class, methods of evaluation, and information on a variety of teaching methods.

5. Programming should be provided early, before receptivity declines.

6. Incentives for participation become increasingly necessary as the term proceeds and receptivity declines. Payment for participation is seen as an incentive.

7. Required programming is supported by the data. If participation is required, the earlier the programming is offered, the more effective participation will be.

8. It is not necessary to tailor programs to the particular subgroups of new faculty defined in this study.

Recommendations

Recommendations for Program Development

The results and conclusions of this research suggested guidelines for the development of effective orientation and early in-service activities for new faculty in community colleges. The recommendations that follow were based on this research and the assumption that the teaching competencies used in the data-gathering instrument represented principles of effective instruction and, if used effectively and creatively, serve to increase student learning.

1. Instructional-development activities should be a required part of the orientation and in-service program for new faculty.

Required programs receive substantially higher ratings than voluntary programs. Consider provision of incentives for effective participation. The results suggested that payment for participation is a positive incentive.

2. Emphasize the importance of the basic teaching principles, especially the relationship between cognitive and affective outcomes of learning.

3. Place early emphasis on the importance of and methods for organizing the class to help students learn, making subject matter more meaningful, developing an atmosphere of open communication with students, and making learning as pleasant as possible. As the term progresses, shift the emphasis toward maintaining student attention and interest, providing practice and review for retention, preparing tests, and using a variety of teaching methods.

4. Provide a variety of instructional-development opportunities throughout the term in order to recognize individual differences and meet individual needs. An effective orientation program before teaching is important but is only the first step in meeting the changing instructional-development needs of new faculty. No single time frame is best. Although it is important to recognize individual differences, the results clearly indicated that it is not necessary to tailor programs to subgroups of new faculty defined on the basis of age, sex, occupation in addition to teaching, discipline, full-time or part-time status, institution, or previous teaching experience.

Recommendations for
Further Research

1. Evaluate testing concerns by using a non-pretested control.
Comparison of posttest responses of a pretested and a non-pretested
group would allow response to the question of whether the content of
the preteaching form or the process of completing it sensitized sub-
jects to teaching concerns and thus altered the changes that occurred.

2. Repeat the research using another data-gathering instru-
ment. Other than the results of the pilot test done on the instrument
used in this study (pp. 38-39), it cannot be shown that the new
faculty actually understood the meaning and implications of the items
on the pretest. That is, the changes observed in this study may be
changes in the reaction to this instrument rather than changes in
perceptions of community college teaching.

3. Repeat this design with a sample of experienced community
college part-time faculty. The fact that no differences were found
based on level or amount of previous teaching experience (Hypothe-
sis 5) raises the question of whether the changes observed were
related to when the pretest and posttest were administered rather than
to the fact that this was the subjects' first term of teaching. That
is, do experienced faculty show similar shifts from the beginning to
the end of the term? It may be that at the beginning of each term,
whether or not it is the first term of teaching, there exists an
atmosphere of idealism and high expectation while at the end of the
term the idealism is replaced by the reality of the past weeks when
the high expectations have been only partially fulfilled. If this
is true, both new and veteran faculty should show the same changes.

4. <u>Use a case-study approach with more in-depth data gathering to attempt to assess the cause of changes detected in this study</u>. Since the results show no differences between institutions, it would be desirable to investigate a smaller sample using interview, classroom observation, videotape, or similar, more intensive data-gathering techniques. This would allow response to several "why" questions that arise from the results of this study. For example: Why do affective outcomes seem to be rated lower than cognitive outcomes? Do the subjects fail to see a relationship between the two types of outcomes? Why does receptivity decline in spite of parallel declines in perceived effectiveness? Are the causes personal, sociological, or related to institutional policies and attitudes? Which causal variables can be controlled or manipulated by the institution, and which are outside of institutional control? This would provide important input for instructional-development-program design.

5. <u>Examine the effect of various types of orientation and/or early in-service programs on the perceptions of new faculty</u>. Do faculty who receive orientation and/or in-service programs in their first term of teaching differ from those who do not receive such assistance? Are different types of programs more or less effective in making new-faculty perceptions more realistic, affecting the decline in receptivity, and smoothing the transition of new faculty into the classroom?

APPENDICES

APPENDIX A

INFORMATION SHEET

INFORMATION SHEET

<u>Purpose of the Study</u>: To survey the perceptions of community college teaching held by new faculty members before they begin to teach and after their initial teaching experience. We will examine how realistic these initial perceptions are and how they change over the first term/semester of teaching, with an eye toward improving new-faculty orientation to the classroom.

<u>Potential Participants</u>: All newly hired faculty who have not taught at your institution previously.

<u>Time Frame</u>: The initial questionnaire <u>should</u> be completed before the new faculty member begins his/her teaching assignment or, where that is not possible, within the first week of teaching. The first alternative is much preferred. The follow-up questionnaire will be distributed at the end of the first term/semester/etc. of teaching experience.

<u>Procedure</u>: The participant should read and complete the questionnaire, seal it in the white envelope provided, and return it to you or a designated person. The collected envelopes containing the questionnaires should then be returned to me in the large brown envelope provided. I do not know how much postage will be required, but I will reimburse you for this and any other incidental costs, if necessary. To assure confidentiality to the respondents, please do not open the white envelopes. Results of the study will be made available to you.

If you can use more forms than are included, contact me and I will send more. You may also simply copy one of these if you wish.

Any other questions? Please write or call me at:

Thanks!

       Richard D. Yarger
       Director of Staff & Program Development

APPENDIX B

RESULTS OF SELECTED PART-TIME INSTRUCTIONAL-

NEEDS ASSESSMENTS

Appendix B: Results of Selected Part-Time Instructional Needs Assessments

Items listed in order of priority for each assessment.

Author/Year	Black (1979)	Fent (1978)	Long (1978)	Parsons (1978)	Schultz & Roed (1978)	Persinger (1977)	Smith (1977)	Justice (1976)
Sample/% Response	N = 227 (56%)	N = 243 (79%)	N = 125	N = 200 (50%)	N = 192	N = 58	N = 167	N = 211 (47%)
# of Colleges	45 colleges	16 colleges	One college	17 colleges		One college	17 colleges	One college
Location	9 states	Michigan	Florida	Maryland	Arizona			Oregon
1- miscellaneous items	miscellaneous items	teaching methodology	keep up in discipline	objectives	creating interest	audio-visual	learning theory	subject matter
2- evaluation items	evaluation items	preparation of examinations	depth of knowledge in discipline	effective lecturing	update in speciality	motivation	alternate teaching strategies	learning theory
3- teaching items	teaching items	audio-visual materials	lecturing	student motivation	learning theory	discussion techniques	planning for instruction	student motivation
4- student items	student items	individualized instruction materials	broaden teaching style	diagnosing teach/learn. problems	student evaluation of teaching	self-directed learning	individualized needs of students	improving lectures
5- philosophy items	philosophy items	academic advising	media & learning resources	group skills	teaching methods	contract learning	reinforcing learning	classroom discussions
6-		evaluation & grading	improve teaching conditions		testing	psychology of learning	use of media	demonstration techniques
7-		syllabus & classroom presentations	incorporate related disciplines		supervisor evaluation of teaching	lecturing	testing	testing & grading
8-			group discussion		audio-visual	individualized learning	evaluation	use of audio-visual
9-			deciding what to include in my courses		lesson planning	module development		construction of audio-visual
10-			comm. based learning experiences		grading	listening		lesson planning
11-					planning courses	testing		
12-					team teaching			

APPENDIX C

DATA-GATHERING INSTRUMENT

Greetings:

This form is part of a doctoral research project being carried on in conjunction with Michigan State University. It will require only a few moments of your time to complete. The purpose of the research is to allow improved orientation to community/junior college teaching for future faculty members providing benefits to faculty, students, and institutions. Participation at this time will provide information regarding your current perceptions of teaching in the community/junior college. Those choosing to participate will be asked to complete a similar form at the end of the first term/semester of teaching.

