



Student outcomes : the relationship of teaching style to readiness for self-directed learning
by Jerald Henry Hudspeth

A thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Education
Montana State University

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Abstract:

The problem investigated in this study was to determine if teaching style had an effect on community college students' readiness for self-directed learning.

The relationship of demographic factors such as age, high school achievement, gender, and college attended in relationship to self-directed learning readiness was also explored. Analysis of covariance was used to analyze the results of posttests with pretests as the covariate. The analysis of the five variables was conducted using the Self-Directed Learning Readiness Scale (SDLRS) to measure the students' orientation to self-directed learning.

This study was conducted from September of 1989 to June of 1990 in three Montana community colleges and one Washington community college. Instructors whose teaching style had been identified by the Principles of Adult Learning Scale (PALS) administered the SDLRS to their regular classes. The instructors were not given any information or instruction concerning the concept of teaching style and conducted their classes in the customary fashion.

The results of the study demonstrated that age, high school grade point average (GPA), and college attended had a significant effect on the students' scores on the SDLRS. Students who were over the traditional age of 25, who had a low high school GPA, and attended the larger, more comprehensive community colleges indicated a preference for the skills and attitudes associated with a self-directed orientation to learning. Conversely, the variables of teaching style and gender did not have a significant relationship to student scores on the SDLRS.

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This thesis has been read by each member of the author's committee and has been found to be satisfactory regarding content, English usage, format, citations, bibliographic style, and consistency, and is ready for submission to the College of Graduate Studies.

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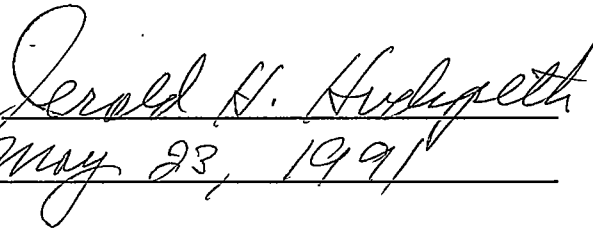
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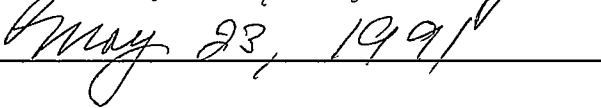
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ABSTRACT

The problem investigated in this study was to determine if teaching style had an effect on community college students' readiness for self-directed learning. The relationship of demographic factors such as age, high school achievement, gender, and college attended in relationship to self-directed learning readiness was also explored. Analysis of covariance was used to analyze the results of posttests with pretests as the covariate. The analysis of the five variables was conducted using the Self-Directed Learning Readiness Scale (SDLRS) to measure the students' orientation to self-directed learning.

This study was conducted from September of 1989 to June of 1990 in three Montana community colleges and one Washington community college. Instructors whose teaching style had been identified by the Principles of Adult Learning Scale (PALS) administered the SDLRS to their regular classes. The instructors were not given any information or instruction concerning the concept of teaching style and conducted their classes in the customary fashion.

The results of the study demonstrated that age, high school grade point average (GPA), and college attended had a significant effect on the students' scores on the SDLRS. Students who were over the traditional age of 25, who had a low high school GPA, and attended the larger, more comprehensive community colleges indicated a preference for the skills and attitudes associated with a self-directed orientation to learning. Conversely, the variables of teaching style and gender did not have a significant relationship to student scores on the SDLRS.

CHAPTER 1

INTRODUCTION

Many proposals for increasing the instructional effectiveness of the community college have been offered (Cohen & Brawer, 1984; Conti, 1984; Cross, 1971, 1976, 1981, 1984; Deegan & Tillery, 1985). In the decades of the 1970s and 1980s, educational leaders have recommended that postsecondary educational institutions, particularly the community college, revise the delivery of instruction in order to produce students who are lifelong learners.

The obsolescence of knowledge, the rapid growth of new knowledge, the shifts in national priorities, the multiplication and complexity of social problems, and the close relationships between the application of knowledge and social progress all lead to the conclusions that lifelong learning is not only desirable, but necessary. (Hesburg, 1973, p. 3)

In a paper presented to the National Conference on Teaching Excellence, Cross (1984) challenged community colleges "to prepare students for their future as lifelong learners and to instill positive attitudes toward learning" (p. 3). Agreeing with Cross that learning how to learn should be the goal of the community college, Conti (1984) discussed a fundamental problem in traditional educational practice:

Chances are, however, that the education of most graduates has been content centered. The current predominate educational philosophy of behaviorism stresses the mastery of content. Recent national reports on the status of our schools likewise emphasize content...unfortunately, the Information Revolution guarantees that it is impossible for a student to learn all of the content in any area and that the portion that is learned will soon be obsolete. Therefore, learning for the future will necessitate an emphasis on process. That is, students will need to learn the generic and conceptual skills of learning how to learn... for those who have not yet learned these skills, the community college should offer a place to acquire them as they continue their education. For those who have mastered these skills, the community college should avail them one setting in which to practice the skills. (p. 53)

Entire industries are created, mature, and become obsolete in such rapid succession that employees cannot assume that their education has prepared them for a lifetime of work. Because the pace of change in business and industry is too rapid for education to stay on the cutting edge of new technology, no curriculum will last a lifetime. Therefore, "any student who graduates...from college without the cognitive skills and the attitudes and values to pursue continuous learning must be considered a failure of the educational system" (Cross, 1984, p. 13).

The literature of adult education evidences a continuing concern for the development of self-directed learning as a desired outcome of applying the principles of adult learning. It might be assumed that a learner-centered teaching style would be the most appropriate mode

to use in meeting the needs of community college students (Conti, 1978). The art and science of teaching adults has been termed andragogy (Knowles, 1980). It is based on a theory about the characteristics of learners which is different from traditional pedagogy and premised on four assumptions. The first of these four premises is that "as individuals mature their self-concept moves from being a dependent personality toward being a self-directed human being" (Knowles, 1980, pp. 44-45). Even though this premise is widely accepted by adult educators and routinely taught in most introductory adult education classes, little research has been conducted to verify the proposition that adults tend toward being self-directed in their learning behavior.

Based on a survey of respected authorities on self-direction in learning, a self-directed learning readiness scale has been constructed. The Self-Directed Learning Readiness Scale (SDLRS) measures a student's learning preferences and attitudes toward learning. The SDLRS is a 58-item Likert-type scale developed to determine the extent to which individuals perceive themselves to possess skills and attitudes often associated with self-directed learning readiness (Guglielmino, 1977).

Since the introduction of the SDLRS, a number of studies have been conducted to measure self-directed learning readiness (SDLR) in several areas. The studies

using the SDLRs have been concerned with the elderly (Brockett, 1985b), graduate students in adult education (Caffarella & Caffarella, 1986), students in four year colleges (Long & Agyekum, 1983; 1984), and the general population (Hassan, 1982). However, no studies have explored the relationship of the community college classroom instructional process to a student's readiness for self-directed learning.

While much research has concentrated on the learner, another line of inquiry in adult education has focused on the teacher, the other human element in the teaching-learning transaction. The idea that teaching style has a significant effect on student academic achievement and attitudes has been pursued and the conceptualization of teaching style as the practice of the philosophical assumptions which follow either a learner-centered or a teacher-centered approach to teaching was developed (Conti, 1979, 1983, 1985a, 1989; Dressel & Marcus, 1982; Hyman & Roscott, 1984). The works of several contributors to adult education theory and practice have been analyzed (Conti, 1978) to reveal that accepted adult learning principles can be implemented in the classroom through a sharing of authority in making decisions about the teaching/learning task. This process has been labeled the Collaborative Mode. "The Collaborative Mode refers to a learner-centered method of instruction in which authority for curriculum

formation is jointly shared by the learners and the practitioner" (Conti, 1985a, p. 7).

Based on the analysis of adult education theory and practice, the Principles of Adult Learning Scale (PALS) was developed and validated to measure the degree to which adult educators perceive themselves to use adult learning principles. Items for the scale were based on adult education principles derived from the writings of authorities in the field of adult education (Conti, 1978). This scale has made it possible to measure the influence of teaching style in several areas. For example, the effect of teaching style has been explored in adult basic education classes (Conti, 1985b), among allied health professionals (Conti & Welborn, 1986), in a prison population (Wiley, 1986), and in tribal community colleges (Conti & Fellenz, 1988).

However, there is still a need to extend the study of teaching style influence in the classroom to public community colleges. Little research has been conducted related to the instructional effectiveness of the community colleges even though they enroll the majority of lower division students in postsecondary education today (Deegan, Tillery & Melone, 1985). Therefore, research which explores the concept of self-directed learning combined with the effects of teaching style in the community college

setting may have a potential for assessing the role of the community college in the learning society.

"Observers of the community college have reported unanimously that teaching was its *raison d'etre*" (Cohen & Brawer, 1984, p. 147). The history of the community college has evolved through stages over the last 90 years (Deegan & Tillery, 1985). However, no matter what additional services a community college may perform, it has remained essentially a teaching institution. In the community college the teachers are freed from the *in loco parentis* burdens of the elementary and secondary schools. They are also spared the research and publish or perish strictures of the four-year colleges and universities. Therefore, community college instructors are able to concentrate their time and effort in advising, counseling, and teaching their students. Students attending community colleges report that the close relationships that they are able to have with their instructors is one of the most rewarding features of the community college experience (Warren, 1985).

Though the mission of the community college elevates teaching to its first priority and while these institutions have long prided themselves as the breeding ground of instructional innovation, there remains concern about the instructional effectiveness of the community college for the New Students (Cross, 1971, 1976, 1981; Cohen & Brawer,

1984; Deegan, Tillery & Melone, 1985) who are replacing the traditional age students in college classrooms across the nation. "New Students were defined as those scoring in the lowest third of the sample on a conventional test of academic achievement, whereas traditional students were those scoring in the upper third" (Cross, 1971, p. xiii). Students seeking a college education today are not only non-traditional in academic achievement, but community colleges have successfully attracted those who are older as well as women returning to the workforce (Cohen & Brawer, 1984; Warren, 1985). Because of this non-traditional population, the community college is potentially an ideal place for the teaching of the skills of self-directed learning.

The need for community colleges to develop lifelong learners suggests that the teaching style advocated by adult educators may be the most appropriate means for preparing students for the future. However, community college students have been found to have a preference for a teacher-centered dependent type of learning/teaching climate rather than one which fosters participation and self-directed learning (Cross, 1981). The teaching technology called Mastery Learning has been recommended by some for these students in the community college (Cross, 1976; Cohen & Brawer, 1984). However, another report on

research into the desired type of instruction for community college students indicates that

Despite their desire for structure in their classes, the students wanted differences in abilities to be accommodated. Again by a two-on-one margin, they rejected the suggestion that classes should stay on schedule even when some students get left behind. They stated an overwhelming desire, four or five to one, for class assignments that allow students to work together, which may express the apprehension felt about studies by many returning students. By a slight margin of about three to two, they expressed a preference for small classes that meet only once a week rather than large classes that meet more often. Taken together, these preferences, which were expressed consistently in all twenty of the colleges, indicate a general desire for the faculty to give clear direction to the students' learning while including extensive practical experience on the job and in the community and allowing students the opportunity for collaborative learning. (Warren, 1985, pp. 66-67)

Purpose of the Study

The purpose of this study was to examine the relationship of teaching style to community college students' readiness for self-directed learning. To accomplish this purpose, the study involved several major components. The first was to determine the differences in the perceived teaching styles of community college faculty. The second component was to determine community college students' perceived readiness for self-directed learning. The third component of the study was to determine the relationship between the perceived teaching style of the

faculty and the students' readiness for self-directed learning. The fourth component of the study was to determine if students' readiness for self-directed learning is independent of achievement, age, gender, and college.

Significance of the Study

While traditional college students in the United States have been studied extensively, much less is known about the growing number of non-traditional students now enrolling at college campuses in large numbers. For example,

Relatively few papers have been published about students at two-year schools which are predominately commuter campuses, the sector of higher education in which enrollment is increasing at the fastest rate. Much of the research using residential students may not apply to minority, older, part-time, and commuter students. (Kuh, Bean, Bradley, Coomes & Hunter, 1986, p. 191)

Information on the effects of instruction is difficult to obtain because of the "number of variables that must be controlled in any study" (Cohen & Brawer, 1984, p. 166). Certainly the long-term effect of instruction, such as proclivity to engage in lifelong self-directed learning, is more difficult to verify than short-term academic achievement. However, research which attempts to discover an effective teaching style for developing lifelong learners in the classroom is of major importance to the teaching mission of the community college. Consequently,

there is a need to experiment with measuring the outcomes of learning while students are in college.

Major questions about the assessment of learner outcomes are: (1) What are the findings of efforts to assess short and long term outcomes of participation in community college programs? (2) What strategies and instruments have been used to measure outcomes of different groups of students? (3) What implications for instruction, curriculum, and counseling can be drawn from current findings? (4) How can university and community college educators collaborate to conceptualize this complex challenge, to design instruments and develop a relevant methodology for the future? (Deegan, Tillery & Melone, 1985, p. 309)

Cross (1981) and Knowles (1979) note the need for study in this area. Cross analyzed a reported preference of older adults in community colleges for teacher-centered learning, which is in sharp contrast to the need to teach adults in a self-directed mode as reported in the adult education literature.

The assumption that adults move toward self-direction as learners, which is a major premise of andragogy, has not been established by sufficient research. In commenting on the andragogy and pedagogy debate narrated in the Adult Education Quarterly, Knowles (1979) stated:

My intention, therefore, was to present an alternative set of assumptions to those that had been traditionally made by teachers of children, so that teachers would have another choice. I saw them as assumptions to be tested, (not to be presumed). (p. 52)

Therefore, this study has made a contribution to knowledge about the relationship between teaching style and

the student outcome of readiness for self-directed learning. No research has yet directly tested the assumption that the use of a distinctive teaching style, such as the collaborative method of instruction, will in fact increase a student's ability to become a self-directed learner in the community college setting.

General Procedure for the Study

The study was conducted at four community colleges. Dawson Community College, Miles Community College, and Flathead Valley Community College are in Montana, and Spokane Community College is in Spokane, Washington. Those institutions were selected because they are comprehensive community colleges with governance and funding structures typical of community colleges in the Northern Rocky Mountain Region. Permission was obtained for conducting the study from the president or dean of instruction of each community college.

Each member of the faculty of these four community colleges was requested by mail to participate in this study. They were asked to assess their individual teaching style by using the Principles of Adult Learning Scale (PALS) which was provided. Those instructors who responded to this request were also asked to administer the Self-Directed Learning Readiness Scale (SDLRS) to students in their classes.

The problem was investigated by using two measurement scales. From the responding community college faculty, PALS identified those instructors who exhibited one of three teaching styles: (a) learner-centered, (b) teacher-centered, or (c) eclectic. Students in intact classes were administered the SDLRS by their instructors. Data were also gathered on the student's age, gender, and level of high school academic achievement.

The instructors taught a wide variety of courses in the regular curriculum at the four community colleges. The instructors were provided detailed instructions either in person or by mail for administering the SDLRS to the students. If a student took more than one course from a single instructor, only one score on the SDLRS for the student was used. Confidentiality of instructors and students was achieved by a coded key.

Students taking these classes were assigned to one of three categories based upon the teaching style to which they had been exposed during the 10 weeks of instruction. All students involved in the study were pretested and posttested using the SDLRS. The data obtained were analyzed using analysis of covariance.

Limitations and Delimitations

Limitations of the study were the following:

1. This study was limited by the use of instructors who volunteered to participate.
2. The relationship of students' readiness for self-directed learning to teaching style was limited to the Self-Directed Learning Readiness Scale and the Principles of Adult Learning Scale.
3. The relationship of students' readiness for self-directed learning to teaching style was limited to the amount of change that can be expected to occur in a 10 week quarter of instruction. Because the quarter system was employed in the community colleges studied, this is the amount of time the system allows the student to be exposed to a teacher. Therefore, the structure controls the time frame of analysis for this study.

Delimitations of the study were the following:

1. This study was delimited to the students enrolled in community college classes from September of 1989 to June of 1990 at three public community colleges in Montana and one in Washington. These community colleges have funding, governance structures, and enrollment patterns typical to the Northern Rocky Mountain region.
2. This study was delimited to examining readiness for self-directed learning in relationship to teaching

style, achievement, age, gender, and college of attendance. These variables are described in the adult and higher education literature as important factors influencing student outcomes.

3. The sample of this study was delimited to students who had been exposed to only one teaching style during the quarter. Because it was impossible to associate any behavioral changes in students to teaching style for those students who had experienced several teaching styles during the quarter, the sample for the teaching style analysis included only students who either had only one class or had instructors with similar classification of styles.

Definition of Terms

Community College: "Any institution accredited to award the associate in arts or sciences as its highest degree" (Cohen & Brawer, 1984, pp. 5-6). A community college has five philosophical bases: (a) a commitment to open-access and low-cost programs; (b) program comprehensiveness; (c) emphasis on programs and services in adult education and continuing education; (d) local control; (e) adaptability through responsiveness to changing needs in society (Deegan & Tillery, 1985).

New Students: College students whose performance on academic tests in high school was barely passing and below average. Low academic ability as traditionally measured in

schools is the distinguishing characteristic of New Students. However, they are secondarily defined as being older, as having a higher proportion of females, and as having a preference for the occupationally oriented comprehensive community college (Cross, 1971, 1976; Cohen & Brawer, 1984; Warren, 1985).

