

PARTICIPATION IN TITLE III-FUNDED FACULTY TRAINING AT CENTRAL
PIEDMONT COMMUNITY COLLEGE AND ITS IMPACT ON THE TEACHING
METHODOLOGIES USED BY INSTRUCTORS IN DEVELOPMENTAL
READING AND ENGLISH COURSES

by

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ABSTRACT

CLINTON E. MCELROY, JR. Participation in Title III-funded Faculty Training at Central Piedmont Community College and Its Impact on the Variety of Teaching Methodologies Used by Instructors in Developmental Reading and English Courses. (Under the direction of DR. JEANNEINE JONES)

This study was conducted to determine the impact of the CPCC Title III-developed faculty training program on the variety of teaching methods employed by faculty members who were teaching developmental reading and/or English courses at CPCC during Spring Term 2005 and/or Spring Term 2006. The CPCC faculty training program addressed in the study was implemented as part of an ongoing five year project funded by the United States Department of Education's Title III Improving Institutions grant program. Randomly selected students were surveyed to determine whether faculty members who completed the training program were more likely to use 28 specific teaching methods than faculty members who had not yet participated. Instructors who had completed the training were found to use 21 methods more frequently, while seven other methods were used with similar frequency by both groups. There were eight teaching methods for which the results were deemed statistically significant for both years of the study. All of these methods were used more frequently by faculty members who had completed the training program. This study not only validates the efficacy of the faculty training program being assessed, it also provides a model for other community colleges to use in assessing the efficacy of faculty training programs.

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CHAPTER ONE: INTRODUCTION

Faced with a variety of possible ways to define who at-risk students are and how to best address their needs, community colleges are limited in their options for action by the limited scope of their mission. Forces outside of the realm of the institution cannot be controlled. At the same time, the number of students in the United States who are attending college is greater than ever. In addition, ever-greater percentages of these students are attending community colleges, particularly students from ethnic minority groups. According to the National Bureau of Educational Statistics (2003), by 1997 community colleges were enrolling 38 percent of the total enrollment in U.S. higher education but were enrolling 46 percent of ethnic minority students, students who are less likely to be prepared to do college-level work and, perhaps more importantly, less likely to enter college knowing how to navigate the rather complicated maze of higher education on their own.

The increasing number of students attending community colleges reflects a broader reach into the general population, which has resulted in high percentages of under-prepared students coming through the doors of U.S. community colleges. According to the Central Piedmont Community College (CPCC) Department of Planning and Research (2006), 54 percent of new, incoming students at CPCC place into at least one remedial course on the college's academic placement tests. This is not an isolated

occurrence. Cohen & Brower (2003) note that scores on the New Jersey Basic Skills Placement Test show that 46.8 percent of students entering the state's community colleges in 1993 lacked the level of proficiency in verbal skills required to do college-level work, as compared to 19.6 percent at the state's baccalaureate institutions. In the same year, figures for computation skills were 54 percent versus 20.7 percent and, for college-level algebra, 72.9 percent versus 30.9 percent.

These figures for CPCC and New Jersey are different from, but not dissimilar to, those for the United States. According to the National Center for Educational Statistics (2003), 42 percent of freshmen enrolling at public two-year colleges in the U.S. between the years 1995 and 2000 enrolled in at least one remedial reading, writing, or mathematics course, as compared to 20 percent at public four-year institutions and 12 percent at private four-year institutions. Further, students attending public two-year colleges tend to spend more time in remediation than their peers at four-year institutions, with the average amount of time students spend in remedial courses (at all types of institutions) showing a significant increase between 1995 and 2000. This is particularly true of community college students. For example, of the entire group of community college students placing into a remedial course or courses in 1995, 45 percent needed to attend less than one year's worth of remedial courses, 44 percent needed one year of remediation, and 11 percent needed more than one year. In 2000, 37 percent needed less than one year of remediation, 53 percent needed one year of remediation, and 10 percent needed more than one year of remediation. It is clear that more community college students are spending more time in remedial courses than their community college

predecessors in prior years. Again according to the National Center for Education Statistics (2003), the more time a student needs to spend in remediation, the more likely he/she is to drop out of the community college.