Strict confidentiality will be maintained in handling all data as well as in reporting results. A summary of results will be provided to all participants who desire it. Completion of this form will signify that you understand the above explanation of this research and freely choose to participate.

My thanks for considering this request!

Richard D. Yarger

A. Name _____

   College Mailing Address _____

   _____

   _____

   Phone Number (where you can be reached) _____

B. Age ____under 30 ____30-39 ____40-49 ____50-59 ____60+

C. Sex ____female ____male

D. Current Occupation (other than teaching, if any) _____

E. Prior Teaching Experience: Please indicate the amount of previous teaching experience you have had at each level.

   (Number of years or fractions of years.)

   Elementary or Secondary   _____

   Four-Year College or University   _____

   Community/Junior College   _____

   Other (Please Specify)   _____

F. How would you characterize the course(s) you will be teaching this session?

   (Please select only ONE category.)

   Physical Education ____   Vocational/Technical ____

   Business ____   Health Occupations ____

   Arts (including Communication, History, Literature)   ____

   Sciences (including Social Sciences and Mathematics)   ____

   Other)Please Specify) _____

G. How many <u>student</u> <u>contact</u> hours per week will you be teaching this session? _____

Please complete the reverse side of this page. Thank you for your cooperation.

PART A

PLEASE RESPOND TO THE FOLLOWING TEN ITEMS BY CIRCLING THE APPROPRIATE NUMBERS
ON BOTH THE LEFT AND RIGHT HAND SCALES.

How important do you feel each of these ten abilities is for successful teaching?

How effective do you anticipate you will be in each area?

Not Important	Minor Importance	Moderate Importance	Major Importance	Critical Importance		Never Effective	Seldom Effective	Occasionally Effective	Usually Effective	Always Effective
1	2	3	4	5	Ability to make subject matter more meaningful to students.	1	2	3	4	5
1	2	3	4	5	Ability to adapt teaching to students of different abilities.	1	2	3	4	5
1	2	3	4	5	Ability to effectively demonstrate the mental or physical skills to be learned.	1	2	3	4	5
1	2	3	4	5	Ability to create an atmosphere of open, two-way communication with students.	1	2	3	4	5
1	2	3	4	5	Ability to maintain student attention and interest.	1	2	3	4	5
1	2	3	4	5	Ability to provide appropriate opportunities for practice and review.	1	2	3	4	5
1	2	3	4	5	Ability to make learning as pleasant as possible.	1	2	3	4	5
1	2	3	4	5	Ability to organize class sessions in ways that help students learn.	1	2	3	4	5
1	2	3	4	5	Ability to construct effective tests to measure student learning.	1	2	3	4	5
1	2	3	4	5	Ability to use a variety of teaching methods.	1	2	3	4	5

PART B

THE FOLLOWING FIVE QUESTIONS RELATE TO OPPORTUNITIES TO LEARN MORE ABOUT THE TEN
TEACHING SKILLS DESCRIBED IN PART A ABOVE. PLEASE ASSUME THAT ACTIVITIES ARE
AVAILABLE AT VARIED TIMES AND PLACES.

PLEASE INDICATE THE LIKELIHOOD THAT YOU WOULD CHOOSE TO DO THE FOLLOWING.

Would Not Choose	Unlikely To Choose	Moderate Likelihood	Very Likely To Choose	Definitely Would Choose	
1	2	3	4	5	Choose to actively seek out information about activities in order that you could participate.
1	2	3	4	5	Choose to participate on a volunteer basis if activities were brought to your attention.
1	2	3	4	5	Choose to participate if paid for doing so.
1	2	3	4	5	Choose to participate in an individualized program on an unscheduled basis.
1	2	3	4	5	Choose to participate effectively if participation was required.

Thank you for your participation in this study!

APPENDIX D

BASIC PRINCIPLES OF EFFECTIVE INSTRUCTION

Events of Instruction (Gagne, 1970)	Principles of Effective Instruction (Davis, Alexander, & Yelon, 1974)
Gaining and controlling attention	Meaningfulness
Informing learner of expected outcomes	Prerequisites
Stimulating recall of relevant prerequisite capabilities	Modeling
Presenting the stimuli inherent in the learning task	Open communication
Offering guidance for learning	Novelty stimulates recall
Providing feedback	Active, appropriate practice
Appraising performance	Distributed practice
Making provision for transferability	Fading prompts
Insuring retention	Pleasant conditions and consequences

APPENDIX E

POSTTEACHING INSTRUMENT

A few weeks ago you completed a form in the first part of a doctoral research project being carried on in conjunction with Michigan State University. As indicated at that time, TO COMPLETE THE RESEARCH I NEED YOUR RESPONSES ON THIS SECOND FORM. It will require only a few moments of your time. As you may recall, the purpose of the research is to allow improved orientation to community/junior college teaching for future faculty members providing benefits for faculty, students, and institutions.

Strict confidentiality will continue to be maintained in handling all data as well as in reporting results. A summary of results will be provided to all participants who desire it.

My sincere thanks for choosing to participate.

Richard D. Yarger

Please complete the reverse side of this page and return in the envelope provided.

_____ *I wish to receive a summary of the results of this research.*

PART A

PLEASE RESPOND TO THE FOLLOWING TEN ITEMS BY CIRCLING THE APPROPRIATE NUMBERS

ON BOTH THE LEFT AND RIGHT HAND SCALES.

How <u>important</u> do you feel each of these ten abilities is for successful teaching?

How <u>effective</u> do you feel you were in each area?