Principles of Adult Learning Scale (PALS): An instrument which measures the degree to which adult educators perceive themselves to practice adult learning principles. PALS is a 44-item instrument which can determine if teachers perceive themselves to use a teacher-centered or a learner-centered teaching style (Conti, 1985a).

Self-Directed Learning: The learners' ability to independently plan, conduct, and evaluate their learning activities (Guglielmino, 1977). For this study, self-directed learning was measured by the Self-Directed Learning Readiness Scale.

Self-Directed Learning Readiness Scale (SDLRS): An instrument which measures a student's learning preference and attitudes toward learning. The SDLRS is a 58-item Likert-type scale developed to determine the extent to which individuals perceive themselves to possess skills and attitudes often associated with self-directed learning readiness (Guglielmino, 1977).

Teaching Style: An instructor's pervasive qualities that persist even though situations change. It is a label applied to various identifiable types of teaching behaviors which are consistent even though the content being taught may change (Fischer & Fischer, 1979). For the purpose of this study, teaching style was measured by the Principles of Adult Learning Scales.

CHAPTER 2

REVIEW OF THE LITERATURE

Introduction

The concepts of the New Student, self-directed learning and teaching style will be discussed in this review of the literature. The New Student who is enrolling in the community college today has significantly different needs and attitudes than the traditional freshman college student in earlier generations. The needs of the New Students may be appropriately met by a teaching/learning environment that features instruction in the skills and attitudes of self-directed learning facilitated by an instructor who practices a learner-centered teaching style.

The New Student

There is a New Student to higher education, and one whom the institutions of higher education are not prepared to educate (Cohen & Brawer, 1984; Cross, 1971, 1976; Warren, 1985). Traditional education has failed these students in the past; unless substantial changes are made, it will fail them in the future (Cross, 1976). It is clear that many of the learning problems of the New Students were

directly attributable to their school experiences. The distinguishing characteristic of the New Student seeking postsecondary education is the low level of academic achievement. Based on a meta-analysis of four large scale survey research studies of high school and community college students, the New Students in higher education will be primarily students whose performance on academic tests is barely passing and below average. "Therefore, New Students were defined as those scoring in the lowest third of the sample in a conventional test for academic achievement, whereas traditional students were those scoring in the upper third" (Cross, 1971, p. xiii).

Many educators, as well as the general public, are still thinking of New Students largely in ethnic terms. Yet the New Students are primarily Caucasian, not Black or Chicano. The majority come from working class families. A major part of the growth in New Students in community college enrollments between 1970 and 1980 was due to an increased enrollment of women, and as the average age of students increased over the last two decades, the ratio of women to men in the community colleges also increased. These women, often in their thirties or older, are looking for ways to expand their horizons and generally are more concerned with occupational training than are men. The women are less confident than men about their academic abilities and are apprehensive about classroom competition.

These older women from working class families may often be the first in the family to attempt postsecondary education. Thus, they are attracted to courses and programs which help their transition through the educational system (Warren, 1985).

The New Students are also characterized by their part-time and intermittent attendance. Part-time students in general are more concerned with acquiring immediate job skills and tend to enroll in occupational courses or programs. The phenomena of part-time attendance also seems to be related to the older age of the students.

Students twenty-five years and older tend to enroll intermittently and to be part-time. Proportionately more are white and middle class. They move in and out of college, perhaps at more than one college, and they mix studies with outside commitments--to a job, family or both. (Warren, 1985, p. 58)

However, students "who have not considered college in the past, but who began entering college in the 1970s, are distinguished more by low test scores than by any other single measure available including race, sex, and socioeconomic status" (Cross, 1971, p. 14).

Cross' (1971) analysis demonstrated that the New Students have educational problems; they do not perform traditional educational tasks with competence. Fundamentally, these New Students in higher education were swept into college by the rising educational expectations of American society. Most are Caucasians whose fathers

work at blue collar jobs. Unfortunately, they have a different orientation to school learning tasks than do traditional students because of the considerable difference in their past learning experiences at home and in school.

Historically in the United States, there has been a tendency to think of educational reform in general terms and therefore to think that what is good for some students is good for all. Consequently, instructional innovators in the community colleges have tended to apply the same kind of changes to their institutions as those recommended for high schools or senior colleges. Frequently this has been a unidimensional inclusion of high technology media, such as television or computers, in the instructional process. However, the areas that need changing to make traditional education more appropriate for New Students are not necessarily those advocated by the elite colleges that frequently serve as models for educational change. Community colleges and vocational technical centers need to develop their own brands of instructional innovations. Cross (1971) maintained that a primary goal in the reformation of education for New Students should be to help them assume responsibility for their own learning. "Indeed, if we do not pass this responsibility to adult students then we have not done our job in preparing them for a life that will require a never ending capacity to learn new things" (Cross, pp. 53-54).

There is also considerable evidence that many community college faculty members tend to pattern their professional aspirations along the traditional subject matter lines of the university academic model. Most college faculty whether at a community college, senior college, or university came from the type of students that Cross has labeled traditional. It is therefore not surprising that the faculty's interests and those of today's traditional college student should coincide along intellectual dimensions. That is a major reason for concern because patterning community college instruction after the kind of education that appeals to the faculty can be a step backwards for the New Students. Moreover, "their needs and interests are different from those of traditional college students. Perhaps even more important, they are different from those of traditional college faculty members" (Cross, 1971, pp. 74-75).

Traditional students and traditional faculty members perpetuate their own scheme of values.

New Students are more uncomfortable in the traditional academic educational system than are the students for whom present educational experiences were designed. They are more likely than traditional students to feel that the academic pace is too fast for them; they are more likely to feel nervous or shy in the competitive classroom; they are more eager for college assistance with problems related to academic achievement, and they are more interested in counseling help with personal problems. (Cross, 1971 p. 83)

Surveys of community college students revealed that the New Students also have some ideas about what they would like schools and colleges to do (Cohen & Brawer, 1984; Cross, 1971; Warren, 1985). New Students are likely to be attracted to courses in colleges that are seen as practical preparation for their vocational futures. "New Students attending community colleges indicate feelings of progress in learning how to get along with people, in learning job related skills, and in developing a satisfactory philosophy of life" (Cross, 1971, p. 83). Although New Students show some satisfaction with traditional vocational education, it is not sufficient to meet their needs by separating higher education into two tracks--academic and vocational.

In addition to being attracted to occupational programs and courses, community college students are characterized by the uncertainty of their enrollment patterns and by the varied ways they use the college programs to fit their purposes.

Several characteristics of community college students--their age, part-time enrollment, attendance close to home, intermittent attendance, concern for occupational preparation and growth, and commitment outside of college--point to a second direction for community colleges. The involvement of the colleges directly with their surrounding communities... many colleges are already moving in that direction with collaborative programs with local businesses and industry. (Warren, 1985, p. 73)

Community colleges have a special educational mission in providing career programs for New Students. A profile

of an attractive college for a typical New Student based upon a composite of the preferences revealed in questionnaire data might be pictured something like the following: It is a friendly place where good teaching is emphasized and where faculty members take an interest in students. It offers courses clearly relevant to career preparation, stressing the development of skills over the manipulation of abstract concepts. As a matter of fact, the institution favored by New Students is beginning to look very much like today's comprehensive community colleges (Cross, 1971; Warren, 1985).

However, Cross (1971) listed a number of areas wherein traditional instructional practices cause problems for the New Students. New Students drop out of traditional schools, quit listening to lectures, fail to put forth their best efforts, and score low on conventional tests. Moreover, they get low marks, fail to develop self-confidence, and are nervous and tense in class. They are caught in the impossible bind of wanting to be successful, but of knowing they will be required to display the learning style and values only a traditional academic curriculum will satisfy.

Community colleges have not faced the fact that equality of educational opportunity requires more than guarantees of equal access to postsecondary education (Cohen & Brawer, 1984; Cross, 1971; Donovan, 1985; Warren,

1985). The primary means by which community colleges have attempted to answer the challenge of access has been through the development of remedial programs to prepare students for regular college work. However, compensatory programs in community colleges are not going to mold many New Students into traditional students. Further, New Students will be the losers if colleges continue to concentrate on access programs that merely assure the entrance of New Students into traditional programs of education.

Quality education consists not in offering the same thing to all people in a token gesture toward equality, but in maximizing the match between the talents of the individual and the teaching resources of the institution. Educational quality is not unidimensional. Colleges can be different and excellent too. If New Students are different, and not simply less capable academicians than traditional students, then I believe that education for New Students must be different in order to be excellent.

(Cross, 1971, p. 162)

Although many educators may agree that there is an urgent need for educational reform, educators do not agree on the direction that the reformation should take. Although the question of who shall be taught in postsecondary programs has been answered and the nation is moving to implement universal education for the masses, the main arguments about what shall be taught and how that shall be taught remain unresolved (Cohen & Brawer, 1984; Cross, 1971, 1976, 1981; Deegan, Tillery & Melone, 1985).

Most of the modifications in higher education that have been made, or even suggested, to accommodate the era of universal education are concerned with the structures and forms of college programs rather than with either course content or the style of teaching (Donovan, 1985). Major energies have been directed toward getting New Students into college and keeping them there. Open admissions, special recruitment of disadvantaged students, and financial aid programs are practices in widespread use throughout the country to attract the New Students to the colleges. Remedial courses, counseling, and pass/fail grading are common methods designed to keep New Students in college. Since getting New Students into college has been the most single-minded goal since the 1960s, virtually all evaluations of achievements have been concerned with quoting statistics on increased rates of access and retention. "Only recently have a few scattered voices questioned whether recruitment and retention are really the goals. The goal of educators is to educate" (Cross, 1971, p. 163).

The first business of educational programs for New Students should be to provide a re-orientation to learning itself (Cross, 1971). Once comfortable in learning situations, the student is free to pursue learning in a personal sphere of interest and talent. The student who knows how to tackle the job of learning new things may

choose to apply these skills to the traditional tasks of education or the student may apply it to non-traditional studies. The goal of re-orienting the New Student to learning is to change attitudes, but the student must also be given ample practice in learning. Instructors who want to be successful in the re-orientation courses for the New Students have a special need for understanding the learning process (Case, 1985; Cross, 1971, 1976; Smith, 1982). However, the instructors' task is more complicated. They need to not only know but also to feel the learning problems of New Students.

In the final analysis, a teacher who cares must have enough teaching skill and confidence in the student to create the environment and situations that require a student's best efforts. It would be ideal if each student could design a learning task of his own choosing, but realistically it is desirable to develop a number of tasks very carefully and let the student choose which task to undertake. (Cross, 1971, p. 171)

In summarizing the study of the New Students, Cross (1971) recommended a program of instructional reform which parallels the mode of instruction advocated by many adult educators. When students better understand the process of learning, they can better evaluate their own progress. The evaluative function should gradually move from teacher to students until ultimately the students begin to accept responsibility for their own learning and become independent of the teacher. When students direct their own learning, they have learned the most important lesson that

education can teach. Lifelong learning will be a requirement of the future. In the final analysis enabling people to learn however, whenever, and whatever they either need to learn or desire to learn is the aim of all education. However, the long-term effects of instruction, such as a readiness to engage in lifelong self-directed learning, are more difficult to verify than short-term academic achievement through research in actual classroom settings.

Concept of Self-Directed Learning

One of the most important findings to emerge from adult education research in recent decades is the realization that the vast majority of adult learning activities occur outside of the institutional setting and are planned, carried out, and evaluated primarily by the learners themselves. Self-directed learning is not a new idea. Indeed, history offers countless examples of successful, self-taught individuals. However, not until the publication of Allen Tough's 1970 study of adults' learning efforts did adult educators begin to undertake in-depth studies of self-directed learning and to address various implications for practice. Tough's (1971) study of Adult Learning Projects set the original parameters of the area of study for self-directed learning.

In the past two decades the concept of self-directed learning has been the focus of much attention and study by adult educators (Brookfield, 1985b, 1986; Caffarella & O'Donnell, 1988; Cross, 1981, Knowles, 1975, 1980; Mocker & Spear, 1982). The proliferation of self-directed learning studies as documented in literature reviews (Brookfield, 1986; Caffarella & O'Donnell, 1988; Mocker & Spear, 1982) indicated the importance adult educators place on self-directed learning. These reviews present evidence that self-directed learning is occurring with the vast majority of adults. However,

The assumption that self-directed learning exists and has been around for ages, does not carry with it any further assumptions, such as: self-directed learning is good, people prefer self-directed learning, adults want and need help in self-directed learning, or that a valid, agreed-upon definition for self-directed learning exists. (Caffarella & O'Donnell, 1988, p. 42)

Self-directed learning has been envisioned as providing a unifying concept for the disparate field of adult education. Self-directedness implies that the learners regulate, control, or conduct their own learning and that this is a feature of adulthood. A definition of self-directed learning developed by Knowles (1975), a foremost adult educator, stated:

In its broadest meaning, self-directed learning describes a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing

appropriate learning strategies, and evaluating learning outcomes. (p. 18)

Adult educators have ascribed a variety of labels to this process: self-planned learning, inquiry method, independent learning, self-education, self-instruction, self-teaching, self-study, and autonomous learning.

However, Knowles (1975) discounted those terms as implying learning in isolation. "Self-directed learning usually occurs in association with various kinds of helpers, such as teachers, tutors, mentors, resource people, and peers" (p. 18).

Other educators have been concerned with the problem of terminology as well. Tough (1971) referred to self-planned and self-teaching. After rejecting the terms individualized learning, self-teaching, autonomous learning, autodidactic activity, and isolated learning, Brookfield (1988) used the term independent adult learning. However, Cross (1981) joined the growing consensus in labeling the concept self-directed learning in her meta-analytic study, Adults As Learners. Mocker and Spear (1982) also used the term self-directed learning. Indeed, this term has dominated the adult education literature in the 1980s (Brookfield, 1986).

The concept of self-directed learning has been defined in a variety of ways (Bonham, 1989). These include an innate characteristic of all adult learners; a goal to

which adult learning should be moved; as an instructional method used naturally by adults and as one which should be taught to them; as an instructional design calling for planning one's own learning; and as a process in which the learner moves from one learning episode to the next in an order governed by availability of resources. Self-direction is increasingly viewed not simply as an attribute which people either have or do not have, rather as a quality which may be present in varying degrees throughout the population (Kasworm, 1983).

Mezirow (1985) agreed with other adult educators that self-directed learning has been adopted as the central concept in adult education. However, he argued that

There is probably no such thing as a self-directed learner, except in the sense that there is a learner who can participate fully and freely in the dialogue through which we test our interests and perspectives against those of others and accordingly modify them and our learning goals. (p. 27)

Further, Mezirow (1985) differentiated three interrelated and distinct kinds and functions of adult learning. Each domain has its own purpose, content, and methods, and each allows for self-directed learning. They are (a) instrumental learning, which includes task oriented problem solving learning required to control the environment; (b) dialogic learning encompassing attempts to understand what others mean when communicating; and (c)

self-reflective learning which involves psychological assumptions gained earlier in life.

According to Mezirow (1985), the purpose of adult education is to enfranchise adults. That is, it is to enable adults to participate fully as self-directed learners in their quest to explore the meaning of experience. Indeed, such learning is of limited value unless it produces an internal change in consciousness.

Mezirow is one of only a few writers in adult education whose principle concern is the process of internal change which occurs in adults as a result of the educational process. He has recently been joined by Brookfield (1985b, 1988) who appears to have moved firmly into the small group who argue that acquisition of certain behavioral skills, such as setting goals, is not sufficient to define the concept of self-directed learning.

Brookfield (1985b, 1986, 1988) has critiqued the concept of self-directed learning and has been concerned with self-directed learning as the aim of adult education. Along with Mezirow he has defined the aim of adult education practice as the nurturing of self-directed empowered adults. Further, Brookfield distinguished between two forms of self-directed learning. One form involves the practical elements of self-directed learning such as goal setting, resource identification, strategy selection, and the evaluation of outcomes. The second form

of self-directed learning refers to a particular internal change in consciousness. However, the fundamental problem "is the fact that a prescriptive aim (that we should encourage learner independence) has become confused with an empirically based proposition (that adult learning styles are inherently self-directed)" Brookfield, 1988, p. 12).

Cross (1981) identified the concept as "deliberate learning in which the person's primary intention is to gain certain definite knowledge or skills" (pp. 186-187). Moreover, the learning may be self-directed or it may consist of participating in organized instruction. Cross concurred with Knowles' basic assumption that adult learning is problem centered. "Research generally supports the notion that most adults who voluntarily undertake a learning project do so more in the hope of solving a problem than with the intention of learning a subject" (p. 189).

Further, Cross (1981) noted that self-directed learning does not imply isolated learning; in fact, it tends to involve more interpersonal contact than is the case with classroom education. The major problem seems to be finding the appropriate assistance or resources when barriers occur in the process. Moreover, the information researchers have generated about self-directed learning and what actually happens during the course of a learning project is generally unknown, and "more indepth study of

how learning actually takes place in everyday settings is a necessity" (p. 199).