Not Important	Minor Importance	Moderate Importance	Major Importance	Critical Importance		Never Effective	Seldom Effective	Occasionally Effective	Usually Effective	Always Effective
1	2	3	4	5	Ability to make subject matter more meaningful to students.	1	2	3	4	5
1	2	3	4	5	Ability to adapt teaching to students of different abilities.	1	2	3	4	5
1	2	3	4	5	Ability to effectively demonstrate the mental or physical skills to be learned.	1	2	3	4	5
1	2	3	4	5	Ability to create an atmosphere of open, two-way communication with students.	1	2	3	4	5
1	2	3	4	5	Ability to maintain student attention and interest.	1	2	3	4	5
1	2	3	4	5	Ability to provide appropriate opportunities for practice and review.	1	2	3	4	5
1	2	3	4	5	Ability to make learning as pleasant as possible.	1	2	3	4	5
1	2	3	4	5	Ability to organize class sessions in ways that help students learn.	1	2	3	4	5
1	2	3	4	5	Ability to construct effective tests to measure student learning.	1	2	3	4	5
1	2	3	4	5	Ability to use a variety of teaching methods.	1	2	3	4	5

PART B

THE FOLLOWING FIVE QUESTIONS RELATE TO OPPORTUNITIES TO LEARN MORE ABOUT THE TEN TEACHING SKILLS DESCRIBED IN PART A ABOVE. PLEASE ASSUME THAT ACTIVITIES ARE AVAILABLE AT VARIED TIMES AND PLACES.

PLEASE INDICATE THE LIKELIHOOD THAT YOU WOULD CHOOSE TO DO THE FOLLOWING.

Would Not Choose	Unlikely To Choose	Moderate Likelihood	Very Likely To Choose	Definitely Would Choose	
1	2	3	4	5	Choose to actively seek out information about activities in order that you could participate.
1	2	3	4	5	Choose to participate on a volunteer basis if activities were brought to your attention.
1	2	3	4	5	Choose to participate if paid for doing so.
1	2	3	4	5	Choose to participate in an individualized program on an unscheduled basis.
1	2	3	4	5	Choose to participate effectively if participation was required.

Thank you for your participation in this study!

APPENDIX F

CHARACTERISTICS OF PARTICIPATING INSTITUTIONS

State	Type of Institution	Enrollment[a]	# of Subjects in Sample
Michigan	Community college	19,524	62
Michigan	College	9,939	25
Michigan	Community college	7,542	15
Iowa	Community college	6,347	6
Illinois	College	5,631	1
Florida	Community college	5,066	14
Ohio	Technical college	3,322	6
Iowa	Community college	2,604	3
Iowa	Community college	1,985	3
Ohio	University branch	1,481	3
Missouri	Junior college	901	6
Iowa	Community college	864	1

[a](A.A.C.J.C., 1981).

APPENDIX G

CONTINGENCY TABLES FOR PRETEACHING RESPONSES

OF RESPONDENTS AND NONRESPONDENTS

Appendix G: Contingency Tables for Pre-Teaching Responses of Respondents and Non-Respondents

Questionnaire Item	IMPORTANCE A	B	C	EFFECTIVENESS A	B	C	INSTRUCTIONAL NEED D	E
Meaningfulness	8	68	68	111		31[a]	80	63
	3	21	10	28		5	24	9
		3.62			0.38		2.47	
Different Abilities	28	68	48	29	101	13	93	50
	9	17	8	5	26	3	25	9
		1.54			0.57		0.55	
Demonstrate	28	63	51	22	92	28	101	40
	4	16	12	4	23	6	24	9
		0.94			0.33		0.00**	
Open Communication	8	59	78	10	68	66	104	40
	4	18	13	1	28	5	23	11
		3.80			13.68*		0.10	
Maintain Attention	11	62	71	116		28[a]	82	62
	3	17	14	28		5	21	12
		0.73			0.10		0.26	
Practice and Review	35	67	42	24	83	35	114	29
	8	16	10	6	24	4	25	9
		0.01**			2.72		0.31	
Learning Pleasant	44	58	40	26	88	27	108	32
	11	13	10	4	29	1	24	10
		0.08**			7.36*		0.33	
Organize Class	12	73	58	22	95	25	88	55
	4	12	18	3	28	3	18	16
		2.75			3.13		0.53	
Prepare Tests	42	60	42	30	95	13	95	44
	9	17	7	8	20	5	25	8
		1.25			1.18		0.28	
Variety of Methods	48	68	28	52	64	26	107	35
	15	12	7	11	20	3	26	8
		1.79			2.72		0.00**	

Questionnaire Item	RECEPTIVITY A	B	C
Seek Out Information	76	51	15
	15	12	4
		0.31	
Volunteer	62	61	20
	15	14	4
		0.05**	
If Paid	38	55	49
	9	16	7
		2.12	
Individualized	68	58	17
	13	16	3
		0.97	
If Required	24	46	73
	6	12	14
		0.51	

A = Rating 3 or less
B = Rating 4
C = Rating 5

D = Zero
E = Not Zero

---
[a] Necessary to collapse categories A and C together due to violation of statistical assumptions.
* p < .05. ** p > .95.

APPENDIX H

CONTINGENCY TABLES--DATA FOR HYPOTHESES ONE,

TWO, THREE, AND FOUR

Appendix H: Contingency tables--data for Hypotheses One, Two, Three, and Four

IMPORTANCE

Meaningfulness

	Total Sample (Pre)						Part-Time (Pre)				
(Post)	1	2	3	4	5	(Post)	1	2	3	4	5
1	0	0	0	0	0	1	0	0	0	0	0
2	0	0	1	0	1	2	0	0	1	0	1
3	0	0	2	7	3	3	0	0	2	5	3
4	0	1	3	41	18	4	0	1	2	34	11
5	0	0	1	20	46	5	0	0	1	16	32

Different Abilities

	Total Sample						Part-Time				
	1	2	3	4	5		1	2	3	4	5
1	0	0	0	0	0	1	0	0	0	0	0
2	0	0	1	0	0	2	0	0	1	0	0
3	0	0	11	11	7	3	0	0	7	11	6
4	0	0	14	44	17	4	0	0	11	28	15
5	0	0	2	13	24	5	0	0	2	11	17

Demonstrate

	Total Sample						Part-Time				
	1	2	3	4	5		1	2	3	4	5
1	0	0	0	0	0	1	0	0	0	0	0
2	0	1	0	1	0	2	0	0	0	1	0
3	0	3	11	9	3	3	0	3	9	8	2
4	0	1	10	35	20	4	0	1	9	27	15
5	0	0	2	18	28	5	0	0	0	13	19

Open Communication

	Total Sample						Part-Time				
	1	2	3	4	5		1	2	3	4	5
1	0	0	0	0	0	1	0	0	0	0	0
2	0	0	0	0	1	2	0	0	0	0	0
3	0	1	2	7	2	3	0	1	2	4	1
4	0	0	4	30	28	4	0	0	2	26	24
5	0	0	1	22	47	5	0	0	0	19	31

Maintain Attention

	Total Sample						Part-Time				
	1	2	3	4	5		1	2	3	4	5
1	0	0	0	0	0	1	0	0	0	0	0
2	0	0	1	0	0	2	0	0	1	0	0
3	0	0	3	11	2	3	0	0	0	6	2
4	0	0	5	39	32	4	0	0	5	30	27
5	0	0	2	12	37	5	0	0	2	8	28