Reviews of the literature on self-directed learning have identified a varying number of ways which the research has been categorized (Brockett, 1985a; Caffarella & O'Donnell, 1988; Mocker & Spear, 1982). Caffarella and O'Donnell identified five research categories: (a) nature of the philosophical position; (b) verification studies; (c) nature of the method of self-directed learning; (d) nature of the individual learner; and (e) policy questions. Brockett (1985a) divided the research into three categories: (a) descriptive studies growing out of Tough's works on learning projects; (b) attempts to build a theoretical framework for understanding self-directed learning; and (c) quantitative studies that have examined the relationship between self-directed learning readiness and a range of psychosocial and educational variables. Mocker and Spear (1982) classified the various types of adult learning around the concept of control. Using that scheme, they divided the concept of learning and the research on the basis of the following: (a) formal, (b) nonformal, (c) informal, and (d) self-directed learning.

Following the classification scheme of Caffarella and O'Donnell (1988), research on readiness for self-directed

learning would be classified under the nature of the individual and would answer the who and what questions.

Basically the category looks to an understanding of the individual's characteristics and styles in order to get a better feel for the learner. Six subcategories emerged from the review of literature in this area: demographic data, learning or cognitive style, readiness, locus of control, psychological health, and personality characteristics. (p. 52)

Readiness for Self-Directed Learning

Self-directed learning is a process in which individuals take the initiative, with or without the help of others, to gain certain definite knowledge and skills (Cross, 1981; Knowles, 1975; Mezirow, 1981). Knowles (1975) and Mezirow (1981) have outlined the basic skills that are necessary for self-directed learning. These skills include the ability to: (a) decide what knowledge and skills to learn; (b) diagnose learning needs realistically with help from teachers and peers; (c) translate learning needs into learning objectives in a form that makes it possible for their accomplishments to be assessed; (d) relate to teachers as facilitators, helpers, or consultants and to take the initiative in making use of their resources; (e) relate to peers collaboratively to see them as resources for learning; (f) identify human and material resources appropriate for different learning objectives; (g) select effective strategies skillfully and

with initiative; (h) gain knowledge and skills from resources utilized; (i) evaluate one's own efforts and obtain feedback from others; (j) facilitate problem posing and problem solving, including problems with the implementation of individual and collective action; (k) review motivation for learning; and (l) help the learner to understand the full range of choices as opposed to encouraging the learner to make a specific choice.

In concluding an article, Mezirow (1981) recognized the need to "respond to the learners' educational need in a way which will improve the quality of his/her self-directedness as a learner" (p. 21). He continued to elaborate on the implications of adult learning theory by asserting that it "is almost universally recognized, at least in theory, that central to the adult educator's function is a goal and method of self-directed learning" (p. 21). Mezirow defined andragogy "as an organized and sustained effort to assist adults to learn in a way that enhances their capability to function as self-directed learners" (p. 21). What seems clear is that these adult educators defined the goal and the method of adult education practice in terms of the development of self-directed learning behavior.

Guglielmino (1977) developed the Self-Directed Learning Readiness Scale (SDLRS) to measure the degree to which adults exhibit the skills and attitudes associated

with a self-directed orientation to learning. The study obtained item consent material using a modified Delphi technique based on the expert opinion of 14 authorities on self-directed learning. This research procedure produced a Likert-type self-reporting mechanism. The SDLRS is designed to measure the presence of attitudes, abilities, and personality characteristics identified in a Delphi survey as being important for self-directed learning.

The SDLRS has been utilized in a number of research studies since 1977. Brockett (1985a) classified the research on readiness for self-directed learning into two major categories. First, the concentration of effort has been to understand the relationship between self-directed readiness and a variety of psychosocial variables. These studies have found a correlation between SDLRS and creativity and originality (Torrance & Mourad, 1978), self-concept (Sabbaghian, 1980), participation in learning projects (Hassan, 1982), and race and age (Long & Agyekum, 1983, 1984). The second category of research involving the SDLRS has been to use it as an instrument to measure students' perceived readiness for self-directed learning.

Learners are in varying stages of cognitive and psychological readiness for self-directed learning activities. It seems this experience of varying levels of self-directedness is common. The SDLRS has been helpful in assessing these levels. Given that there are so many

possible interpretations of self-directed learning, there is an obvious need for much more work in this area. Different scales will assess different capabilities, depending on how program organizers define self-direction (Brookfield, 1988).

Numerous studies have been conducted using the SDLRS. Torrance and Mourad (1978) indicated that the SDLRS scores of graduate students correlated positively with their scores on three creativity measures. The researchers administered the SDLRS along with several measures of creativity to 41 graduate students in education. Their research supported the construct validity of the SDLRS and several measures of creativity. "It appears that readiness for self-directed learning is associated with skills in originality of thinking, ability to produce analogies, motivations of creative personalities, creative experiences and achievements, and a right hemisphere style of learning and thinking" (Torrance & Mourad, 1978, p. 1171). They emphasized that the study dealt only with the construct validity of the SDLRS and its relationship to a variety of creativity variables and styles of learning and thinking.

A number of studies utilizing the SDLRS have been conducted showing a relationship between the SDLRS and an enhanced self-concept or greater life satisfaction. Sabbaghian (1980) concluded that a significant relationship

between SDLRS and self-concept was found among adult undergraduate students. Hassan (1982) found that highly self-directed learners as measured by the SDLRS conducted a greater number of learning projects and experienced a higher level of satisfaction with their projects than participants with lower SDLRS scores. Brockett (1985b) discovered that a relationship existed between older adults' perception of self-directed learning readiness and the degree of satisfaction they ascribe to their lives. However, previous education was found to be a stronger predictor of SDLRS than life satisfaction (Brockett, 1985b; Curry, 1983).

Several studies have been conducted with a view toward validation of the SDLRS (Long & Agyekum, 1983, 1984, 1988). "Validation of Guglielmino's SDLRS, the most popular instrument currently being used to measure self-direction in learning, is imperative. Validation of the instrument is critical to the advancement of theory and practice" (Long & Agyekum, 1988, p. 255). Data generated in the 1984 study and compared with data obtained in the 1983 research of Long and Agyekum suggested three major findings: (a) there is a significant racial difference in SDLRS scores; (b) there is no significant relationship between the rating of the students as self-directed learners by faculty members and students' SDLRS scores; and (c) there is an association between SDLRS scores and age and

educational level. In both studies it appeared that faculty ratings of students' self-direction in learning are associated with race and with age. The authors did not have any explanation for this relationship. They concluded that the findings are supportive of the validity of the SDLRS despite the absence of the association between faculty ratings and student performance and the significant differences that were noted in the faculty ratings according to racial composition of the students studied. They concluded that "significant associations existed between the SDLRS scores and variables such as age and educational level. These findings are the source of the strongest support for the validity of the scale" (Long & Agyekum, 1983, p. 87).

Readiness for Self-Directed Learning
Within an Institutional Context

A graduate course explicitly designed to implement the learning contract format and Knowles' (1975) self-directed learning format "examined the impact of a self-directed contract learning course upon participant self-directed learning behavior and attitudes" (Kasworm, 1983, p. 45). The instructional focus of the study was concerned directly with facilitating the acquisition of self-directed learning competencies among adult education graduate students. The data for this study were collected from 33 students in two

course sessions. Three methods were used to collect data on the students' change in self-directed learning behavior and attitudes. Two evaluation instruments were employed: (a) SDLRS as a pretest and posttest; and (b) a course evaluation. Additionally, the facilitators and two students in each course session kept diaries of observed behavior in order to analyze student concerns.

A t-test of the gain in scores between the pretests and posttests on the SDLRS indicated a significant overall positive gain in readiness for self-directed learning for this limited sample of graduate students. However, the author cautioned readers against assuming a relationship exists between the course treatment and the change in the scores on the SDLRS. Even though one-fourth of the participants judged the course to be difficult and indicated they would not seek out another self-directed formatted course, the course evaluations suggested that the majority of the students perceived the experience to be worthwhile and satisfying.

The strongest support for a subset of the competencies of self-directed learning behaviors measured by the SDLRS was for the collaborative support and group inquiry instructional strategies. The content analysis of the diaries supported the data gathered with the other two measures. Kasworm concluded that the majority of students made a shift toward higher levels of self-directedness in

learning behavior and attitude. In summary, the evidence demonstrated that a course can influence the majority of participants in their development of self-directed learning attitudes and behaviors. Future research should examine other instructional formats for their development of self-directed learning (Kasworm, 1983, p. 53).

Two additional studies were conducted concerning the learning contract as an educational technique for promoting readiness for self-directed learning (Caffarella, 1983; Caffarella & Caffarella, 1986). Those studies assumed that facilitating the development of greater self-directedness in adult learning is an aim of many adult educators. Although the concept of self-directedness in adult learning has been developed from research which was conducted primarily outside the formal educational institutional framework (Brockett, 1985b; Brookfield, 1986; Cross, 1981; Tough, 1971), the studies noted that a number of adult educators (Knowles, 1975, 1980; Tough, 1971) have advocated changes in the educational practices of institutions of higher education "to integrate the idea of self-directedness in learning into the formal college curriculum" (Caffarella & Caffarella, 1986, p. 226). The Caffarellas advocated the integration of the learning contract into the teaching process as one way of developing a self-directed approach to learning in higher education.

A study of graduate students in adult education suggested that the use of the learning contract format has merit as a method for developing student responsibility for the learning process. Use of the learning contract had an effect on self-directed learning skills in three areas:

(a) students learning to relate to teachers as facilitators; (b) ability to translate learning needs into learning objectives; and (c) ability to identify resources. Also the study found that the students were continuing to use self-directed learning skills in that some of the students had changed the way they were teaching (Caffarella, 1983).

Although the studies indicated that the use of the learning contract format as a teaching device facilitates the development of self-directed learning skills for graduate students, Caffarella (1983) cautioned that its use for other levels of education depends on the background and level of the learners, the mission of the educational institutions, and the setting and the focus of the educational experience. The study recommended that the format might need to be modified for use in the community college setting because of the characteristics of learners there. Finally, Caffarella warned that the use of the learning contract as a teaching strategy requires a skilled and experienced instructor.

In a subsequent study of graduate students' readiness for self-directed learning, Caffarella and Caffarella (1986) reported the SDLRS has been demonstrated by a number of previous studies to be "both reliable and valid for diagnosing self-directed learning readiness and for evaluating programs designed to increase self-directed learning readiness" (p. 228). However, a significant finding of this study was the lack of any change in the students' readiness for self-directed learning as measured by the SDLRS as a result of the exposure to the use of the learning contract format in adult education graduate courses. This finding conflicts with both the earlier Caffarella (1983) study and Kasworm's (1983) research. The authors of the 1986 study concluded that this apparent conflict may be due to sample differences, instructor bias, the very high pretest scores of the subjects studied, or the lack of appropriateness of the scale for this group of participants.

Brockett (1985a) commented on the question of the appropriateness of the SDLRS for certain specific samples. "During the process of collecting data for an investigation...the ...author encountered a number of difficulties in the administration of the SDLRS" (p. 15). After an investigation of these methodological and substantive problems, Brockett concluded that the SDLRS is

a highly reliable, but not necessarily valid diagnostic device for all samples.

Self-directed learning readiness, as defined by the SDLRS, is very much oriented toward learning through books and schooling...earlier studies have generally reported samples of college students and adults with at least a high school education. For these groups, the SDLRS has been demonstrated to be an appropriate instrument. (p. 21)

Thus, adult educators generally agree that facilitating increased readiness for self-directed learning is an important learner outcome. The research in self-directed learning readiness has led to the development of a reliable diagnostic scale, the SDLRS, which has been used with samples of adult learners who have had experience with formal schooling and are oriented to learning through books and libraries.

Teaching Style

A review of the literature on adult education practices indicated an increasing interest in learning and teaching styles and their implications for practitioners (Brookfield, 1986, 1990; Conti, 1985a, 1989; Cross, 1976, 1981; Darkenwald & Merriam, 1982; Dressel & Marcus, 1982; Even, 1982; Fourier, 1984; Holtzclaw, 1985; Hyman & Roscott, 1984; James & Galbraith, 1985; Smith, 1982). The term style is normally used to refer to both learning and to teaching preferences. However, most of the literature

has dealt with learning styles rather than with teaching styles. "The educational literature most often uses the term learning style along with the recommendation that learning style be matched with teaching style so as to augment achievement" (Hyman & Roscott, 1984, p. 35).

Usually the development of one or a variety of learning style conceptualizations follow a fairly simple four step process:

1. Examine the student's individual learning style.
2. Understand it and classify it according to several large categories.
3. Match it with a teaching style of an available teacher, or if no available teacher has the appropriate style then request that a teacher adjust his/her teaching style to match the students' learning style.
4. Teach teachers to do steps, 1, 2, and 3 in their pre-service and in-service training program. (p. 35)

However, the successful implementation of the above process requires that one knows which teaching styles are an appropriate match with a given learning style.

Of greater importance for practitioners in adult education is research which will isolate the student outcomes resulting from the practice of specific teaching styles. Only a few educators have identified a particular teaching style and recommended its use with an adult student population (Conti, 1985a, 1989; Dressel & Marcus, 1982; Hyman & Roscott, 1984).

While there has been a considerable amount of research on the subject of teaching/learning style, often much of the teaching style research is linked to learning style; however, the interest is in how the teacher's actions influence the students. Thus, it does educators little good to know what a teacher's personal style is; rather, one needs to know what is characteristic of how a teacher acts with learners when teaching. For example, what kinds of tasks do certain teachers select to use as teaching tools and how do the tasks selected effect the learning situation (Hyman & Roscott, 1984).

At least three educators (Conti, 1979; Dressel & Marcus, 1982; Hyman & Roscott, 1984) have developed a typological construct around the concept of teaching style. Based on discussions with teachers and educators, a typology of teaching styles was identified and developed into four teacher orientations:

1. In discipline-centered teaching, the content and structure of the discipline are rigidly determined and in no way modified to meet the requirements, needs, or special concerns of either the teacher or learner.
2. In instructor-centered teaching, the teacher is the expert and the main source of knowledge in both the particular subject matter and the discipline. The instructor, around whom all class activity revolves, is the focal point in the teaching-learning process. The student is a passive recipient rather than an active participant.
3. In student-centered cognitive teaching, intellectual development is held to be the most important outcome of the teaching-learning process. Both content and teaching

- practices are selected and adjusted to accommodate the cognitive growth of the student toward teacher-specified objectives.
4. In student-centered affective teaching, the personal and social development of the student is the focus of the teaching-learning process. Both the content and the teaching practices are adjusted to foster the total development of each individual. The individual is expected to develop idiosyncratically rather than to adapt to content or to the demands of the teacher. (Dressel & Marcus, 1982, p. 2)

The data were gathered from teachers' subjective reactions to the various orientations when presented to them for evaluation, from the meta-analysis of other studies of teaching orientations, and from teacher rating scales. This collection of descriptive material was used to construct a typology of teacher behaviors which "should prove useful as profiles of possible alternative teaching styles" (Dressel & Marcus, 1982, p. 2).

The study emphasized that learning is the criterion of effective teaching and that successful teaching must be student-centered. "The success of teaching must then be determined by whether and what the students learn, not by what the teacher does" (Dressel & Marcus, 1982, p. 13). Student-centered teaching may focus on either cognitive or affective development or both. However, the authors stated that cultivation of the intellect is the primary concern of higher education. They doubted the validity of teaching that stresses affective development to the detriment of the cognitive domain. It is not that affective outcomes are

inappropriate in education. Rather, it is just that insight and self-realization are not a sufficient basis for granting credits or degrees. On the other hand, "pure cognitively oriented teaching is impossible" (p. 9). Complete separation of cognition and affect in actual teaching situations is artificial. This is true of all four dimensions of this typology of teaching styles.

In fact, our observations and experiences to date with these four orientations suggest that most teachers fall athwart all four rather than into any one, and they may shift in emphasis from one to another as they deal with different content, course levels, and students. (p. 12)

Personal values underlie the teaching practices of instructors, and the concept of articulated teaching styles may hold promise for improving teaching. Unfortunately, teachers of adults in higher education are not usually trained to adjust to differences in students. Consequently, the conclusion reached in this study was that "the goal of teaching and learning is to make each learner as independent as possible" (Dressel & Marcus, 1982, p. 202) and recommended the student-centered cognitive approach as "the most appropriate for undergraduate college teachers in a democratic society" (p. 15).

In the conclusion of this study on teaching styles, the needs of adult students in higher education were addressed. It was stated that the desired outcome of education for adults is the acquisition of the skills for

self-directed learning. "Ever present should be the concern that the learner acquire increased independence in and motivation for pursuit of further learning" (Dressel & Marcus, 1982, p. 16).

Two additional studies defined similar teaching modes which appear to resolve some of the problems associated with constructing teaching style typologies already identified (Conti, 1978, 1979; Hyman & Roscott, 1984). Hyman and Roscott provided a set of six recommendations regarding teaching styles. First, it was recommended that the concept of teaching be broadened to include subject matter. The teaching act is not a diad, but rather it is a triad. Therefore, teaching is an act which has three elements: the teacher, the student, and the subject matter. This act takes place in an environment and in a particular time frame. If one accepts this broader perspective on teaching, then it is necessary to focus at least as much on what teachers are doing as upon what learners are doing in that time-framed environment. What is being taught is a significant influence in deciding how to teach.