Practice & Review

	Total Sample						Part-Time				
	1	2	3	4	5		1	2	3	4	5
1	0	1	0	0	0	1	0	0	0	0	0
2	0	1	2	0	0	2	0	1	1	0	0
3	0	2	14	15	5	3	0	2	10	12	5
4	0	0	13	35	21	4	0	0	11	29	16
5	0	0	2	17	16	5	0	0	1	11	10

Learning Pleasant

	Total Sample						Part-Time				
	1	2	3	4	5		1	2	3	4	5
1	0	0	0	0	0	1	0	0	0	0	0
2	0	2	2	1	1	2	0	2	1	0	1
3	0	0	26	18	2	3	0	0	19	15	2
4	0	1	13	32	17	4	0	0	9	25	12
5	0	0	0	7	20	5	0	0	0	5	16

Organize Class

	Total Sample						Part-Time				
	1	2	3	4	5		1	2	3	4	5
1	0	0	0	0	0	1	0	0	0	0	0
2	0	0	0	0	0	2	0	0	0	0	0
3	0	0	3	6	3	3	0	0	3	5	3
4	0	0	7	47	23	4	0	0	4	35	17
5	0	0	2	20	32	5	0	0	2	15	24

Prepare Tests

	Total Sample						Part-Time				
	1	2	3	4	5		1	2	3	4	5
1	0	0	0	1	0	1	0	0	0	1	0
2	0	2	1	0	0	2	0	2	1	0	0
3	0	2	15	13	0	3	0	2	10	10	0
4	1	1	15	33	22	4	1	0	11	27	16
5	0	1	4	13	20	5	0	1	3	10	14

Variety of Methods

	Total Sample						Part-Time				
	1	2	3	4	5		1	2	3	4	5
1	0	0	0	0	0	1	0	0	0	0	0
2	0	4	5	0	0	2	0	4	5	0	0
3	0	4	16	19	0	3	0	3	12	16	0
4	0	2	16	35	14	4	0	1	10	25	12
5	0	0	1	14	14	5	0	0	1	10	10

EFFECTIVENESS			Total Sample							Part-Time				
Meaningfulness		(Pre)	1	2	3	4	5		(Pre)	1	2	3	4	5
		1	0	0	0	0	0		1	0	0	0	0	0
		2	0	0	0	0	0		2	0	0	0	0	0
	(Post)	3	0	0	3	14	0	(Post)	3	0	0	0	9	0
		4	0	0	9	91	12		4	0	0	8	68	11
		5	0	0	0	6	7		5	0	0	0	6	5
Different Abilities			1	2	3	4	5			1	2	3	4	5
		1	0	0	0	0	0		1	0	0	0	0	0
		2	0	0	2	1	0		2	0	0	0	1	0
		3	0	3	12	24	1		3	0	1	9	20	0
		4	0	0	12	67	7		4	0	0	8	53	3
		5	0	0	0	9	5		5	0	0	0	8	5
Demonstrate			1	2	3	4	5			1	2	3	4	5
		1	0	0	1	0	0		1	0	0	0	0	0
		2	0	0	1	0	0		2	0	0	0	0	0
		3	0	0	8	7	0		3	0	0	6	3	0
		4	1	0	8	77	17		4	1	0	6	63	10
		5	0	0	3	8	11		5	0	0	3	6	9
Open Communication			1	2	3	4	5			1	2	3	4	5
		1	0	0	0	1	0		1	0	0	0	0	0
		2	0	0	0	0	0		2	0	0	0	0	0
		3	0	1	3	7	1		3	0	1	3	4	1
		4	0	0	5	46	33		4	0	0	5	32	28
		5	0	0	1	14	32		5	0	0	0	12	23
Maintain Attention			1	2	3	4	5			1	2	3	4	5
		1	0	0	0	0	0		1	0	0	0	0	0
		2	0	0	1	2	0		2	0	0	0	0	0
		3	0	0	5	13	0		3	0	0	4	7	0
		4	0	0	6	92	7		4	0	0	5	73	6
		5	0	0	1	9	8		5	0	0	0	6	8
Practice & Review			1	2	3	4	5			1	2	3	4	5
		1	0	0	0	0	0		1	0	0	0	0	0
		2	0	1	2	2	0		2	0	0	2	0	0
		3	0	1	15	19	5		3	0	1	12	16	4
		4	0	0	4	56	21		4	0	0	4	41	18
		5	0	0	1	6	9		5	0	0	1	4	5
Learning Pleasant			1	2	3	4	5			1	2	3	4	5
		1	0	0	0	0	0		1	0	0	0	0	0
		2	0	0	2	2	0		2	0	0	1	1	0
		3	0	0	12	18	0		3	0	0	10	11	0
		4	0	0	11	63	14		4	0	0	6	48	11
		5	0	0	1	5	13		5	0	0	1	5	13
Organize Class			1	2	3	4	5			1	2	3	4	5
		1	0	0	0	0	0		1	0	0	0	0	0
		2	0	0	2	0	0		2	0	0	1	0	0
		3	0	0	12	16	1		3	0	0	7	11	1
		4	0	0	8	73	15		4	0	0	8	57	10
		5	0	0	0	6	9		5	0	0	0	5	7
Prepare Tests			1	2	3	4	5			1	2	3	4	5
		1	0	0	1	0	0		1	0	0	1	0	0
		2	0	2	3	1	0		2	0	2	2	1	0
		3	0	2	13	21	3		3	0	2	7	16	3
		4	0	1	6	65	5		4	0	1	3	50	2
		5	0	0	2	8	5		5	0	0	2	7	4
Variety of Methods			1	2	3	4	5			1	2	3	4	5
		1	0	0	1	0	0		1	0	0	1	0	0
		2	0	0	8	2	0		2	0	0	5	1	0
		3	0	2	23	18	3		3	0	2	19	15	1
		4	0	1	17	39	17		4	0	0	12	33	10
		5	0	0	0	5	6		5	0	0	0	3	5

INSTRUCTIONAL NEEDS		Total Sample						Part-Time				
Meaningfulness	(Pre)	0	1	2	3	4	(Pre)	0	1	2	3	4
	0	55	22	1	0	0	0	45	16	1	0	0
	1	23	35	1	0	0	1	20	23	1	0	0
(Post)	2	2	3	1	0	0	(Post) 2	1	1	0	0	0
	3	0	0	0	0	0	3	0	0	0	0	0
	4	0	0	0	0	0	4	0	0	0	0	0
Different Abilities		0	1	2	3	4		0	1	2	3	4
	0	58	25	2	0	0	0	48	19	2	0	0
	1	31	17	3	0	0	1	20	11	2	0	0
	2	2	1	1	0	0	2	2	1	1	0	0
	3	1	0	1	0	0	3	1	0	0	0	0
	4	1	0	0	0	0	4	1	0	0	0	0
Demonstrate		0	1	2	3	4		0	1	2	3	4
	0	80	20	2	0	0	0	64	17	2	0	0
	1	18	15	1	0	0	1	10	10	1	0	0
	2	2	2	0	0	0	2	1	1	0	0	0
	3	0	0	0	0	0	3	0	0	0	0	0
	4	1	0	0	0	0	4	0	0	0	0	0
Open Communication		0	1	2	3	4		0	1	2	3	4
	0	75	16	0	0	0	0	58	13	0	0	0
	1	29	21	1	0	0	1	23	13	1	0	0
	2	0	2	0	0	0	2	0	1	0	0	0
	3	0	0	0	0	0	3	0	0	0	0	0
	4	0	0	0	0	0	4	0	0	0	0	0
Maintain Attention		0	1	2	3	4		0	1	2	3	4
	0	57	32	2	0	0	0	44	26	1	0	0
	1	24	22	3	0	0	1	17	18	2	0	0
	2	0	2	1	0	0	2	0	1	0	0	0
	3	1	0	0	0	0	3	0	0	0	0	0
	4	0	0	0	0	0	4	0	0	0	0	0
Practice & Review		0	1	2	3	4		0	1	2	3	4
	0	85	14	1	0	0	0	66	12	1	0	0
	1	26	10	0	0	0	1	18	7	0	0	0
	2	2	3	0	0	0	2	1	3	0	0	0
	3	0	1	0	0	0	3	0	0	0	0	0
	4	1	0	0	0	0	4	0	0	0	0	0
Learning Pleasant		0	1	2	3	4		0	1	2	3	4
	0	94	16	0	0	0	0	75	12	0	0	0
	1	14	13	0	0	0	1	9	8	0	0	0
	2	0	2	1	0	0	2	0	2	0	0	0
	3	0	0	0	0	0	3	0	0	0	0	0
	4	0	0	0	0	0	4	0	0	0	0	0
Organize Class		0	1	2	3	4		0	1	2	3	4
	0	58	17	2	0	1	0	45	14	2	0	1
	1	29	29	1	0	0	1	21	20	1	0	0
	2	1	3	1	0	0	2	1	2	1	0	0
	3	0	0	1	0	0	3	0	0	0	0	0
	4	0	0	0	0	0	4	0	0	0	0	0
Prepare Tests		0	1	2	3	4		0	1	2	3	4
	0	66	23	0	0	0	0	52	19	0	0	0
	1	24	12	2	1	0	1	18	6	0	1	0
	2	4	4	2	0	0	2	3	2	2	0	0
	3	1	0	0	0	0	3	1	0	0	0	0
	4	0	0	0	0	0	4	0	0	0	0	0
Variety of Methods		0	1	2	3	4		0	1	2	3	4
	0	87	12	0	0	0	0	67	10	0	0	0
	1	18	12	5	0	0	1	12	9	5	0	0
	2	2	2	2	0	0	2	1	2	2	0	0
	3	0	1	1	0	0	3	0	1	0	0	0
	4	0	0	0	0	0	4	0	0	0	0	0

RECEPTIVITY

Seek Information	(Pre)	1	2	3	4	5		(Pre)	1	2	3	4	5
		Total Sample							**Part-Time**				
(Post)	1	3	1	1	1	0	(Post)	1	3	1	1	0	0
	2	0	12	8	3	0		2	0	10	8	2	0
	3	0	7	29	19	6		3	0	5	22	15	4
	4	0	3	10	15	5		4	0	2	5	11	4
	5	0	0	2	13	4		5	0	0	1	12	1

Volunteer		1	2	3	4	5		1	2	3	4	5
	1	1	4	0	0	0	1	1	3	0	0	0
	2	0	2	7	3	1	2	0	2	7	3	0
	3	0	2	22	17	3	3	0	1	17	16	2
	4	0	1	19	36	12	4	0	1	13	23	9
	5	0	1	3	5	4	5	0	1	2	4	3

If Paid		1	2	3	4	5		1	2	3	4	5
	1	0	0	0	0	0	1	0	0	0	0	0
	2	1	1	0	3	1	2	0	1	0	3	1
	3	1	3	16	13	5	3	1	3	12	11	3
	4	0	0	9	28	14	4	0	0	6	22	12
	5	0	0	7	11	29	5	0	0	5	7	21

Individualized		1	2	3	4	5		1	2	3	4	5
	1	1	2	2	2	0	1	1	2	1	2	0
	2	1	4	2	4	1	2	1	3	2	4	1
	3	1	6	26	12	4	3	1	5	16	9	3
	4	0	6	15	33	9	4	0	4	11	27	8
	5	0	0	2	7	3	5	0	0	1	5	1

Required		1	2	3	4	5		1	2	3	4	5
	1	0	2	0	1	0	1	0	2	0	0	0
	2	0	2	2	3	0	2	0	2	2	3	0
	3	3	2	3	11	6	3	3	1	3	9	5
	4	0	1	7	19	26	4	0	1	5	15	17
	5	0	0	2	12	41	5	0	0	2	9	30

APPENDIX I

MEAN RATINGS FOR QUESTIONNAIRE ITEMS

Appendix I: Mean Ratings for Questionnaire Items

Questionnaire Item[a]	IMPORTANCE Total Sample[b] Pre	IMPORTANCE Total Sample[b] Post	IMPORTANCE Part Pre	IMPORTANCE Part -time[c] Post	EFFECTIVENESS Total Sample Pre	EFFECTIVENESS Total Sample Post	EFFECTIVENESS Part-time Pre	EFFECTIVENESS Part-time Post	INSTRUCTIONAL NEEDS Total Sample Pre	INSTRUCTIONAL NEEDS Total Sample Post	INSTRUCTIONAL NEEDS Part-time Pre	INSTRUCTIONAL NEEDS Part-time Post
1 - Make subject matter more meaningful.	4.41	4.35	4.36	4.32	4.05	3.97	4.07	4.01	0.46	0.50	0.40	0.44
2 - Adapt to students of different abilities.	4.14	4.05	4.16	4.04	3.87	3.78	3.89	3.82	0.40	0.48	0.37	0.44
3 - Effectively demonstrate physical or mental skills.	4.13	4.11	4.09	4.07	4.03	4.01	4.00	4.08	0.30	0.33	0.32	0.23
4 - Create an atmosphere of open communication.	4.48	4.39	4.45	4.38	4.38	4.22	4.38	4.23	0.28	0.38	0.26	0.35
5 - Maintain student attention and interest.	4.42	4.23	4.44	4.25	4.01	3.96	4.04	4.02	0.47	0.40	0.46	0.35
6 - Provide opportunities for practice and review.	4.02	3.93	4.01	3.89	4.06	3.76	4.05	3.75	0.21	0.37	0.22	0.30
7 - Make learning as pleasant as possible.	3.95	3.78	3.98	3.78	4.01	3.87	4.05	3.94	0.24	0.24	0.20	0.19
8 - Organize class in ways that help students learn.	4.32	4.29	4.32	4.27	4.02	3.87	4.01	3.91	0.44	0.50	0.44	0.46
9 - Prepare effective tests.	3.94	3.99	3.92	3.97	3.84	3.72	3.84	3.72	0.36	0.45	0.32	0.40
10 - Use a variety of teaching methods.	3.79	3.81	3.79	3.74	3.80	3.59	3.76	3.58	0.30	0.37	0.32	0.35
	4.16	4.09	4.15	4.07	4.01	3.88	4.01	3.91	0.35	0.40	0.33	0.35
RECEPTIVITY												
11 - Seek out information about activities.	3.37	3.25	3.31	3.18								
12 - Participate on a volunteer basis.	3.62	3.50	3.59	3.42								
13 - Participate if paid to do so.	4.02	3.98	4.02	3.93								
14 - Participate in an individualized/unscheduled program.	3.48	3.43	3.49	3.37								
15 - Participate effectively if participation required.	4.25	4.05	4.16	4.00								
	3.75	3.64	3.71	3.58								