Second, teachers need to keep in mind that the teacher/learner interaction is dynamic. If teaching is having an effect, the students' learning style ought to be changing. The view of adult educators should be to start with the learners' preferred style and develop the learners' ability to learn in a self-directed mode.

Third, the use of informal assessment techniques was recommended. Teachers should accept a broad, complex and diverse view of the concept of learning. Learning is more than a cognitive achievement; it is skills such as writing, measuring, and reading; learning is values such as justice and equality and respect; it is concepts such as scarcity of resources; learning is laws, principles, and theories. Much of what students learn from a teacher will never be measurable in any direct diagnostic sense because for the student it becomes a blend of knowledge, skills, and values.

Fourth, teachers need to become familiar with the literature on teaching and become students of teaching. Fifth, teachers most need to recognize and focus on "the only actions which they can control--their own" (Hyman & Roscott, 1984, p. 40). Regardless of the subject matter or of the learners' styles, teachers can only suggest, direct, and guide the student. Teaching is, hopefully, a conscious act. As such, the teacher is responsible for his/her actions whether proactive or reactive, and with interaction over a period of time, it is difficult to tell what is initiation from what is reaction. Therefore, teachers best accept responsibility and become knowledgeable and skillful in learning, practicing, and utilizing a variety of teaching strategies. "Being knowledgeable and skillful regarding their own actions--what they do, control, and are

responsible for--is a requisite for teachers being able to match learning styles with teaching styles" (p. 41).

In their final recommendation regarding teaching style, Hyman and Roscott (1984) describe a style which seems nearly identical to the collaborative role of the teacher as described in the adult education literature. The teaching style in the study by Hyman and Roscott (1984) was not identified as the Collaborative Mode, rather it was called the transition mode. In order to instruct in the transition mode, teachers must change their unilateral approach to learners and adopt an approach that stresses mutuality, jointness of purpose, and bilateralism. This approach is the opposite of the unilateral formal diagnostic procedure for assessing learners which has been widely utilized in the teaching profession. Whereas the prescriptive approach to teaching styles may be appropriate for elementary and secondary education, it is less applicable in adult and higher education. The traditional or "Model I behavior" of teachers has four action strategies: "(1) Design and manage the environment unilaterally. (2) Own and control the task. (3) Unilaterally protect yourself. (4) Unilaterally protect others" (Hyman & Roscott, 1984, p. 39). Applying these four action strategies to the learning styles paradigm, learners are produced who are defensive, vulnerable, competitive and uncommitted rather than those who are self-directed.

In contrast, the bilateral or "Model II" approach can be positive and yield growth, and the determination of the appropriate classroom climate can be a learning experience for both teacher and student. The key lies in utilizing four Model II Action strategies.

1. Design situations or environments where participants can be originals and can experience high personal causation (psychological success, confirmation, essentiality).
2. Tasks are controlled jointly.
3. Protection of self is a joint venture enterprise and oriented toward growth.
4. Bilateral protection of others. (Hyman & Roscott, 1984, p. 41)

According to Hyman and Roscott (1984), when teachers operate in this model, the consequences are to reduce defensiveness and open up the learning process. Students as well as teachers become facilitators and collaborators. In this style there will be more open discussion, and people will feel free to share ideas and take risks in exploring different ways of learning. As a result, learners tend to become authentic, autonomous, and internally committed (p. 41). The authors recognized that the "Model II" classroom might be considered an idealistic situation, but they felt it to be an ideal for which teachers could strive. These "Model II" actions were labeled the transition mode. In this mode the teacher is a person who shares leadership, encourages the students to speak out, and feels successful as a teacher once the

students express themselves as individuals. Students help diagnose their own learning styles and help determine the appropriate teaching style.

Conti defined teaching style as "a hypothetical construct which is associated with various identifiable sets of teacher behaviors and which is a useful tool to understand and perhaps explain certain aspects of the teaching-learning process" (Conti, 1985a, p. 7). Both the collaborative and the transitional teaching style definitions place similar emphasis on the visible action-oriented behavior of the teacher.

While teachers display a wide variety of strategies and tactics in the classroom, the adult education literature supports the Collaborative Mode as the most effective style for teaching adults (Conti, 1985a). The Collaborative Mode has a number of key elements which operationalize the teaching/learning process:

- (a) The curriculum should be learner centered.
 - (b) Learning activities should be related to the learners' experiences.
 - (c) Adults are self-directed.
 - (d) The learner should be involved in entrance and exit assessments.
 - (e) Adults are problem-centered.
 - (f) The teacher should function as facilitator.
- (p. 7)

The Collaborative Mode is process oriented and the teachers' primary task is to maintain an environment which facilitates learning. It is a cooperative venture. However, rather than organize the instruction around

subject matter, adult educators recommend the substitution of a problem centered approach. This substitution slightly modifies the paradigm of teacher, student, and subject matter into a triad of the Collaborative Mode with the teacher, problem, and learner. In either case the successful implementation of this teaching/learning mode depends on active student participation.

In the Collaborative Mode, it is also important that teachers be responsible for their actions in the classroom. "While researchers are probing for a better understanding of the effectiveness of different teaching styles in various settings, the individual practitioner is ultimately responsible for improving the delivery of services to the adult learner" (Conti, 1985a, p. 8). To achieve this goal, teachers must be able to assess their own teaching styles. Conti suggested that to be really professional, educators must consciously practice their trade in terms of self-knowledge of the causal factors behind their own behavior. "Therefore, the assessment of teaching style can be an important step in the development of a professional teacher" (p. 8).

The identification of the Collaborative Mode of teaching as the most effective and appropriate mode for teaching adults can be followed through the adult education literature (Conti, 1978). "Support for this mode in adult education can be traced through the writing of such

prominent adult education leaders as Edward Lindeman, Paul Bergevin, J. Roby Kidd, Cyril Houle, Malcolm Knowles, Alan Knox, and Paulo Friere" (p. 2). This review of the adult education literature, "revealed a series of accepted adult learning principles which can be implemented through the collaborative teaching-learning mode" (p. 21).

Measuring Teaching Style in Adult Education

An assessment tool, the Principles of Adult Learning Scale (PALS), was developed to measure teaching style (Conti, 1978, 1979). The PALS is based on the principles that are advanced in the adult education literature and gives an indication of the practitioner's preference for a type of teaching behavior. A high score on the PALS indicates a learner-centered approach to teaching while a low score reflects a teacher-centered approach. By using PALS, teachers can gain a clearer understanding of their teaching style. In addition to identifying a general teaching style, specific teaching behaviors can be identified.

A review of the research (Conti, 1983) revealed that PALS has been used in a number of adult education studies and in several doctoral dissertations: Conti & Welborn (1986), Dinges (1981), Douglass (1982), Pearson (1980), Wiley, (1986). Dinges (1981) studied the staff development needs of the 265 ABE/GED teachers in Illinois. Pearson

(1980) surveyed 99 Mid-West training directors to determine the relationship between their managerial styles and their perceived use of the collaborative teaching-learning mode. In 1982 Douglas sampled 204 educators in Washington. The PALS was used to determine the relationship between professional training in adult education and the extent to which the educators used the Collaborative Mode. The analysis of these 778 cases in these studies confirms the stability of the descriptive statistics derived from the original study by Conti (1979).

The Pearson (1980) and the Douglass (1982) studies reported that the amount of formal education, especially formal education in adult education, was "the major influence on accepting a collaborative approach in an adult education setting" (Conti, 1983, p. 10). However, it is the Dinges' (1981) research which provides the greatest amount of information on demographic characteristics associated with employing the collaborative style. In research conducted in Illinois, Dinges (1981) studied the degree to which adult basic education teachers employed the collaborative teaching and learning mode. Data were gathered on 264 of 400 educators who attended regional adult education conferences. The subjects were surveyed using PALS and a 10 question demographic survey.

The data from the demographic survey revealed that the adult educators were largely female, had four years or less

of experience, worked full time, worked in the ABE/GED area, had a bachelor's degree, were young, and were evenly divided between working in the public schools and in the community colleges (Dinges, 1981). Overall, this sample of adult educators had a mean score which suggested that they were either neutral or slightly negative in the frequency with which they used the collaborative teaching style.

The characteristics which were related to the frequent use of the collaborative style as reported by Dinges (1981) were as follows: "between 4 and 10 years experience; part-time assignment; master's degree and beyond; 10-21 hours of adult education course work; degree in adult education; early and late middle age; program with 51-100 students; from community colleges; female" (p. 8789). On the other hand, the teacher characteristics which seem to relate to low employment of the collaborative mode were as follows: "less than one year and more than 10 years experience; full-time assignment; less than a master's degree; no hours and 22-29 hours of adult education course work; ages 20-25 and ages 56 and older; program with 1-50 students; four year colleges; males" (p. 8789).

This research indicates that certain teacher characteristics may be associated with the frequent employment of collaborative mode by adult educators. Therefore, future research using the PALS should collect data on those characteristics of the adult educator sample

and take those variables into account in designing a research study.

Several other studies have explored the relationship between teaching style and adult learning (Conti, 1985b; Conti & Fellenz, 1988; Conti & Welborn, 1986; McGowan, 1984). McGowan (1984) conducted an exploratory study of the relationship between learning and teaching style in a community college faculty. The purpose of the study was "to explore the degree of comparison between the Tenore Learning Style Inventory and three teaching style inventories: The Canfield Instructional Style Inventory, PALS, and the Teaching Style Q Sort" (p. 8786). The results of the research indicated that the three teaching style scales correlated with the learning style inventory.

In a study involving 29 teachers and 837 students in southern Texas, Conti (1985b) found a significant relationship between teaching style and academic achievement. The data were collected on students and teachers in an ABE/GED program. The study found that overall "the 29 teachers in this study tended to favor a teacher-centered approach" (p. 224). This indicates that a small group of teachers within a specific situational setting may differ from the norm for this instrument. This study also explored "the effects of an interaction between PALS score and the variables of student gender, student age, and course of study" (p. 225). No significant

difference was found related to gender or age of the students which had an influence on the student's achievement in the course. However, a significant interaction was found between scores on PALS and the subject being taught. Students in short-term, GED classes who had to take a standardized examination and pass it at a certain level in order to be awarded the high school equivalence certificate did better with a teacher-centered learning style. On the other hand, students in the longer duration, basic education and English as a Second Language (ESL) courses, whose entry level reading and English skills were very low, reached higher levels of achievement through the facilitation of a collaborative teaching style. Students in ABE and ESL classes are exposed to the risk-taking problems related to their illiteracy or the self-concept transformation required in learning a new language. Thus, the risk of failure is reduced in the supportive learner-centered environment which fostered cooperation and a warm relationship between student and teacher (Conti, 1985b). Although the lack of any teachers using a high level of collaborative methodology was a limitation, this study demonstrated that the nature of the course can be a significant factor influencing student outcomes as a result of an exposure to a consistent teaching style.

A study of the impact of both teaching and learning styles upon academic achievement by Conti and Welborn

(1986) found learning style to be insignificant while teaching style made a significant difference in student achievement. Data for the study were gathered on 256 health professionals taking courses in allied health education at a Texas university. Analysis of covariance revealed that few significant differences in achievement were due to learning style as measured with the Canfield Learning Style Inventory. "A knowledge of the student's overall learning style...may not be of tremendous value... all the elements within a preference area were equally successful in helping students achieve" (p. 21).

On the other hand, the effect of teaching style on student achievement was significant in this study. Primarily, the evidence suggests that teachers who practice a consistent teaching style have the greatest impact on student academic achievement. The rates of student achievement by health professionals in this study support the claims of adult educators "that the collaborate mode is effective for teaching adults" (Conti & Welborn, 1986, p. 22). Although the previous study (Conti, 1985b) noted that the nature of the course of study affected the efficacy of the Collaborative Mode for promoting academic achievement, this study indicates that a moderate collaborative teaching style, which takes into account the demands of a curriculum, may be the appropriate mode for fostering student achievement in the allied health field.

However, the study also suggested that a teacher-centered style can be equally effective.

As a followup to this study, a study of the relationship of teaching style to adult student learning was conducted at the tribal colleges in Montana (Conti & Fellenz, 1988). These colleges are located on the Indian reservations in Montana and the study involved 80 teachers and 1,447 students. Unlike previous studies, this study did not find a relationship between student achievement and the overall PALS score. However, six of the seven factors of the teaching style inventory were related to differences in student achievement.

The differences in student achievement were found to be related to differences in teaching style orientation on all but the factor dealing with formal evaluation. The students of teachers who scored at the extremes of the PALS scale tended to have relatively lower levels of achievement. On the other hand, the students of teachers who scored high but who were not extreme on either the learner-centered or a teacher-centered style on the six factors of the PALS tended to have a higher level of achievement. Those students who were taught by teachers who scored in the middle ranges on the PALS teaching style inventory were found to be average in achievement. It appears that teachers with either a moderate or eclectic teaching approach have little if any effect on student

achievement. A major conclusion from this study indicates that

Consistency within key teaching style elements may be the most important element in fostering improved student achievement. Students can predict and understand their teachers' behaviors. This consistency allows both the teacher and the students to be comfortable in the learning environment. (Conti, 1989, p. 14)

Overall these studies demonstrate that teaching style was measured using the PALS in a variety of adult learning situations. They suggest that a number of other variables, such as teacher characteristics and course subject matter, may influence the way in which teaching style affects the outcomes of education. These studies also indicate that a consistent teaching style may be effective in enhancing adult student achievement in learning.

CHAPTER 3

METHODOLOGY

Introduction

This study used a causal-comparative design to investigate the relationship of teaching style to students' readiness for self-directed learning in regular community college classrooms. "The causal-comparative method is aimed at the discovery of possible causes for a behavior pattern by comparing subjects in whom this pattern is present with similar subjects in whom it is absent or present to a lesser degree" (Borg & Gall, 1983, p. 533). The relationship of previous level of academic achievement, age, gender, and college settings were also examined in this study.

The Sample

The population for this study was the total number of students enrolled in classes in four public community colleges in the Northern Rocky Mountain Region during the 1989-1990 school year. Those students were enrolled in classes at Dawson Community College (DCC), Flathead Valley

Community College (FVCC), Miles Community College (MCC) in Montana, and Spokane Community College (SCC) in Washington.

Dawson Community College, one of the three units in Montana's community college system, was founded in 1940. It is a multi-purpose, two-year college that offers numerous associate of art and associated applied science degrees as well as one-year programs in various technical fields. DCC serves the vast area of Northeast Montana and utilizes several sites. Enrollment in 1989 was 232 full-time and 299 part-time students with a faculty of 24 full-time and 4 part-time instructors. DCC uses the quarter system with one summer term and is accredited by the Northwest Association of Schools and Colleges.

Dawson Community College is located in Glendive, Montana, which is the county seat of Dawson County. Glendive and vicinity has a relatively stable population of approximately 10,000. It is a transportation, agricultural, and energy resource center located on the Yellowstone River and on Interstate 94. The city has a library, Gateway Museum, several churches, a hospital, and most major civic, fraternal, and veteran's organizations within the immediate area. Recreation facilities include indoor and outdoor theatres, good hunting, limited boating and fishing, golf, and other outdoor sports. Near the southern edge of the city is Makoshika State Park, a

badlands and fossil-hunting area. (College Blue Book, 1989, p. 383)

Flathead Valley Community College is a public community college which opened its doors in 1967. It operates campuses in Flathead and Lincoln counties in Northwest Montana. The combined population of the community college district is 71,000. The school is fully accredited by the Montana State Board of Regents and the Northwest Association of Schools and Colleges. Current enrollment is approximately 606 full-time students and 1,352 part-time students on both campuses. A faculty of 34 full-time and 85 part-time instructors gives a faculty-student ratio of 1-16. The college operates on the traditional quarter system with three regular terms and a summer term.

Kalispell is the county seat of Flathead County, a region noted for the production of seed potatoes, wheat, cattle, Christmas trees, plywood, lumber, and sweet cherries. This city is circled by dense forests, lakes, and mountains with more than 2,000 miles of good fishing streams. Transportation for the area is provided by air, rail, and bus lines. In the area are 28 churches, a library, a hospital, and a medical center. Convenient shopping is easily accessible. Although Kalispell is a resort area, the local industries include plywood production, camper and camper trailer manufacturing,

log-skidding machinery production, and chemical and concrete products. (College Blue Book, 1989, p. 384)

Miles Community College is a public two-year community college which offers transfer, career, and continuing education programs. The school was established in 1939 under legislative authority passed that year in Montana. The college is accredited by the Northwest Association of Schools and Colleges. The quarter system is employed with three regular quarters and a summer term. Enrollment in 1989-1990 included 132 male and 260 female full-time students and 66 male and 196 female part-time students. A faculty of 58 instructors provides a teacher-student ratio of 1-12.

Located in Eastern Montana, Miles City is the county seat of Custer County and lies in the Yellowstone Valley along Interstate 94. Vast livestock ranches around Miles City raise more than one-fourth of the cattle and sheep produced in Montana while wheat is the primary crop grown in the dryland area. The city itself is a pleasant residential town of approximately 12,000 population. The local area is served by air and bus lines. The community has 17 churches, tennis courts, two theatres, a bowling alley, a golf course, a radio and TV station, and various civic and fraternal organizations. (College Blue Book, 1989, p. 384)

Spokane Community College (SCC) in Spokane, Washington was established as a two-year community college in 1963 by the State Board of Education when a college transfer program was added to the curriculum of the 47-year old Spokane Technical and Vocational School. In 1967 the college was enlarged by the opening of a second campus, and in 1970 the two campuses became two separate colleges. The original school retained the name Spokane Community College, and the other campus became Spokane Falls Community College. SCC is accredited by the Northwest Association of Schools and Colleges and respective professional organizations. It operates on the quarter system with one summer session. Enrollment is 11,650 full-time and 53,922 part-time students. The faculty numbers 362 full-time and 650 part-time members, giving a faculty-student ratio of 1-65.