NOTE: Data of the type collected in this study should not, technically, be treated as interval data, and consequently, calculation of a mean is invalid. The practice is commonly seen in research, however. The calculated values in this appendix are provided so that the readers may use or not use them as they see fit.

a Exact wording of items in Appendix C
b n = approximately 145
c n = approximately 110

APPENDIX J

CONTINGENCY TABLES--HYPOTHESES FIVE AND SIX

The figures in Appendix J are frequency counts arranged in the form of contingency tables. There is one contingency table for each questionnaire item for each descriptive variable. The first page contains tables for ratings of importance, the second page for ratings of effectiveness, the third page for ratings of instructional needs, and the last page for ratings of receptivity. The top row of figures in each table represents the number of subjects who did <u>not</u> change their rating from preteaching to postteaching. The bottom row in each table represents the subjects who changed their rating from preteaching to postteaching. The number below each table is the calculated chi-square value for that table.

Following is a listing of the subgroups used under each descriptive variable.

AGE
A = Under 30
B = 30-39
C = 40 & over

SEX
A = Female
B = Male

DISCIPLINE
A = Business
B = Vocational/technical
C = Health careers
D = Arts
E = Sciences
F = Others

CURRENT OCCUPATION IN ADDITION TO TEACHING
A = Related to courses being taught
B = Not related to courses taught
C = Others

STATUS
A = Full-time
B = Part-time

INSTITUTION
A = College A
B = College B
C = College C
D = College D
E = Others

AMOUNT OF PREVIOUS TEACHING EXPERIENCE
A = More than one year
B = One year or less
C = None

LEVEL OF PREVIOUS TEACHING EXPERIENCE
A = Elementary/secondary only
B = Four-year college/univ. only
C = Community college only
D = None

IMPORTANCE	AGE A	B	C	SEX A	B	DISCIPLINE A	B	C	D	E	F	CURRENT OCCUPATION A	B	C	STATUS A	B	INSTITUTION A	B	C	D	E	AMOUNT OF TEACH. EXP. A	B	C	LEVEL OF TEACH. EXP. A	B	C	D
Meaningfulness	32	45	12	46	43	31	9	11	13	16	9	41	20	10	20	68	41	8	16	10	14	59	14	16	11	13	15	16
	19	22	13	29	26	8	7	11	13	14	6	27	10	11	13	41	20	7	9	4	15	31	8	12	6	9	4	12
χ²	2.85			0.00**		6.99						1.89			0.00**		4.06					0.65			2.65			
Different Abilities	25	39	13	42	35	18	11	14	7	19	8	35	16	13	24	51	28	7	16	10	16	52	13	13	12	11	10	13
	25	29	12	33	34	22	5	8	14	11	7	33	14	8	9	58	33	8	9	4	13	38	9	15	5	11	10	15
χ²	0.67			0.22		8.16						0.71			5.84*		4.65					1.24			2.74			
Demonstrate	31	29	14	38	37	20	7	10	15	17	6	31	17	13	20	55	31	9	11	8	16	48	12	12	9	12	11	12
	19	39	9	35	32	20	9	10	7	13	8	36	13	8	13	52	28	6	14	6	13	41	10	15	8	10	9	15
χ²	5.10			0.00**		3.54						1.96			0.53		1.26					0.81			0.67			
Open Communication	26	39	14	41	38	21	12	11	13	15	7	38	16	13	19	59	35	6	14	8	16	52	18	9	10	13	14	9
	25	29	11	34	32	19	4	11	9	15	8	31	14	8	14	51	27	9	11	6	13	39	4	19	7	9	6	19
χ²	0.49			0.01		3.76						0.41			0.04		1.43					12.46**			7.76			
Maintain Attention	30	36	13	44	35	25	11	14	13	11	5	41	12	14	21	58	36	7	18	3	15	51	16	13	12	14	14	13
	21	32	12	31	35	15	5	8	9	19	10	28	18	7	12	52	26	8	7	11	14	39	6	15	5	8	6	15
χ²	0.51			0.77		9.83						4.41			0.82		10.04**					3.50			3.90			
Practice & Review	24	28	14	36	30	19	6	9	13	12	7	28	14	11	15	50	28	10	11	6	11	39	15	11	9	9	8	11
	27	40	11	39	40	21	10	13	9	18	8	41	16	10	18	60	34	5	14	8	18	52	7	17	8	13	12	17
χ²	1.67			0.21		2.68						1.01			0.04		3.44					5.23			0.95			
Learning Pleasant	27	36	17	36	44	24	8	10	10	21	7	42	16	10	17	62	41	6	14	7	12	49	10	17	10	12	12	17
	23	31	8	37	26	15	8	10	12	9	7	25	14	11	16	46	20	8	11	7	17	41	11	11	7	10	8**	11
χ²	1.68			2.14		5.29						1.79			0.16		6.81					0.83			0.22**			
Organize Class	23	42	16	44	38	20	7	15	12	20	9	38	16	11	19	62	34	9	13	10	16	51	13	17	11	12	12	17
	27	26	9	30	32	20	9	7	10	10	5	30	14	10	14	47	28	5	12	4	13	39	9	11	6	10	8	11
χ²	3.58			0.21		5.24						0.11			0.02		1.90					0.16			0.43			
Prepare Tests	27	33	10	39	31	20	8	11	11	15	5	36	11	9	16	53	32	4	14	7	13	51	8	10	9	10	13	10
	24	35	15	36	39	20	8	11	11	15	10	33	19	12	17	57	30	11	11	7	16	40	14	18	8	12	7	18
χ²	1.13			0.58		1.50						2.17			0.03		3.83					5.19			4.16			
Variety of Methods	29	30	9	39	30	16	13	9	9	17	5	37	11	12	16	51	32	5	13	2	17	49	10	13	8	13	9	13
	22	38	16	36	40	24	3	13	13	13	10	32	19	9	17	59	30	10	12	12	12	42	12	15	9	9	11	15
χ²	3.43			0.87		11.19*						2.92			0.00**		9.46					0.80			1.12			