As the second largest city in the state with a metropolitan population of 250,000, Spokane has diversified natural resources including timber lands, tremendous waterpower, mineral wealth, and many industries. The city is considered the economic and cultural capital of the region between the Rockies and the Cascades. Two airports and several private fields, railroads, and bus lines serve the area. Over 200 churches of all denominations, a public library system, several hospitals, and many civic and fraternal organizations are active here. There are

military establishments representing all the services within the area. The community has many fine cultural and recreational facilities as well as excellent shopping facilities. (College Blue Book, 1989, p. 384)

Random cluster sampling was used to select the sample (Borg & Gall, 1983, pp. 249-251). Instructors at the four community colleges were asked to take the Principles of Adult Learning Scale (PALS) to determine their teaching style. Based upon the scores on PALS, the instructors were divided into three groups. One group was composed of teachers who scored between .5 and 2 standard deviations above the mean on PALS and who therefore practiced a definitive collaborative style of teaching. A second group was composed of teachers who scored between .5 and 2 standard deviations below the mean on PALS and who therefore practiced a definitive teacher-centered style of teaching. The third group was composed of those instructors who scored between .5 standard deviations above or below the mean and who therefore practiced an eclectic style of teaching. Once the teachers were categorized into the three groups according to PALS, instructors were randomly selected from each group for inclusion in the study. A minimum of 10 instructors were then randomly selected from each teaching style. All classes of those instructors selected were used.

Previous research indicated that because of the predominance of the behavioristic philosophy in public education, it might be difficult to secure a large enough pool of instructors in postsecondary institutions who support the collaborative style of teaching (Conti & Welborn, 1986). Instructors who had been randomly selected but who were unable to participate were replaced by random selection until at least 10 instructors were available in each teaching style group.

Students were included in the sample through the following process: (a) stratifying the instructors based upon their teaching style; (b) randomly selecting instructors from the stratified group to administer the SDLRS to intact classes; (c) eliminating students exposed to more than one teaching style; and (d) eliminating the subsequent scores of students who appeared in the sample more than once. Through this process, a sample of sufficient size was retained to insure the benefits of the central limit theorem, protect against sampling error, and satisfy the guidelines of a sample approximately one-tenth of the population (Ferguson, 1981, p. 153).

This ex post facto research was conducted by administering the SDLRS at the beginning of the quarter to selected intact classes of students in four public community colleges. Students in these classes were once again tested with the SDLRS after a period of 10 weeks.

The 10 week time period was selected for the following reasons: (a) the time corresponds to the quarter system used in Montana and Washington; (b) the classes selected for study remained intact only for that period; (c) it is implicit in formal education that the effects of instruction will have measurable impact on students within the standardized college term; and (d) an earlier study of the effects of teaching style in the classroom indicated that at least 10 weeks of instruction produced significant results (Wiley, 1986).

Instrumentation

Two existing instruments were used to gather the data for this study. First, PALS (Conti, 1979, 1985a) was mailed to all faculty of the four community colleges in order to measure teaching style, an independent variable for this study. Second, student readiness for self-directed learning, the dependent variable, was measured by the SDLRS (Guglielmino, 1978).

Principles of Adult Learning Scale

Conti (1978) analyzed the works of several contributors to adult education theory and practice. His analysis revealed that accepted adult learning principles can be implemented through a sharing of authority in making decisions about the teaching/learning task. This process

was labeled the Collaborative Mode. The Collaborative Mode (shared-membership) is defined as one in which learners and teachers cooperatively determine the ends, means, and evaluation of learning.

Conti (1979, 1983) developed and validated an instrument to measure the degree to which adult educators perceive themselves to use adult learning principles. He based the items for the scale upon adult education principles derived from the writings of authorities in the field of adult education.

PALS is a valid and reliable instrument. Responses to the items of PALS are on a 6-point modified Likert scale. The construct validity of these items was established by two rounds of adult educator jury analysis in which 78% of the judges agreed on the congruency of the items (Conti, 1979). Construct validity was later statistically confirmed by means of factor analysis (Conti, 1983). Content validity was accomplished by a two phase field-testing process involving full-time adult basic education practitioners. For this analysis, responses on each item were compared to an individual's total score. Pearson correlation from the field-testing indicated that 40 of 44 items were significant at the .05 level or above. Criterion related validity involved comparison of the scores on the PALS with scores on the Flander Interaction Analysis Categories (FIAC). The FIAC was chosen because

"the actions described in Flander's definition of initiating are highly congruent with the characteristics of the Collaborative Mode" (Conti, 1983 p. 8). Pearson correlations between PALS and the three FIAC ratios showed high positive correlations of .85 .79, and .82. The reliability of the PALS was established with a test-retest method which yielded a reliability coefficient of .92. Thus, PALS is a reliable and valid diagnostic device which can be used in empirical studies to test the effects of the Collaborative Mode on student achievement. "With PALS serving as the instrument for identifying the experimental and control group, these studies could examine the relationship of the teaching-learning mode to such variables as learning orientations" (Conti, 1983, p. 11).

PALS has been used in various research projects (Conti, 1983, 1985b; Conti & Fellenz, 1988; Conti & Welborn, 1986) and in over 20 dissertations (e. g., Graham, 1988; McGowan, 1984; McKenzie, 1987; Scotney, 1986; Wiley, 1986). These studies show that teachers can assess their own teaching style with PALS. It is a 44-item instrument which uses a modified Likert summative rating scale. Teachers respond in terms of the frequency with which they actually practice the type of behavior described in the items. Scores on the PALS may range from 0 to 220. The mean for the instrument is 146 with a standard deviation of 20. These statistics for PALS have remained consistent

across various groups that have taken the test (Conti, 1983). This test can be taken in a short time and is designed to be self-scored. It can effectively divide a sample of teachers into groups based on self-perception of their use of a teacher-centered or a learner-centered teaching style.

The Self-Directed Learning Readiness Scale

Guglielmino (1977) developed the Self-Directed Learning Readiness Scale as a dissertation research project. The study obtained item content materials using a modified Delphi technique based on the expert opinion of 14 authorities on self-directed learning. This research procedure produced a Likert-type reporting scale.

The instrument was tested using item and factor analysis on data gathered from 307 college students. Item analysis yielded a reliability estimate of .87, and the factor analysis indicated the items loaded on eight factors associated with "self-direction in learning, openness to learning opportunities, self-concept as effective learning, initiative and independence in learning, informed acceptance of responsibility for one's own learning, love of learning, creativity, future orientation, and ability to use basic skills and problem solving skills" (Guglielmino, 1977).

The validity and reliability of the SDLRS has been checked in other studies. Brockett (1985a) confirmed a reliability coefficient of .87 for the SDLRS. However, because of the difficulties he encountered in using the instrument, the internal consistency of the SDLRS was explored through item analysis. The items were analyzed by performing a correlation of each item to an individual's total score on the SDLRS. "It was found that 12 of the 58 SDLRS items, or 21% of the instrument, were not significantly correlated with the total scale" (p. 20) for this specific sample. Because of his findings and a general frustration with the problems of administering the scale, Brockett concluded that the SDLRS may not be a valid measure for groups which have low educational attainment and who are not oriented to learning through the use of books and libraries.

Researchers such as Brockett (1985a) and Kasworm (1983) both point to the possible necessity of establishing the construct validity of the SDLRS for the sample being measured if the sample is significantly different from the group used by Guglielmino to validate the scale. "In these situations where the reliability and validity of the scale are determined to be high, continued use of the SDLRS is encouraged" (Brockett, 1985a, p. 23).

Kasworm (1983), and Caffarella and Caffarella (1986) have used the SDLRS to measure a change in self-

directedness in samples of subjects drawn from populations of graduate students. Kasworm (1983) did not report any problems with administering the scale to this population, nor were questions of reliability and validity raised.

The study by Kasworm (1983) provides evidence of the SDLRS's ability to validly measure readiness for self-directed learning. In this study, Kasworm used course evaluation and the analysis of data from observational diaries. "A majority of the respondents reported significant support and commitment to future opportunities in self-directed learning" (p. 50). Seven questions on the evaluation form were judged to relate to the self-directed learning process and curriculum. Kasworm further reported that based on the analysis of content from the observational diaries "approximately 40% of the students had made a shift into a higher phase during the course" (p. 53). The themes examined by Kasworm from the diaries "appeared congruent to other previous writing by instructors in self-directed learning courses" (p. 51). This similarity of themes supports the construct validity of the SDLRS, and the observed behavior of the graduate students serves as an external criterion to support the instruments' validity.

Caffarella and Caffarella (1986) found that learning contracts did not increase graduate students' readiness for self-directed learning as measured by the SDLRS. However,

it appears in this case that the group of graduate students studied was already too highly self-directed to have experienced any measurable change. Caffarella (1983) and Caffarella and Caffarella (1986) did not report any problems with the administration, reliability, or the validity of the SDLRS.

Long and Agyekum (1988) reported on an analysis of the findings of several studies using the SDLRS (Finestone, 1984; Long, 1986; Long & Agyekum, 1983, 1984; Torrance & Mourad, 1979). They concluded that the findings were generally supportive of the validity of the SDLRS and that the direction of the findings are consistent with the theoretical assumptions underlying the SDLRS. It appears that based on the studies of Brockett (1985a) and Long and Agyekum (1983, 1984) that additional validation studies may be necessary to determine the effects of age and of race on SDLRS scores as noted in those studies. However, "it is concluded that the SDLRS is generally valid when used with subjects similar to the ones used by Guglielmino to develop the instrument" (Long & Agyekum, 1988, p. 265).

A critique of the SDLRS instrument was reported by Field, (1989). Field listed four areas of concern about the development of the scale which might have serious consequences for its use in adult education research:

- (a) the use of the Delphi technique to generate the items;
- (b) the lack of any clear definition of the terms readiness

and self-directed learning in the original research; (c) the use of too many negatively phrased items in the scale; and (d) the rewording and replacement of additional items after the scale was initially validated. Both Field (1989) and West and Bentley (1990) point out that there may be problems with some of the items which support the underlying factors of the scale. It is suggested "that overall SDLRS scores would be more interpretable than the highly related factor scores" (West & Bentley, 1990, p. 178). Whether the overall factor measured by the scale is called "love of learning" (Field, 1989) or "self-directed learning readiness," all but one adult educator who has used the scale has found it to be reliable and valid when used with adults who have some previous classroom learning experience.

Subsequently, Guglielmino (1989) and Long (1989) defended the reliability and validity of the instrument. Both educators refuted Field's criticisms point by point and argued that the critique by Field was in error on many points. "Field's paper is so filled with errors of omission and commission that it does not merit serious consideration" (Guglielmino, p. 240). Field's "research report adds little that is new to the literature and it is sufficiently marred by flaws to question the reported conclusion, that is, the SDLRS is not an indicator of readiness for self-directed learning" (Long, 1989, p. 240).

In summary, while there has been much debate about the validity and reliability of the instrument, the SDLRS may be an appropriate instrument to measure self-directed learning. Various studies indicate that the scale could be used in an institutional setting such as a community college where the respondents have voluntarily entered a higher level academic situation and where some experience with learning through books and libraries is a prerequisite.

Method and Procedures for Data Collection

Permission to conduct this study was obtained from the president or dean of instruction of each community colleges. Faculty and student participation was voluntary.

All of the instructors of the four public community colleges were asked to measure their teaching styles using the PALS scale. The PALS was used to divide the instructors into three groups defined by their scores on the scale. Experience using the PALS in previous research (Conti, 1985b, 1989; Conti & Fellenz, 1988; Conti & Welborn, 1986; Wiley, 1986) indicated that these standard deviation groups define distinct teaching styles. Less than .05 standard deviation from the mean represents teachers who are weakly committed to either a teacher-centered or learner-centered style. However, between .05 and 2 standard deviation defines those teachers who have a

consistent style which is predominately either learner-centered or teacher-centered. Those teachers who scored beyond 2 standard deviation have a teaching style which is so strongly committed to the particular teaching philosophy that they might be considered extreme (Conti, 1989). In this study teachers were grouped into three categories:

(a) those with a distinct teacher-centered style; (b) those who did not possess a distinct style; (c) those with a distinct learner-centered approach to teaching.

After the teachers were selected, the SDLRS, an answer sheet, and instructions for administering the scale were mailed to the teachers prior to the first week of instruction. The answer sheet solicited student data on level of high school academic achievement, age, gender, as well as responses to the SDLRS. Students were asked to indicate the names of all other instructors and courses for which they were enrolled. The instructors administered the SDLRS pretest and posttest to students in their courses.

Between the first and tenth week of the quarter, the students were assigned to one of three groups based on their total exposure to a particular teaching style. Students exposed to more than one teaching style were eliminated from the study.

A sufficiently large sample of instructors was drawn in order to allow for students who would be lost because of their inability to be classified into only one group and

because of the natural attrition of students during a school term. The 33 randomly selected instructors had 410 students in their classes. This resulted in a group of 130 students after classification and attrition.

Statistical Hypothesis

This study investigated the relationship of a teaching style to which students had been exposed to their level of readiness for self-directed learning. In addition, demographic data collected on the student and faculty participants in this study were used to control for confounding variables. The following null hypotheses were tested:

1. There is no significant difference between the perceived teaching style of community college faculty as measured by the PALS and a student's readiness for self-directed learning as measured by the SDLRS.
2. There is no significant difference between academic achievement as measured by self-reported high school grade point average and the student's readiness for self-directed learning as measured by the SDLRS.
3. There is no significant difference between traditional and non-traditional age of the students and the student's readiness for self-directed learning as measured by the SDLRS.

4. There is no significant difference between gender and the student's readiness for self-directed learning as measured by the SDLRS.

5. There is no significant difference between college attended and the student's readiness for self-directed learning as measured by the SDLRS.

Analysis of Data

Data were analyzed by means of analysis of covariance. With this statistical technique, the posttest scores of the students on the SDLRS were adjusted by their scores on the pretest. To test each of the hypotheses, students were grouped according to different categories of the independent variables in order to test for differences in the dependent variable of readiness for self-directed learning. Analysis of covariance (ANOCOVA) addressed the assumption of the homogeneity of the groups because of the non-random assignment to groups (Borg & Gall, 1983). ANOCOVA "reduces the effects of initial group differences statistically by making compensating adjustments to the posttest means of the two groups" (p. 683).

The PALS and the SDLRS data were entered into the dBase III Plus program utilizing an IBM PC. The PALS and the SDLRS were machine scored using the Statistical Package for the Social Science (SPSS). The computer printout of the data was checked against the raw data. All incomplete

data sets were deleted. The SPSS software for the IBM was used to compute the statistics and perform the statistical analyses of the data.

CHAPTER 4

ANALYSIS OF DATA

Participating Faculty

During the 1989-1990 academic year, data on community college students' readiness for self-directed learning were gathered at four community colleges in the Northern Rocky Mountain region. These students were administered the Self-Directed Learning Readiness Scale (SDLRS) by the instructors in regularly scheduled classes at the community colleges. The instructors in those intact classes administered the same form of the SDLRS to students at the beginning and end of the quarter.

The Principles of Adult Learning Scale (PALS) teaching style inventory was sent to 670 faculty members of four community colleges with a letter soliciting participation in this study. However, only 224 returned a complete and valid PALS, which represented 33% of the faculty of the four community colleges.

The logistics of the study dictated that PALS be administered to faculty during the quarter before the data were to be gathered on the students in order that instructors' scores could be classified according to

teaching style. Approximately 60% of the faculty in the community colleges were part-time and employed from quarter to quarter. Unfortunately, it was found that often the faculty who had been randomly selected on the basis of the PALS one quarter did not actually teach classes in the succeeding quarter. In addition, some faculty who were scheduled to teach had their classes cancelled due to low enrollment. In other cases an instructor taught only one particular type of course, and that course was only offered in a given quarter and not in succeeding quarters. Thus, many times faculty who had been selected were not available in order to complete the study.

Several other factors affected faculty participation in the study. Some instructors chose not to continue with the study even though they had taken PALS and returned it. The letter describing the study and asking them to assess their teaching style indicated that some of the instructors would be asked to participate in the administration of the SDLRS to their students, and some of the faculty were unwilling to devote the class time that two administrations of the SDLRS required. Some faculty reported that they felt that the concept of teaching style did not apply to them or that the concept did not apply to teaching generally. Others were not willing to provide some of the demographic information that was requested, such as their name or years of experience. Finally, several faculty

responded that they had not been able to administer the posttest to the students because the class was over before they had received the instrument although the SDLRS was sent before the college calendar indicated the end of the quarter. These attitudes and actions by the instructors reduced the actual number of students involved in the study and lowered the instructors' participation rate. However, the study was continued after the Fall Quarter 1989. Due to the low participation rate instructors were replaced in the study using a table of random numbers and data were gathered Winter Quarter 1990 at DCC, MCC and FVCC. At that point there were still only 6 instructors with a collaborative teaching style who were teaching regularly at those colleges. Therefore, it was decided to expand the study to Spokane Community College. As a result of the addition of SCC, four more instructors with a collaborative style were obtained and the goal of securing at least 10 instructors from each teaching style was obtained. The SDLRS data on students at SCC was gathered during the Spring Quarter of 1990. The distribution of responses to PALS at all four colleges is reported in Table 1.