EFFECTIVENESS	AGE A	AGE B	AGE C	SEX A	SEX B	DISC A	DISC B	DISC C	DISC D	DISC E	DISC F	CURR OCC A	CURR OCC B	CURR OCC C	STATUS A	STATUS B	INST A	INST B	INST C	INST D	INST E	AMT TEACH EXP A	AMT TEACH EXP B	AMT TEACH EXP C	LEVEL TEACH EXP A	LEVEL TEACH EXP B	LEVEL TEACH EXP C	LEVEL TEACH EXP D
Meaningfulness	38	47	16	60	41	22	12	18	15	21	13	46	21	16	27	73	44	10	19	10	18	62	16	18	14	15	14	18
	13	19	9	15	27	16	4	4	7	9	2	21	9	5	6	35	16	5	6	4	11	27	6	9	3	7	5	9
		0.90		5.76*				6.37					0.44		1.84				1.70				0.21			1.46		
Different Abilities	29	41	16	46	40	19	8	17	13	20	9	45	15	13	17	68	44	8	14	8	12	50	11	17	12	7	13	17
	22	26	9	29	29	20	8	5	9	10	6	23	15	8	16	41	17	7	11	6	17	40	10	10	5	15	7	10
		0.41		0.06				6.01					2.30		0.83				8.40				0.64			7.87*		
Demonstrate	33	45	17	49	47	26	10	14	15	24	7	41	22	16	16	78	42	10	17	9	18	58	17	17	12	17	15	17
	18	22	6	24	22	13	6	7	7	6	7	26	8	5	17	29	17	5	8	5	11	30	5	10	5	5	5	10
		0.61		0.00**				4.30					2.37		5.75*				0.83				0.82			1.42		
Open Communication	29	37	15	45	36	18	15	12	11	19	6	38	15	13	21	58	31	5	12	11	22	52	11	13	7	9	11	13
	22	30	10	30	33	21	1	10	11	11	9	30	15	8	12	51	30	10	13	3	7	38	11	14	10	13	9	14
		0.17		0.60				13.35*					0.72		0.73				11.99*				1.01			1.47		
Maintain Attention	39	46	19	55	50	27	12	14	15	25	12	49	22	17	19	85	48	12	14	12	19	65	13	18	15	16	13	18
	12	21	6	20	19	12	4	8	7	5	3	19	8	4	14	24	13	3	11	2	10	25	9	9	2	6	7	9
		1.05		0.01				3.54					0.67		4.39*				7.00				0.83			3.10		
Practice & Review	31	36	14	46	35	19	13	11	13	17	8	36	17	14	21	58	37	7	13	6	18	48	14	15	9	14	10	15
	20	31	11	29	34	20	3	11	9	13	7	32	13	7	12	51	24	8	12	8	11	41	7	12	8	7	10	12
		0.59		1.24				5.44					1.23		0.73				2.64				1.13			1.33		
Learning Pleasant	35	36	16	46	42	26	11	12	9	19	11	43	18	13	17	71	41	9	13	9	16	53	13	19	11	16	13	19
	16	31	8	28	27	13	5	9	13	11	4	24	12	8	15	38	20	6	11	5	13	35	9	8	6	6	6	8
		3.06		0.00**				5.83					0.16		1.05				1.94				1.00			0.31**		
Organize Class	28	49	17	50	44	26	9	11	15	23	10	42	22	12	21	71	41	11	15	10	17	61	9	17	14	11	13	17
	22	17	8	24	24	12	7	11	7	7	4	24	8	9	12	36	19	3	10	4	12	28	13	9	3	11	7	9
		4.28		0.03				5.05					1.54		0.01				2.42				5.85			6.50		
Prepare Tests	29	42	14	46	39	23	9	12	11	21	9	37	18	15	20	63	36	9	15	8	17	53	10	15	14	11	11	15
	22	21	11	26	29	15	7	8	11	9	5	28	12	6	13	42	21	6	10	6	12	34	11	11	3	11	7	11
		1.48		0.38				2.36					1.40		0.02				0.28**				1.23			4.51		
Variety of Methods	24	31	12	33	35	19	9	11	8	15	6	35	16	10	10	58	31	6	11	6	14	39	9	16	8	8	9	16
	27	35	13	41	34	20	7	11	14	15	8	32	14	11	23	50	29	9	14	8	15	50	13	11	9	14	11	11
		0.01**		0.32				1.86					0.18		4.65*				1.01				2.30			2.64		

AGE

INSTRUCTIONAL NEEDS	A	B	C
Meaningfulness	29 / 22	47 / 19	13 / 12
		4.01	
Different Abilities	26 / 24	35 / 32	14 / 11
		0.12	
Demonstrate	32 / 18	49 / 18	13 / 10
		2.49	
Open Communication	27 / 24	49 / 18	19 / 6
		6.54*	
Maintain Attention	29 / 22	38 / 20	13 / 12
		0.19	
Practice & Review	28 / 22	47 / 20	19 / 6
		3.86	
Learning Pleasant	35 / 15	53 / 12	19 / 5
		2.20	
Organize Class	28 / 22	46 / 21	14 / 11
		2.41	
Prepare Tests	25 / 25	39 / 24	16 / 9
		2.08	
Variety of Methods	33 / 17	49 / 17	18 / 7
		0.95	

SEX

INSTRUCTIONAL NEEDS	A	B
Meaningfulness	49 / 26	41 / 27
	0.20	
Different Abilities	38 / 37	38 / 30
	0.21	
Demonstrate	48 / 25	47 / 21
	0.06	
Open Communication	48 / 27	48 / 21
	0.28	
Maintain Attention	46 / 29	34 / 35
	1.66	
Practice & Review	49 / 25	46 / 23
	0.01	
Learning Pleasant	56 / 16	52 / 16
	0.00**	
Organize Class	46 / 28	42 / 27
	0.00**	
Prepare Tests	41 / 30	39 / 29
	0.00**	
Variety of Methods	51 / 22	50 / 19
	0.02	

DISCIPLINE

INSTRUCTIONAL NEEDS	A	B	C	D	E	F
Meaningfulness	25 / 13	12 / 4	11 / 11	14 / 8	18 / 12	10 / 5
			2.91			
Different Abilities	23 / 16	6 / 10	13 / 9	7 / 13	20 / 10	7 / 8
			7.52			
Demonstrate	27 / 12	10 / 6	13 / 7	15 / 7	18 / 12	12 / 2
			3.18			
Open Communication	27 / 12	14 / 2	13 / 9	11 / 11	22 / 8	9 / 6
			7.46			
Maintain Attention	25 / 14	11 / 5	11 / 9	11 / 11	15 / 15	5 / 10
			6.04			
Practice & Review	28 / 11	9 / 7	13 / 6	16 / 6	20 / 10	9 / 5
			2.20			
Learning Pleasant	32 / 6	10 / 6	15 / 6	17 / 4	23 / 7	11 / 3
			3.60			
Organize Class	22 / 17	7 / 9	14 / 8	16 / 6	18 / 12	11 / 3
			5.52			
Prepare Tests	22 / 16	10 / 6	8 / 12	11 / 11	20 / 10	9 / 4
			4.94			
Variety of Methods	30 / 9	12 / 4	12 / 10	14 / 8	22 / 8	11 / 2
			5.52			