The faculty were divided into three teaching style groups based on their scores on the PALS. The three groups were labeled as traditional, eclectic, and collaborative. After the instructors were classified according to teaching style, instructors were randomly selected to administer the

Table 1. Distribution of Responses to PALS.

College	Faculty Solicited	PALS Returned	% Return
DCC	24	17	79
FVCC	233	113	56
MCC	63	28	49
SCC	350	65	19
Total	670	224	33

Self-Directed Learning Readiness Scale to their students. A total of 54 instructors were selected before 33 instructors were found who were available to actually administered a pretest and a posttest to their classes (see Table 2). Those 33 taught a total of 113 community college classes.

Table 2. Classification by Teaching Style of Faculty Selected and Who Participated in the Study.

College	Traditional		Eclectic		Collaborative	
	Sel.	Par.	Sel.	Par.	Sel.	Par.
DCC	3	1	3	2	0	0
FVCC	8	6	10	8	7	4
MCC	6	4	1	1	2	2
SCC	5	0	5	1	4	4
Total	22	11	19	12	13	10

The group of instructors who actually participated in the study was compared to the total number of those faculty who were randomly selected and asked to participate. No significant differences were found when the two groups were compared on the various scales of teaching style: PALS ($t = 1.07$, $df = 52$, $p = .29$), Factor 1 ($t = .30$, $df = 52$, $p = .77$), Factor 2 ($t = .69$, $df = 52$, $p = .50$), Factor 3 ($t = .16$, $df = 52$, $p = .87$), Factor 4 ($t = .14$, $df = 52$, $p = .89$), Factor 6 ($t = .99$, $df = 52$, $p = .33$), Factor 7 ($t = .72$, $df = 52$, $p = .48$). The group differed only on Factor 5 ($t = 2.36$, $df = 52$, $p = .02$). On Factor 5 (Climate Building) the participating group had a mean of 15.3 and scored near the normal mean of 16 for the factor while those that did not participate had a mean of 13.7 and scored approximately three-fourths of a deviation below the mean. Thus, because no major differences existed between the participating group and the nonparticipating group, the group actually participating in the study was judged to be equivalent to the total faculty selected for the study.

Faculty Demographic Characteristics

Data were gathered on selected demographic variables of the faculty of the four community colleges in addition to the information on their teaching styles. The sample was nearly equally distributed according to gender with slightly more males (53%) than females (47%). The faculty

ranged in age from 24 to 69. The largest single group of the faculty were between the age of 34 to 43, and the average age was 44. The faculty were distributed among the various age categories as follows: 24 to 33--4, 34 to 43--14, 44 to 53--9, and 54 to 69--5. While the faculty appeared to be fairly mature as witnessed by an average age of 44, as a group they had relatively little community college teaching experience. The average number of years of community college teaching experience for the faculty was 7, and a surprising 75% reported less than 10 years of teaching experience at the community college level. The distribution of the faculty between the full-time (47%) and part-time (53%) instructors of the colleges was fairly even. The educational level of the faculty of the four community colleges included those with a high school diploma (2), an associate degree (1), a bachelor's degree (11), a master's degree (14), and a doctorate (4). The majority of the faculty (56%) had a graduate level degree. Overall, the sample of faculty in this study appeared to be representative of the general population of instructors in community colleges.

Students

Although there are approximately 8,000 students in the four community colleges in any given quarter, the potential number of students available for the study was reduced to

920 due to the instructors participating in the study. The following results were obtained from the four community colleges in this study. Participation rates for students completing valid SDLRS are as follows: Dawson Community College--60; Flathead Valley Community College--201; Miles Community College--66; and Spokane Community College--83. Thus, of the students in the selected teacher's classes, 410 completed both a pretest and a posttest. Those students who were enrolled in more than one class and those who were exposed to more than one teaching style were not included in the analysis of the effect of teaching style on SDLRS. Of the total of 130 students who could be classified as having been exposed exclusively to one of the research categories in terms of teaching style, 59 were exposed to the traditional teaching style during an academic quarter; 50 students were taught in classes where the eclectic style was used; and 21 students were taught by instructors who practiced a collaborative teaching style.

Although the random selection process had provided for a rather proportional distribution of instructors among the four colleges, the highest participation rate was from Flathead Valley Community College. Consequently, almost half of the valid student scores came from Flathead Valley Community College.

Just as many personal and professional factors reduced the number of instructors who took part in the study, similar events affected the participation of the students. For example, in some cases students joined the class after the pretest had been given. In other cases, the students dropped out before the end of the quarter. Although they had taken the SDLRS, some students had not completed it in such a way that it was useful for the study. For example, if students failed to give their names or the name of the instructor for the class, it was impossible to classify these students into one of the research categories. Therefore, rates of participation were low because of the several uncontrollable factors which influenced gathering complete sets of data.

Results

Several hypotheses were tested in this study. The general problem investigated in this study was to determine if teaching style had a measurable effect on community college students' readiness for self-directed learning. However, research has indicated that other variables have a potential for affecting students' scores on the SDLRS. Therefore, the relationship of students' scores on the scale were compared to such New Student characteristics as previous level of academic achievement, age, gender, and college of attendance. The data on student characteristics

were analyzed to determine if learner readiness scores differed between the New Students and the traditional students in the sample. New Students were defined as those who were over the age of 25 and reported that their high school grade point average was 2.5 or less. The New Student as compared to the traditional student was also defined as more likely to be female than to be male. Crosstabulations of age, college, high school grade point average, gender, and teaching are located in Appendix G.

Analysis of covariance (ANOCOVA) was used to analyze the data in this study. Analysis of covariance is similar to analysis of variance (ANOVA). In ANOVA, variables are categorized to determine if this classification is related to a difference in the groups' scores. The main difference between ANOVA and ANOCOVA is that ANOCOVA includes a covariate which is an extra control for statistically adjusting for individual differences in the dependent variable. Thus, ANOCOVA is a procedure for dividing the variation observed in experimental data into different parts. Using this method, it is possible to determine if the observed differences between the means of the groups in the study are greater than chance expectations under the stated conditions of the null hypothesis.

Teaching Style and
Self-Directed Learning

The relationship between the perceived teaching style of the community college faculty and the students' readiness for self-directed learning was investigated by categorizing the teachers according to their teaching styles and comparing them to the SDLRS scores for students exposed to those teaching styles. Teachers were divided into the groups of traditional, eclectic, and collaborative. The analysis of covariance indicated that there were no significant differences in the mean SDLRS scores for these groups (see Table 3). The adjusted means for each group were as follows: traditional--230.0, eclectic--226.1, and collaborative--224.3. All groups were above the suggested mean of 214 (Guglielmino, 1977). Since all groups were somewhat self-directed as measured by the SDLRS, the variance between the groups was limited. Since

Table 3. Analysis of Covariance of Student Self-Directed Learning Readiness Scores for Different Teaching Styles.

Source	SS	df	Mean Square	F	p
Teacher	664	2	332	1.684	.19
Within	24847	126	197		
Total	67972	129			

the values obtained from the analysis of variance of the SDLRS scores were not significant at the .05 level, the null hypothesis that there was no difference between teaching style and students' readiness for self-directed learning was retained.

High School Achievement and Self-Directed Learning

The relationship between student achievement as measured by self-reported high school grade point average (HSGPA) and self-directed learning was investigated by dividing the students into two groups. The two groups included all of the 410 students who completed a valid pretest and posttest on the SDLRS. Although the sample was reduced to the 130 students exposed to an exclusive teaching style when studying the relationship of student's readiness for self-directed learning in relation to teaching style, this delimitation was not necessary to study the relationship of HSGPA to SDLR. Since Cross lists low academic achievement as one of the characteristics of New Students, the students with a HSGPA at 2.5 and below were classified as New Students, and those with a HSGPA at 2.6 and above were labeled as traditional students. These two groups were compared on their scores on the SDLRS. Analysis of covariance indicated that there was a significant difference between the means of the two groups (see Table 4). The adjusted means were 227.4 for the New

Table 4. Analysis of Covariance of Student Self-Directed Learning Readiness Scores for Achievement.

Source	SS	df	Mean Square	F	p
HSGPA	1110	1	1110	3.811	.05
Within	118554	407	291		
Total	285670	409			

Students and 224.1 for traditional students. Because the mean for the New Students was significantly greater than that of the traditional students, the null hypothesis that no differences between high school achievement and readiness for self-directed learning was rejected.

Age and Self-Directed Learning

Students ranged in age from 16 to 64. Most were between the ages of 16 and 34, and the average age for the group was 28.4. The students were distributed among the various age categories as follows: 16 to 24--191, 25 to 34--103, 35 to 44--82, 45 to 54--20, and 55 to 64--8. The relationship between student age and self-directed learning was investigated by dividing the students into two groups. The two groups included all of the 410 students who completed a valid pretest and posttest on the SDLRS. Although the sample was reduced to the 130 students exposed to an exclusive teaching style when studying the

relationship of student's readiness for self-directed learning in relation to teaching style, this delimitation was not necessary to study the relationship of student age to SDLR. Since New Students tend to be the older students, the following categories were used: traditional students (16 to 24) and New Students (25 to 64). The two groups were then compared using the score on the SDLRS. The analysis of covariance indicated that there was a significant difference between the means of these two groups (see Table 5). The adjusted mean for the New Students on the SDLRS was 227.6 as compared to 223.6 for the traditional students. Because the mean for the New Students was significantly greater than that of the traditional students, the null hypothesis that no difference between the older age students and readiness for self-directed learning was rejected.

Table 5. Analysis of Covariance of Student Self-Directed Learning Readiness Scores for Different Age Groups.

Source	SS	df	Mean Square	F	p
Age	1486	1	1486	5.102	.02
Within	116789	401	291		
Total	278276	403			

Gender and Self-Directed Learning

The sample of students in the study was 65% female. This may appear disproportionate; however, the community college student population includes increasing numbers of women. This is especially true in the age of the re-entry woman. The relationship between a student's gender and self-directed learning was investigated by comparing the male and the female groups using their scores on the SDLRS (see Table 6). The two groups included all of the 410 students who completed a valid pretest and posttest on the SDLRS. Although the sample was reduced to the 130 students exposed to an exclusive teaching style when studying the relationship of student's readiness for self-directed learning in relation to teaching style, this delimitation was not necessary to study the relationship of gender to SDLR. The adjusted means were 223.8 for the males and

Table 6. Analysis of Covariance of Student Self-Directed Learning Readiness Scores for Differences in Gender.

Source	SS	df	Mean Square	F	p
Gender	867	1	867	2.975	.08
Within	118324	406	82061		
Total	284246	408			

226.9 for the females. Since the values obtained from the analysis of covariance of the SDLRS scores were not significant at the .05 level, the null hypothesis that there was no difference between gender and students' readiness for SDL was retained.

College Attended and
Self-Directed Learning

The students were divided into groups based on the college attended as follows: Dawson Community College (60), Miles Community College (66), Flathead Valley Community College (201), and Spokane Community College (83). Almost 50% of the students were from FVCC. The relationship between college attended and self-directed learning was investigated by comparing these four groups of students by using their scores on the SDLRS. Analysis of covariance indicated that there was a significant difference among the means of the four groups (see Table 7). The adjusted mean

Table 7. Analysis of Covariance of Student Self-Directed Learning Scores for College Attended.

Source	SS	df	Mean Squares	F	p
College	2285	3	762	2.628	.05
Within	117379	405	290		
Total	285670	409			

score for each group was as follows: DCC--223.3, MCC--221.2, FVCC--227.1, and SCC--227.6. Because differences were found, the null hypothesis that no significant differences between the college attended and readiness for SDL was rejected.

The post hoc Scheffe Test of Multiple Comparison indicated that the students formed two groups. One group consisted of students attending Dawson Community College and Miles Community College and a second group consisted of students attending Flathead Valley Community College and Spokane Community College. The group composed of FVCC (231.7) and SCC (228.8) scored higher than the group composed of DCC (211.4) and MCC (216.7).

FVCC and SCC are larger in terms of student body and in program offerings. The two larger colleges are located in an urban environment and consequently have a greater variety of students, programs, and faculty. Therefore, these two colleges have more similarities to each other in geography, students, faculty, services, and organizational structure than they do to the smaller, more rural colleges in the study.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

As a result of this study, two types of conclusions can be drawn. One type relates to the community college faculty, and the other pertains to the students. Recommendations related to these conclusions include the implications of the results of this study upon research into the relationship between teachers and students in the classroom and upon research on the community college culture.

Summary

This study was conducted over the regular academic year from September of 1989 to June of 1990 at three community colleges in Montana and one in Washington. The study investigated the relationship of teaching style, age, gender, high school academic achievement, and college attended upon the readiness for self-directed learning of community college students in a variety of regularly scheduled community college classrooms

This study involved 410 students. Of these, 130 were classified as having been exposed to one exclusive style of

teaching during the quarter. These students were taught by a total of 33 instructors.

Several separate analyses were made. For these, the students were divided in groups based on the following classifications: by the teaching style treatment they received; whether they were of traditional age or over the traditional age as college students; by gender; by whether their high school academic achievement had been classified traditional or non-traditional for students attending college; and by the college the students had attended.

Since teaching style is a characteristic which the instructors possessed prior to the study and since it is a rather stable professional trait, the teachers involved in the study taught their regularly scheduled classes in their customary fashion. They were given no instructions about teaching style nor were they requested to change their teaching style in the classroom. Their preference for a particular teaching style was identified by the Principals of Adult Learning Scale.

All students in the selected instructors' classes were given a pretest at the beginning of the quarter and a posttest after 10 weeks of instruction at the end of the regular academic quarter using the Form A of the Self-Directed Learning Readiness Scale (SDLRS) as the measure of the dependent variable, readiness for self-directed learning. The posttest results were analyzed for the

various student groups using ANOCOVA with the pretest results of the SDLRS as the covariate. In addition to completing the SDLRS scale, the students were asked to provide data on their age, gender and level of high school achievement.

Five separate analyses were conducted. Significant differences were found in three of the analyses. First, there was a significant relationship between high school achievement and readiness for self-directed learning as measured by SDLRS. Higher scores on the SDLRS were obtained by the group of students classified as New Students in terms of self-reported high school grade point average.

Second, higher scores on the SDLRS were obtained by the New Students classified in terms of being over the traditional age for college students. Thus, a significant relationship was found between readiness for self-directed learning and older students in this study.

Third, a significant difference was found between the colleges attended and scores on the SDLRS. Higher scores on the SDLRS were associated with attendance at Flathead Valley Community College and Spokane Community College, the two larger, more urban, and more comprehensive of the four community colleges.

Two analyses failed to produce significant differences. First, no significant relationship was found

between the teaching style of the faculty and the students' scores on the SDLRS. There was no significant difference in the mean self-directed learning readiness score of the students when they were grouped according to the three teaching styles of their instructors. Finally, no significant relationship was discovered between gender and readiness for self-directed learning.

Conclusions

The Faculty

The findings of this study indicate that there were no significant differences in the self-directed learning readiness scores after a 10-week period when students were exposed to one specific teaching style. Although the general adult education literature supports the collaborative mode as the most effective for teaching adults (Conti, 1978), situational factors in the community colleges may have influenced the findings concerning the relationship of teaching style to a student's orientation to self-directed learning. Numerous studies (Conti, 1985b, 1989; Conti & Fellenz, 1988; Conti & Welborn, 1986; Wiley, 1986) have shown that teaching style had an effect on both the direct (grades) and indirect (attitudes) outcomes of learning. However, the process of identifying and obtaining faculty for participation in this study indicated that in these community colleges the faculty were

overwhelmingly traditional in teaching style. Instructors who practice a collaborative teaching style were hard to find, and those who did exist were not in the mainstream programs of the colleges studied. The non-traditional teachers were largely part-time non-tenure teachers, and they taught in the basic skills, continuing education, institutes, art centers, counseling centers, and outreach centers. It was difficult to find a teacher in the core academic or vocational curriculum of the colleges who was not either traditional or eclectic in teaching style. This staffing pattern may be a reflection of the tendency in community colleges to organize according to subject matter discipline and department.

The idea that teaching and learning may be problem-centered and student-centered rather than subject-centered and teacher-centered was largely irrelevant to the faculty of the four community colleges studied. Written comments on the PALS answer sheets and verbal comments to the researcher indicated that by and large the faculty considered the issue of the appropriate teaching style for community college students to be settled. Consistently they commented that the concept of teaching style did not apply to their subject. These comments implied that teaching style was viewed primarily as methods of teaching and that they perceived their job to be the transmission of the knowledge base in the mode of inquiry of their academic

or occupational subject matter. Consequently, a central precept of adult education concerning the necessity to enhance the self-directed orientation for learning of adult students in order that they may become fully self-actualized in the learning society was not accepted by the regular faculty of these colleges. While Cross (1976) "suggests that attitudes and teaching styles have probably changed to accommodate the learning needs of New Students" (p. 11), this research indicated that a traditional approach to teaching subject matter still dominates these community colleges.

However, two studies on effective teaching styles for adult students suggest that the particular teaching style used in the classroom may not be the most important variable for improving student outcomes. The concept that it is consistency in the practice of a teaching style rather than the teaching style per se suggests that a definitive teaching style is successful in enhancing student achievement because it allows the student to adjust to the teaching/learning situation whether it was teacher-centered or learner-centered (Conti, 1989). In this study the dependent variable was readiness for self-directed learning and not achievement. The concept of self-directedness in learning behavior presupposes that the student will be able to exercise a degree of control over the learning environment. If a teacher practices an

inconsistent teaching style, predictability in the classroom and the students' ability to share in the control of the learning situation declines. However, in classrooms where teachers practice a consistent teaching style and where students are able to adapt equally well to the consistency of the teaching style, it is possible that the students' scores on the SDLRS would show no significant differences in either group.

The Colleges

While the individual instructor's teaching style did not appear to affect student's readiness for self-directed learning, the college that the student attended did show a difference. Students at Flathead Valley Community College (FVCC) and Spokane Community College (SCC) scored higher on the SDLRS than students at Dawson Community College (DCC) and Miles Community College (MCC). Both of these larger colleges have more comprehensive occupational offerings in the curriculum than do the two smaller Eastern Montana community colleges.

Perhaps the data on college attended indicate that these larger colleges more closely resemble the profile of the comprehensive community colleges preferred by the New Students in the study reported by Cross (1971). Both FVCC and SCC use more part-time instructors in a marginal role to augment the traditional curriculum and consequently have

a broader array of programs, courses, outreach centers, institutes, and learning centers than do Dawson Community College (DCC) and Miles Community College (MCC) (College Blue Book, 1989). Studies show these are the types of schools that appeal to the New Students (Cross, 1971, 1976; Warren, 1985). In these more comprehensive community colleges, the students may have more opportunity to be exposed to instructors with a collaborative teaching style. The students are likely to find more counseling and other types of support structures which help them deal with personal problems that older and low ability students bring with them to college. Finally, FVCC and SCC are more apt to appeal to the practical occupational orientation of the older students in today's community college. All of the above factors may produce a more overall diverse climate in the college which may foster a readiness for self-directed learning even though the core of faculty and students are traditional in academic philosophy.

On the other hand, MCC and DCC are more dominated by the traditional academic transfer curriculum and therefore by the traditionally-oriented faculty and students. These schools have a higher proportion of attendance by the traditional full-time college freshman (College Blue Book, 1989). More of the students at these colleges enroll directly from high school and attend the small, local college for one or two years before transferring to the

university. This is not to say that this type of student is altogether absent from FVCC and SCC; however, it is to point out that the full-time traditional student and faculty are more prominent and more dominant in these small, rural community colleges (College Blue Book, 1989).

The finding that the college attended was related to scores on the SDLRS and the instructor's teaching style was not related may indicate that not all student outcomes are directly influenced by what the teacher does in the classroom. Most of the previous research on the relationship of teaching style to learner outcomes has focused on short term achievements such as course grades or the results on an achievement test. This study strongly suggests that the overall college environment may be much more significant in influencing such long-term student outcomes as readiness for self-directed learning. Certainly, teacher behavior has an influence on student learning. However, the influence of teachers may be most effective in passing a test, whereas a number of other factors in the college environment may influence more abstract outcomes such as readiness for self-directed learning.

In any case the instructional revolution among the faculty described by Cross (1976) did not surface in this study. Instructors did not appear to be focusing on the preferences of the New Students which "indicate a general

desire for the faculty to give clear direction to the students' learning while including extensive practical experience on the job and in the community and allowing students the opportunity for collaborative learning" (Deegan & Tillery, 1985, p. 66-67).

The Students

The community college students in this study appear to be very similar to the general community college student population (Cohen & Brawer, 1984; Warren, 1985). They are older on the average than the traditional 18-year old to 22-year old, four-year college students. As with the current trend of community college enrollment, there are more women than men in this population of community college students. In the last two decades, women have accounted for most of the increase in community college student population (Warren, 1985). This trend is especially true of the re-entry women, i.e. women who attend college for the first time or return to college after a period of years of raising children and/or holding down a series of low paying jobs. This phenomena of re-entry women not only accounts for the large numbers of females in the community college student population, but it also contributes to the older age of the student body as well.

As with age and gender, the relatively low grade point averages of the student in this study accords with the

statistics on national samples of community college students. Overall, community colleges enroll a higher proportion of students with high school grades in the "C" and "B" range and a lower proportion of "A" students than do the four year colleges and universities. Of course, this also helps to account for the large increase in the enrollments of the community colleges since 1970 (Cohen & Brower, 1984). The community colleges' open door policies have created the access to higher education which has so distinguished American higher education since 1960. The open door and local accessibility have been a magnet for place-bound females and for older and low ability students. Thus, the students in this study appear to be very much like their peers in other parts of the country.

Age, Gender, and Achievement

The findings related to gender, age, and achievement support previous research. There were no differences among the student scores on the SDLRS due to gender. This is consistent with the findings of other studies using this scale to measure self-directed learning. The finding that students over the age of 25 scored higher on the SDLRS supports the assumption in the adult education literature that as adults mature they tend toward self-direction in learning behavior. Likewise, the finding with regard to low academic achievement and higher scores on the SDLRS

confirms studies (Cross, 1971, 1976; Cohen & Brawer, 1984; Warren, 1985) which indicate that lower ability students who have not prospered in the traditional academic climate have an affinity for a self-directed learning environment with its emphasis on the needs of the students.

The SDLRS

There has been considerable discussion about the use of the SDLRS to measure a student's preference for learning in the self-directed mode (Bonham, 1989; Brockett, 1985a; Brookfield, 1985; Field, 1989; West & Bentley, 1990). Most of the concern surrounding the use of the scale has been because of the number of items in the scale dealing with learning through books, libraries, and other institutional processes of learning. The instrument has also been criticized because "many items deal with learning in general ('I love to learn') and not with self-directed learning as opposed to other-directed learning" (Bonham, 1989, p. 22).

A number of studies indicate that scores on the SDLRS may increase with higher levels of education (Brockett, 1985a; Hassan, 1982; Long & Agyekum, 1983, 1984; Sabbaghian, 1980). The data from research studies indicate that the SDLRS is more a measure of love of learning in general (Field, 1989), especially learning in an educational setting, than it is an indication of a

propensity for self-directed learning as opposed to other-directed learning (Bonham, 1989).

However, reviewers of the instrument agree that the SDLRS will identify the person who likes to learn, especially those who have an affinity for learning through reading and classes. "That function is consistent with the original purpose of the instrument's designer" (Bonham, 1989, p. 23). According to the critics, the instrument could be improved by changing some of the items to more clearly define a learning construct which has a preference for the skills and attitudes of self-directed learning as one extreme and of the other-directed mode at the other extreme.

The caution expressed by Brockett (1985a) about the use of the SDLRS has been affirmed in succeeding critiques of research. When limited to use in educational settings where the students are familiar with learning through reading and other classroom activities, the SDLRS is a useful and reliable scale. Not one teacher in this study reported any difficulty in administering the scale nor did any indicate that the scale was ambiguous or difficult for the students to understand. Thus, it is an instrument which is suitable for use with diverse community college students.

Even in its present form, the SDLRS is a useful instrument for identifying those who have a love of

learning from those whose attitudes are akin to the non-learner (Bonham, 1989). Certainly, it would be difficult for adult educators to argue that "love of learning" (Field, 1989) was not an important attitude for adult self-directed learners to possess. Therefore, this tool for adult learning research should be retained in the repertoire of measurement instruments. The SDLRS has a history of research behind it, and its strengths and weaknesses are being documented. Consequently, the chances in the long term for the improvement of the validity of the scale is much more likely to prove a benefit to the research agenda of adult education than to start the validation process over with a new and untried scale.

The Research Design

Considerable time, effort, and consultation went into the design of this research project. The faculty of the Kellogg Center for Adult Learning at Montana State University were essential in reviewing and making suggestions for the improvements in the rigor of the procedures for data collections, classification, and analysis.

The result was a research design which appeared to have the potential to rigorously isolate the independent variable of teaching style and to control the study as much as is possible with human participants and field research.

The design assured that the students could be classified into one and only one group for purposes of investigation.

However, the design assumed the willing participation of the community college faculty. It had been hoped that the participation rate of the faculty would be such that large numbers of students who had been taught by each teaching style could be included in the study. It had also been assumed that the community college faculty would have been characterized by larger numbers of teachers who adhered to the collaborative style of teaching. This assumption was based not only upon the studies reported by Cross (1971, 1976) and by those reported in Deegan & Tillery (1985) but also upon the often proclaimed mission of the community colleges (Cohen & Brawer, 1984) to be student-oriented teaching institutions whose role in the educational system is to meet the needs of the students who have not done well in their previous academic (or non-academic) endeavors. The community colleges are purported to be places where older, lower-achieving, and place-bound students can gain the general and occupational knowledge and skills formerly only available to the middle and upper income classes in America.

Therefore, if student-centered teachers in reasonably large numbers were to be found, one would expect that they would be teaching in the community colleges in this region. In fact, some were found at the larger, more urban, more

comprehensive community colleges in Kalispell, Montana, and in Spokane, Washington. However, even at these institutions the numbers were minuscule compared to the numbers of teacher-centered instructors. The high hopes (Cross, 1976) that the comprehensive community college would provide the vehicle to propel the New Student into the learning society of the twenty-first century appears to have had a weak engine. Instead of being a hot bed of instructional revolution, the community colleges of the 1980s were characterized by increasing enrollments, high dropout rates, and low graduation and program completion rates (Cohen & Brawer, 1984). It could be that Cross' New Students are attracted to the American community colleges by the promises to nurture them in a collaborative environment only to find that the promise is withdrawn by a faculty which is not committed to a collaborative teaching style nor to preparing them to become self-directed learners. Instead, these faculty members are practicing the teacher-centered values of a traditional academic organizational structure.

Recommendations

Achievement and SDLRS

The relationship between low high school grade point averages and a preference for self-directed learning merits further study to determine if a similar relationship would

be found in research with other populations. The New Students now entering colleges in ever greater numbers present a troublesome problem because these students enroll without adequate skills and attitudes to be successful in the traditional teacher-centered classroom (Cross, 1971, 1976, 1981). If it could be demonstrated that learning in a self-directed mode would address those needs, the instruction in the community colleges might be improved by providing more balance in the teaching style spectrum in the colleges. Thus, it would be possible to provide existing or newly recruited teachers in the community college with training in the principles of adult learning. One method of implementing the principles of adult learning is developed in the work of Smith (1982) under the concept of "Learning How to Learn."

Almost self-evident is the need for the educator of adults to have a working knowledge of the learning how to learn concept--its nature, dimensions, and importance. While he or she may not be able to train individuals in all needed knowledge and skills, the adult educator should be aware of occasions and opportunities for fostering such knowledge and be able to identify situations in which the learning how to learn factor operates. (pp. 28-29)

College Climate, Teaching Style, and SDLRS

According to the findings in this study teaching style did not make a difference in the students' self-directed learning readiness scores. However, it was expected that a relationship would be found because of previous studies on

achievement (Conti, 1989) and moral development (Wiley, 1986). Why were these other traits affected by teaching style while readiness for self-directed learning was not affected? Is there something about the nature of self-directed learning that would cause it to be different from outcomes like achievement and moral development? The differences could be because the locus of control for self-directed learning is totally internal to the student. On the other hand, it may be that the situational environment is more complex for a student's readiness for self-directed learning than what the individual teacher is doing in the classroom. This study found that the college attended made a difference in student scores on the SDLRS. Therefore, it is possible that the students were reacting to, being affected by, and adjusting to the general situation of the college environment rather than to any specific influence of a single classroom teacher.

Further studies need to be conducted on the relationship of the college setting to self-directed learning. The college setting has many variables that may influence the relationship. These include such factors as the mission of the college, individual course objectives, evaluation and grading systems employed by individual instructors or the college, the size and comprehensiveness of the college, and staffing patterns of the college. Therefore, future studies should explore multivariate

techniques such as discriminate analysis to uncover which of the elements in a college environment support a self-directed orientation to learning. The information could be an invaluable aid to counselors in selecting and recommending colleges to students based on their need and expectation for success in a certain learning climate.

If the relationship between college setting and self-directed learning is valid, then the focus of the research in the future should be upon the overall culture of the community college environment rather than upon the attitudes and behavior of the individual teachers in the classroom. The teaching mission of the community college is fulfilled by the faculty, and the philosophy of the faculty is related to the individual teachers. The overall cultural climate of an institution may tend to either condemn or condone a specific teaching style on the part of its members. It may be possible that even though teacher-centered instruction dominates the world of the community college, a more collaborative culture may be able to flourish only in colleges which have a wide variety of programs and which allow the student-centered instructors to survive, albeit at the margin of the institution.

Research Design

Unfortunately, one of the strongest recommendations to come out of this study is to beware of trying to do a

quantitative (causal-comparative) research project which depends upon the volunteer participation of faculty. Getting the data for this study was an enormous struggle. It should have been possible to gather the SDLRS scores on the students in this study in one quarter. However, it took repeated requests to faculty over three academic quarters and the extension of the study to an additional community college to obtain the participation of 33 faculty with distinct teaching styles. Even though measuring the outcomes of learning has great implications for improving teaching and counseling for the older, part-time and lower-achieving community college student, faculty are reluctant "to engage in the assessment of short- and long-term outcomes of education" (Deegan, Tillery & Melone, 1985, p. 308).

Therefore, it is recommended that future research designs:

- (a) Include additional measures to solicit faculty support for participation in the study. Although administrative support was secured for this study, it did not translate into faculty participation. Future studies should consider identifying faculty leaders within each college and involving them in the initial design of the data collection stage of the research project. This process might not only increase the return rate but would also be congruent with adult

education program planning procedures (Knowles, 1980, Chapter 3).

- (b) Conduct the study over a longer period of time.

Readiness for self-directed learning is a complex process which is difficult to adequately study in the limited time frame of one academic quarter.

- (c) Studies of readiness for self-directed learning should not be focused on isolated variables. This study concentrated on the relationship of teaching style to readiness for self-directed learning. This necessitated examining intact classes for teachers with distinct teaching styles. Other variables should be considered. If multivariant approaches are used, strict restrictions on a single variable will not dominate the design and a longer time frame for the study will be possible.

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APPENDICES

APPENDIX A
PERMISSION TO CONDUCT THE STUDY

Dear _____:

This letter is to confirm our telephone conversation of May 26, 1989. Thank you for granting permission to conduct my dissertation research at _____ Community College. As indicated, the research will investigate the relationship between faculty teaching style and increasing student readiness for self-directed learning. This study will require that I administer the PALS teaching styles scale to the faculty of the three community colleges in Montana in order to select a sample of those who exhibit a consistent teacher-centered versus learner-centered style. I hope to be able to complete this portion of the research before the coming Winter Quarter.

If everything goes well, I plan to ask the selected instructors to allow the administration of a pre and posttest of readiness for self-directed learning in their classes during the 1990 Winter Quarter.

Would you ask one of your staff to send a list, with addresses, of your full and part-time faculty at _____ Community College? It is my hope that I could contact them to solicit their cooperation before the end of Fall Quarter.

My address is:

Jerry Hudspeth
Flathead Valley Community College
Lincoln County Campus
101 E. Lincoln Blvd.
Libby, MT 59923

Thanks again for your understanding and cooperation.

Sincerely yours,

APPENDIX B
LETTER TO FACULTY

DOES TEACHING STYLE MAKE A DIFFERENCE?

Dear Faculty Member:

We in the field of community college instruction know that what we do as instructors in the classroom makes a difference in what and how students learn. Unfortunately, too little research has been conducted which attempts to verify the relationship between teaching philosophy and student outcomes. There is relatively little information in the literature on the relationship between teaching style and such long-term student outcomes as increasing self-directed learning. You can make a contribution to furthering our understanding of the teaching/learning process by participating in a research project, investigating the relationship between teaching style and student readiness for self-directed learning.

In order to make this a valid study, the Principles of Adult Learning Scale (PALS) needs to be administered to the entire population of full and part-time instructors in the three public community colleges. As in most things in Montana, we have such few numbers that it takes everybody to get the job done. I need your help. So, please take a few minutes to complete the enclosed PALS scale.

I have been a teacher and administrator at the community college level for ten years. In addition to teaching three years at Muscatine Community College in Muscatine, Iowa, I spent five years at Dawson Community College in Glendive as a teacher and Social Science Division chair. Currently, the administrator of a branch campus (Lincoln County Campus in Libby, Montana) for Flathead Valley Community College, I am beginning the research phase of my doctoral studies.

A sample of instructors participating in this research will be asked to administer a scale measuring readiness for self-directed learning to students during the 1990 Winter Quarter. I hope to visit your campus during the study and share the outcomes with you.

Thank you for your cooperation.

Sincerely yours,

Enclosures: 1. Principles of Adult Learning Scale
2. Answer Sheet (Please see instructions)
3. Return Envelope

APPENDIX C
FACULTY FOLLOWUP LETTER

Dear Faculty Member:

You may recall completing a questionnaire earlier this year measuring teaching style. Using a table of random numbers, your name has been drawn to continue to participate in the study of the relationship between teaching style and student readiness for self-directed learning.