CURRENT OCCUPATION

INSTRUCTIONAL NEEDS	A	B	C
Meaningfulness	39 / 28	22 / 8	13 / 8
		2.03	
Different Abilities	30 / 37	18 / 12	13 / 8
		2.99	
Demonstrate	40 / 26	25 / 5	15 / 6
		5.04	
Open Communication	46 / 22	21 / 9	15 / 6
		0.13	
Maintain Attention	41 / 27	12 / 18	15 / 6
		5.63	
Practice & Review	43 / 24	23 / 7	14 / 7
		1.49	
Learning Pleasant	54 / 11	23 / 7	15 / 6
		1.48	
Organize Class	40 / 27	17 / 13	11 / 10
		0.37	
Prepare Tests	36 / 28	20 / 10	12 / 9
		0.96	
Variety of Methods	47 / 19	22 / 8	17 / 4
		0.78	

STATUS

INSTRUCTIONAL NEEDS	A	B
Meaningfulness	21 / 12	67 / 41
	0.00**	
Different Abilities	15 / 18	60 / 48
	0.67	
Demonstrate	21 / 12	74 / 32
	0.20	
Open Communication	23 / 10	71 / 38
	0.08	
Maintain Attention	17 / 16	62 / 47
	0.12	
Practice & Review	20 / 13	73 / 35
	0.28	
Learning Pleasant	24 / 8	83 / 23
	0.02	
Organize Class	21 / 12	66 / 42
	0.00**	
Prepare Tests	19 / 14	60 / 44
	0.04	
Variety of Methods	22 / 11	79 / 28
	0.34	

INSTITUTION

INSTRUCTIONAL NEEDS	A	B	C	D	E
Meaningfulness	38 / 22	11 / 4	15 / 10	8 / 6	18 / 11
			1.00		
Different Abilities	32 / 28	8 / 7	19 / 6	6 / 8	11 / 18
			8.54		
Demonstrate	41 / 17	14 / 1	16 / 9	9 / 5	15 / 14
			8.31		
Open Communication	39 / 22	8 / 7	20 / 5	9 / 5	20 / 9
			3.51		
Maintain Attention	36 / 25	9 / 6	16 / 9	4 / 10	15 / 14
			5.44		
Practice & Review	39 / 22	11 / 3	18 / 7	9 / 5	18 / 11
			1.72		
Learning Pleasant	47 / 13	12 / 2	20 / 4	8 / 6	21 / 7
			4.40		
Organize Class	39 / 22	12 / 2	13 / 12	10 / 4	14 / 15
			7.30		
Prepare Tests	31 / 26	12 / 2	15 / 10	7 / 7	15 / 14
			5.57		
Variety of Methods	42 / 18	13 / 1	21 / 4	9 / 5	16 / 13
			9.19		

AMOUNT OF TEACH. EXP.

INSTRUCTIONAL NEEDS	A	B	C
Meaningfulness	60 / 28	15 / 7	15 / 12
		1.52	
Different Abilities	51 / 36	10 / 11	12 / 15
		2.09	
Demonstrate	62 / 25	13 / 10	15 / 11
		2.80	
Open Communication	60 / 29	14 / 6	19 / 8
		0.11	
Maintain Attention	49 / 38	18 / 3	10 / 17
		11.47*	
Practice & Review	56 / 32	16 / 5	18 / 9
		1.20	
Learning Pleasant	66 / 22	14 / 7	22 / 5
		1.38	
Organize Class	54 / 33	12 / 10	15 / 12
		0.63	
Prepare Tests	54 / 33	10 / 11	13 / 13
		2.18	
Variety of Methods	65 / 24	11 / 11	20 / 7
		4.74	

LEVEL OF TEACH. EXP.

INSTRUCTIONAL NEEDS	A	B	C	D
Meaningfulness	12 / 5	17 / 5	11 / 8	15 / 12
		4.38		
Different Abilities	12 / 5	8 / 14	10 / 10	12 / 15
		4.81		
Demonstrate	15 / 2	13 / 9	12 / 8	15 / 11
		7.77		
Open Communication	10 / 7	10 / 12	15 / 5	19 / 8
		4.88		
Maintain Attention	12 / 5	14 / 8	14 / 6	10 / 17
		7.46		
Practice & Review	12 / 5	12 / 10	13 / 7	18 / 9
		1.27		
Learning Pleasant	16 / 1	18 / 4	16 / 3	22 / 5
		(violates assumptions)		
Organize Class	11 / 6	11 / 11	15 / 5	15 / 12
		3.18		
Prepare Tests	12 / 5	13 / 9	9 / 9	13 / 13
		2.17		
Variety of Methods	17 / 0	15 / 7	12 / 8	20 / 7
		8.47*		

RECEPTIVITY	AGE A	AGE B	AGE C	SEX A	SEX B	DISC A	DISC B	DISC C	DISC D	DISC E	DISC F	CURRENT OCC A	CURRENT OCC B	CURRENT OCC C	STATUS A	STATUS B	INST A	INST B	INST C	INST D	INST E	AMOUNT TEACH A	AMOUNT TEACH B	AMOUNT TEACH C	LEVEL TEACH A	LEVEL TEACH B	LEVEL TEACH C	LEVEL TEACH D
Seek Information	25	23	14	33	30	15	6	11	6	17	8	31	10	13	15	47	29	5	13	6	10	37	10	11	10	9	10	11
	26	43	11	41	39	24	9	11	16	13	7	36	20	8	18	61	31	10	12	8	19	53	11	16	8	12	9	16
	4.23			0.00**		5.88						4.08			0.00**		2.87					0.32			1.34			
Volunteer	21	33	11	32	33	18	7	11	2	18	9	31	11	13	17	46	25	7	12	7	14	37	11	16	7	9	8	16
	30	33	14	42	36	21	8	11	20	12	6	36	19	8	16	62	35	8	13	7	15	53	11	11	11	12	11	11
	0.94			0.15		15.77*						3.17			0.49		0.63**					2.92			2.43			
If Paid	30	31	13	34	40	17	8	11	16	18	4	34	13	13	16	56	31	7	11	4	21	45	13	15	8	10	9	15
	21	35	11	39	29	22	7	11	6	11	11	33	17	7	16	52	29	8	14	9	8	44	9	12	10	11	10	12
	1.65			1.42		9.97						2.27			0.00**		8.00					0.61			0.64			
Individualized	25	33	9	35	32	16	9	13	9	14	6	28	14	11	17	48	26	7	9	6	19	38	12	14	6	9	11	14
	26	33	16	39	37	23	6	9	13	16	9	39	16	10	16	60	34	8	16	8	10	52	10	13	12	12	8	13
	1.53			0.00**		3.49						0.77			0.26		5.63					1.53			2.62			
Required	30	27	8	35	30	18	5	13	8	16	5	31	8	11	17	47	31	6	11	3	14	39	9	14	8	8	11	14
	21	39	17*	39	39	21	10	9	14	14	10	36	22	10	16	61	29	9	14	11	15	51	13	13	10	13	8	13
	6.04			0.08		4.92						4.31			0.37		4.49					0.76			1.82			

* $p < .05.$ ** $p > .95.$

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