Now the second part of the research is beginning. In this phase teachers are asked to give the SDLRS to their students at the beginning of the quarter. Please give it as soon as possible to all students who wish to participate. See enclosed instructions for administering. I have estimated the number of students in your class. If I underestimated, please contact me at Lincoln County Campus (293-2721) or borrow from a colleague.

When you have administered the scale: 1) at Miles Community College please turn them in to Jane Oberlander; 2) at Dawson Community College please turn them in to Pete Degel; 3) at Flathead Valley Community College please put them in the LCC mailbox in the mail room. Please return both the Scale and the answer sheets.

A posttest of self-directed learning will be given at the end of this quarter. I will provide you with scales and answer sheets for the posttest at approximately the eighth week of instruction. However, please wait until the end of the quarter to administer the posttest to your students.

Thank you for your participation.

Sincerely,

APPENDIX D
INSTRUCTIONS FOR ADMINISTERING THE SDLRS

INSTRUCTIONS FOR ADMINISTRATION OF THE
SELF-DIRECTED LEARNING READINESS SCALE

This questionnaire is intended to measure a student's learning preferences and attitudes towards learning. As in all questionnaires of this type it is the student's perception of their behavior or belief that is important. Therefore, please advise the students to rely on their own judgment in responding to the questions. Usually their first response will be the best response.

Give the students all the time they need to complete the questions. However, have them take the test in one sitting. Most students will complete the scale in approximately 15 minutes. Remind the students not to write on the questionnaire itself, but to use the answer sheet. We have included several questions about the student's demographic background. It is important to the study that they fill in this information. Please remind them that we especially need their name and the name of the instructor. We need the student's name so that we can compare their scores on the posttest at the end of the quarter with the scores they record on the pre-test they are taking now. Since the purpose of this study is to link the student's learning preference to teaching style, we also need the instructor's name on the answer sheet. We will not use any instructor or student name in reporting the data from this study.

Finally, student participation in this study is voluntary. Therefore, please make sure they understand that they are under no obligation to participate in the study. After the students have completed the questionnaire, please place it and the answer sheet in the envelope provided.

APPENDIX E
PERMISSION TO USE THE INSTRUMENTS

September 1, 1989

Dr. Lucy Guglielmino
Guglielmino & Associates
734 Marble Way
Boca Raton, FL 33432

Dear Ms. Guglielmino:

I am a graduate student in Adult Education at Montana State University in Bozeman, Montana. At this time, I am beginning the research phase of the Doctoral program.

The title of my proposal is "The Relationship Between Teaching Style and Student Readiness for Self-Directed Learning in the Community College." In this study, I plan to use the PALS Scale, developed by Dr. Gary Conti, to identify instructors with a consistent teaching style and I am proposing to use the Self-Directed Learning Readiness Scale to measure the effect of teaching style on increasing student self-directedness.

I plan to pilot the study in three Montana community colleges this fall quarter. Therefore, I am in urgent need of at least 100 of the SDLRS scales as soon as possible. I would appreciate it very much if you could send them to me. (COD if necessary). Please send SDLRS scales to:

Jerry Hudspeth
101 E. Lincoln Blvd.
Libby, MT 59923

Thank you very much.

Sincerely yours,

guglielmino & associates

MR. JERRY HUDSPETH
1407 CABINET AVENUE
LIBBY
MONTANA
59923

890814
100 COPIES 8DLR8-A @ \$2.98 EA.
MAIL EXPRESS

0914		\$295.00
	EXPRESS MAIL	20.00
PAID IN FULL.		\$315.00
		\$000.00

Paid in full.
Lucy M. Guglielmino

November 26, 1990

Jerry Hudspeth
1407 Cabinet Ave.
Libby, MT 59923

Dear Jerry:

It is always exciting for me to hear of new ways that researchers have found to use the Principles of Adult Learning Scale (PALS). PALS has been published in ERIC and several journals so that researchers like yourself can use it at no cost. Therefore, feel free to use it in the ways you feel are most appropriate.

Sincerely yours,



Gary J. Conti
Associate Professor
of Adult Education

APPENDIX F
INSTRUMENTS AND ANSWER SHEETS

A Study of the Relationship
Between Teaching Style and Increasing Student Readiness
for Self-Directed Learning in the Community College

Thank you for agreeing to participate in this unique study of teaching and learning in the community colleges of Montana. In this study, I will be correlating teaching style with student readiness for self-directed learning. In order to conduct this study, which is the first attempt to ever look at the teaching and learning process of teachers and students in Montana community colleges, I need your help and about 15 minutes of your time. The Principles of Adult Learning Scale is simply a self-assessment instrument to get a measurement of your teaching style. Please record your responses to the PALS on the reverse side of this form. There are no right or wrong answers.

Please complete the background information at the bottom of this page. These results will NOT be used to evaluate teachers; rather, they will be used to help us better understand how students learn. However, we need your NAME and background information in order to relate it to information about your students.

Please do not discuss any of your answers on the Principles of Adult Learning Scale with your colleagues until after you have completed and mailed it in. I plan to return to your campus after the study is completed and share the outcomes with you. Until then, thank you for helping to make this historic study possible.

Jerry Hudspeth, Director
FVCC Lincoln County Campus

Name: _____

Sex: _____ Male or _____ Female

Age: _____ Community College: _____

EXPERIENCE

1. Total years experience in ALL teaching (include this year): _____
2. Years of experience teaching in community colleges (include this year): _____
3. Employment status at the college: _____ Full-time
_____ Part-time
4. What Department do you teach in? _____

EDUCATION

1. What is the highest degree that you have?
_____ High School diploma
_____ Associate degree
_____ Bachelors degree
_____ Bachelors degree plus additional hours
_____ Masters degree
_____ Masters degree plus additional hours
_____ Doctoral degree
2. What was your major area of study in college? _____

Principles of Adult Learning Scale

DIRECTIONS: The following survey contains several things that a teacher of adults might do in a classroom. You may personally find some of them desirable and find others undesirable. For each item please respond to the way you most frequently practice the action described in the item. Your choices are ALWAYS, ALMOST ALWAYS, OFTEN, SELDOM, ALMOST NEVER, and NEVER. On your answer sheet, circle 0 if you always do the event; circle number 1 if you almost always do the event; circle number 2 if you often do the event; circle number 3 if you seldom do the event; circle number 4 if you almost never do the event; and circle number 5 if you never do the event. If the item DOES NOT APPLY to you, circle number 5 for never.

Always	Almost Always	Often	Seldom	Almost Never	Never
0	1	2	3	4	5

1. I allow students to participate in developing the criteria for evaluating their performance in class.
2. I use disciplinary action when it is needed.
3. I allow older students more time to complete assignments when they need it.
4. I encourage students to adopt middle class values.
5. I help students diagnose the gaps between their goals and their present level of performance.
6. I provide knowledge rather than serve as a resource person.
7. I stick to the instructional objectives that I write at the beginning of a program.
8. I participate in the informal counseling of students.
9. I use lecturing as the best method for presenting my subject material to adult students.
10. I arrange the classroom so that it is easy for students to interact.
11. I determine the educational objectives for each of my students.
12. I plan units which differ as widely as possible from my students' socio-economic backgrounds.

13. I get a student to motivate himself/herself by confronting him/her in the presence of classmates during group discussions.
14. I plan learning episodes to take into account my students' prior experiences.
15. I allow students to participate in making decisions about the topics that will be covered in class.
16. I use one basic teaching method because I have found that most adults have a similar style of learning.
17. I use different techniques depending on the students being taught.
18. I encourage dialogue among my students.
19. I use written tests to assess the degree of academic growth rather than to indicate new directions for learning.
20. I utilize the many competencies that most adults already possess to achieve educational objectives.
21. I use what history has proven that adults need to learn as my chief criteria for planning learning episodes.
22. I accept errors as a natural part of the learning process.
23. I have individual conferences to help students identify their educational needs.
24. I let each student work at his/her own rate regardless of the amount of time it takes him/her to learn a new concept.
25. I help my students develop short-range as well as long-range objectives.
26. I maintain a well disciplined classroom to reduce interferences to learning.
27. I avoid discussion of controversial subjects that involve value judgments.
28. I allow my students to take periodic breaks during class.
29. I use methods that foster quiet, productive desk work.
30. I use tests as my chief method of evaluating students.
31. I plan activities that will encourage each student's growth from dependence on others to greater independence.
32. I gear my instructional objectives to match the individual abilities and needs of the students.
33. I avoid issues that relate to the student's concept of himself/herself.
34. I encourage my students to ask questions about the nature of their society.
35. I allow a student's motives for participating in continuing education to be a major determinant in the planning of learning objectives.
36. I have my students identify their own problems that need to be solved.

37. I give all students in my class the same assignment on a given topic.
38. I use materials that were originally designed for students in elementary and secondary schools.
39. I organize adult learning episodes according to the problems that my students encounter in everyday life.
40. I measure a student's long-term educational growth by comparing his/her total achievement in class to his/her expected performance as measured by national norms from standardized tests.
41. I encourage competition among my students.
42. I use different materials with different students.
43. I help students relate new learning to their prior experiences.
44. I teach units about problems of everyday living.

SDLRS Questionnaire

INSTRUCTIONS: This is a questionnaire designed to gather data on learning preferences and attitudes towards learning. After reading each item, please indicate the degree to which you feel that statement is true of you. Please read each choice carefully and circle the number of the response which best expresses your feeling.

There is no time limit for the questionnaire. Try not to spend too much time on any one item, however. Your first reaction to the question will usually be the most accurate.

RESPONSES

Almost never feel this way	Not often true of me	Sometimes true of me	Usually true of me	Almost always true
1	2	3	4	5

ITEMS:

1. I'm looking forward to learning as long as I'm living.
2. I know what I want to learn.
3. When I see something that I don't understand, I stay away from it.
4. If there is something I want to learn, I can figure out a way to learn it.
5. I love to learn.
6. It takes me a while to get started on new projects.
7. In a classroom, I expect the teacher to tell all class members exactly what to do at all times.
8. I believe that thinking about who you are, where you are, and where you are going should be a major part of every person's education.
9. I don't work very well on my own.
10. If I discover a need for information that I don't have, I know where to go to get it.
11. I can learn things on my own better than most people.
12. Even if I have a great idea, I can't seem to develop a plan for making it work.
13. In a learning experience, I prefer to take part in deciding what will be learned and how.
14. Difficult study doesn't bother me if I'm interested in

something.

15. No one but me is truly responsible for what I learn.
16. I can tell whether I'm learning something well or not.
17. There are so many things I want to learn that I wish that there were more hours in a day.
18. If there is something I have decided to learn, I can find time for it, no matter how busy I am.
19. Understanding what I read is a problem for me.
20. If I don't learn, it's not my fault.
21. I know when I need to learn more about something.
22. If I can understand something well enough to get a good grade on a test, it doesn't bother me if I still have questions about it.
23. I think libraries are boring places.
24. The people I admire most are always learning new things.
25. I can think of many different ways to learn about a new topic.
26. I try to relate what I am learning to my long-term goals.
27. I am capable of learning for myself almost anything I might need to know.
28. I really enjoy tracking down the answer to a question.
29. I don't like dealing with questions where there is not one right answer.
30. I have a lot of curiosity about things.
31. I'll be glad when I'm finished learning.
32. I'm not as interested in learning as some other people seem to be.
33. I don't have any problem with basic study skills.
34. I like to try new things, even if I'm not sure how they will turn out.
35. I don't like it when people who really know what they're doing point out mistakes that I am making.
36. I'm good at thinking of unusual ways to do things.
37. I like to think about the future.
38. I'm better than most people are at trying to find out the things I need to know.
39. I think of problems as challenges, not stop signs.
40. I can make myself do what I think I should.
41. I'm happy with the way I investigate problems.
42. I become a leader in group learning situations.
43. I enjoy discussing ideas.
44. I don't like challenging learning situations.
45. I have a strong desire to learn new things.
46. The more I learn, the more exciting the world becomes.
47. Learning is fun.
48. It's better to stick with the learning methods that we know will work instead of always trying new ones.

49. I want to learn more so that I can keep growing as a person.
50. I am responsible for my learning--no one else is.
51. Learning how to learn is important to me.
52. I will never be too old to learn new things.
53. Constant learning is a bore.
54. Learning is a tool for life.
55. I learn several new things on my own each year.
56. Learning doesn't make any difference in my life.
57. I am an effective learner in the classroom and on my own.
58. Learners are leaders.

Student Answer Sheet

Name: _____ College: _____ Age: _____

Instructor Name (this course): _____

Other Instructors Names (this quarter): _____

Male	Female	Grade	Pt.	Avg.	High School	College
1. 1 2 3 4 5	21. 1 2 3 4 5	41. 1 2 3 4 5				
2. 1 2 3 4 5	22. 1 2 3 4 5	42. 1 2 3 4 5				
3. 1 2 3 4 5	23. 1 2 3 4 5	43. 1 2 3 4 5				
4. 1 2 3 4 5	24. 1 2 3 4 5	44. 1 2 3 4 5				
5. 1 2 3 4 5	25. 1 2 3 4 5	45. 1 2 3 4 5				
6. 1 2 3 4 5	26. 1 2 3 4 5	45. 1 2 3 4 5				
7. 1 2 3 4 5	27. 1 2 3 4 5	46. 1 2 3 4 5				
8. 1 2 3 4 5	28. 1 2 3 4 5	47. 1 2 3 4 5				
9. 1 2 3 4 5	29. 1 2 3 4 5	48. 1 2 3 4 5				
10. 1 2 3 4 5	30. 1 2 3 4 5	49. 1 2 3 4 5				
11. 1 2 3 4 5	31. 1 2 3 4 5	50. 1 2 3 4 5				
12. 1 2 3 4 5	32. 1 2 3 4 5	51. 1 2 3 4 5				
13. 1 2 3 4 5	33. 1 2 3 4 5	52. 1 2 3 4 5				
14. 1 2 3 4 5	34. 1 2 3 4 5	53. 1 2 3 4 5				
15. 1 2 3 4 5	35. 1 2 3 4 5	54. 1 2 3 4 5				
16. 1 2 3 4 5	36. 1 2 3 4 5	55. 1 2 3 4 5				
17. 1 2 3 4 5	37. 1 2 3 4 5	56. 1 2 3 4 5				
18. 1 2 3 4 5	38. 1 2 3 4 5	57. 1 2 3 4 5				
19. 1 2 3 4 5	39. 1 2 3 4 5	58. 1 2 3 4 5				
20. 1 2 3 4 5	40. 1 2 3 4 5					

APPENDIX G
CROSSTABULATIONS

Crosstabulation: AGE By HSGPA

AGE	HSGPA		
	<= 2.5	> 2.5	
New student	126	87	213 52.7
Traditional	68	123	191 47.3
	194	210	404
	48.0	52.0	100.0

Crosstabulation: AGE By TEACHER

AGE	TEACHER				
	Trad.	Ecl.ec.	Collab.	Combin.	
New student	25	29	12	42	108 48.4
Traditional	34	20	9	52	115 51.6
	59	49	21	94	223
	26.5	22.0	9.4	42.2	100.0

Crosstabulation: AGE By GENDER

AGE	GENDER		
	Male	Female	
New student	62	150	212 52.6
Traditional	77	114	191 47.4
	139	264	403
	34.5	65.5	100.0

Crosstabulation: AGE By COLLEGE

AGE	COLLEGE				
	DCC	MCC	FVCC	SCC	
New student	20	32	115	46	213 52.7
Traditional	39	33	82	37	191 47.3
	59	65	197	83	404
	14.6	16.1	48.8	20.5	100.0

Crosstabulation: COLLEGE By HSGPA

COLLEGE	HSGPA		
	<= 2.5	> 2.5	
Dawson	30	30	60 14.6
Miles City	35	31	66 16.1
Flathead	99	102	201 49.0
Spokane	34	49	83 20.2
	198	212	410
	48.3	51.7	100.0

Crosstabulation: COLLEGE By TEACHER

COLLEGE	TEACHER				
	Trad.	Eclec.	Collab.	Comb.	
Dawson	9	10	0	12	31 13.7
Miles City	6	15	4	31	56 24.8
Flathead	44	25	2	36	107 47.3
Spokane	0	0	15	17	32 14.2
	59 26.1	50 22.1	21 9.3	96 42.5	226 100.0

Crosstabulation: COLLEGE By GENDER

COLLEGE	GENDER		
	Male	Female	
Dawson	25	35	60 14.7
Miles City	16	50	66 16.1
Flathead	75	125	200 48.9
Spokane	26	57	83 20.3
	142 34.7	267 65.3	409 100.0

Crosstabulation: HSGPA By TEACHER

HSGPA	TEACHER				
	Trad.	Eclec.	Coll.	Comb.	
New student	31	28	12	44	115 50.9
Traditional	28	22	9	52	111 49.1
	59	50	21	96	226
	26.1	22.1	9.3	42.5	100.0

Crosstabulation: HSGPA By GENDER

HSGPA	GENDER		
	Male	Female	
New student	72	125	197 48.2
Traditional	70	142	212 51.8
	142	267	409
	34.7	65.3	100.0

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