Problems At-Risk Students Have in the Educational Process

Taken together, the figures about enrollment in community colleges and the skill deficits among those students make it clear that the nation's community colleges face a challenge in helping greater numbers of less-prepared students be successful in their educational pursuits. One problem that becomes quickly noted is that in many incoming community college students, the knowledge of how to develop themselves is missing. Lacking an internal sense of direction with which better-prepared students enter college, many less-prepared students find themselves sorely at risk of failure. Therefore, less-academically prepared students who enter the community college are identified as at-risk in terms of their potential to successfully complete academic programs at the institutions.

John and Suanne Rouche (1993) note that at-risk students often "bring a sense of helplessness and uncontrollable failure with them to the classroom" (p.126) because of personal and social histories of failure in their own lives. These histories of failure are characterized by recurring experiences in which the students had little or no control, or at least perceived a lack of control, which, in turn, produced "significant behavior changes, including impaired motivation to respond, impaired ability to learn new behavior, and emotional disturbance. Students who had experienced such situations generalized their attitudes, perceptions, and behaviors to all remotely similar future situations" (p. 127). While students who are better prepared for college tend to rely on themselves and their

internalized abilities in responding to external challenges, students who are at-risk tend to see themselves as out of control of their own lives, pawns in the hands of fate, “believing that no matter how hard they try, they will fail for reasons they cannot control; they believe that they cannot control what happens in a course, that the teachers ‘give’ grades, that trying will not result in better grades” (p.127). As the Rouches point out, many educators now understand that what has been seen as lack of motivation among many at-risk students is really a deeply ingrained belief in those students that they are not in control of their own lives. The challenge, then, is for community colleges to bring at-risk students the knowledge that change is possible and that they can be agents of change in their own lives. This is particularly true for urban community colleges, “. . . those located in or close to major cities—[which] play a key role in higher education by serving economically, educationally, and ethnically disadvantaged, and nationally diverse student populations. These urban institutions face numerous challenges, the most notable of which is a student population largely comprised of individuals with one or more of the following characteristics: income below the poverty line, immigrant status, first-generation college student, a member of an ethnic minority group, in need of remediation, or whose first language is not English” (Hirose-Wong, 1999).

In summary, at-risk students in the community college bring specific academic skill deficiencies that relate to the college curricula (for example, reading, writing, and math), and they also bring a kind of psychosocial deficiency in the form of a self-defeating mindset of helplessness that inhibits their motivational and help-seeking behaviors in the community college setting. As it is the mission of open-door (open

admission) community colleges to help as many people as possible be as successful as they can be, it is incumbent upon those who chart both the academic and support direction for community colleges to make as many accommodations as possible to the needs of the at-risk students. These accommodations must reflect the duality of challenges facing the students, both the course content-related challenges and the psychosocial challenges. After all, community colleges must retain students through to goal completion (usually completion of a certificate, diploma or degree program) in order to be successful, and this retention requires both skill competence on the part of the student and the will to persist to completion.

Central Piedmont Community College's Title III grant project

CPCC's Department of Planning and Research (2006) reported that 54 percent of new, incoming students placed into at least one remedial course on the college's academic placement tests, and 72 percent of new, incoming students who are recent high school graduates (enrolling at CPCC within one year of graduation) placed into at least one remedial course. Students placing into one or more remedial courses via the placement test (Accuplacer) used by CPCC are 32 percent less likely to persist to a successful (certificate, diploma, or degree) completion than their peers who do not need remediation.

In 2002, CPCC's President, Dr. Tony Zeiss, and his College Cabinet charged a three-member team with researching best practices relating to the retention of at-risk students, developing a plan to improve retention of at-risk students at the College, and writing a United States Department of Education Title III Improving Institutions grant

proposal to garner funds for implementation of the plan. This team – known as the Title III Writing Team – was comprised of Emma Brown, Dean of Retention Services (in the Enrollment and Student Services Unit of the College), Michael Horn, Director of Resource Development (the chief grants officer of the College), and this researcher, the Associate Dean for Enrollment and Students Services: Programs for At-Risk Students. Based upon research of best practices and extensive consultation with subject area experts within the CPCC organization, the Title III Writing Team designed an activity plan featuring three linked components, illustrated on the following page:

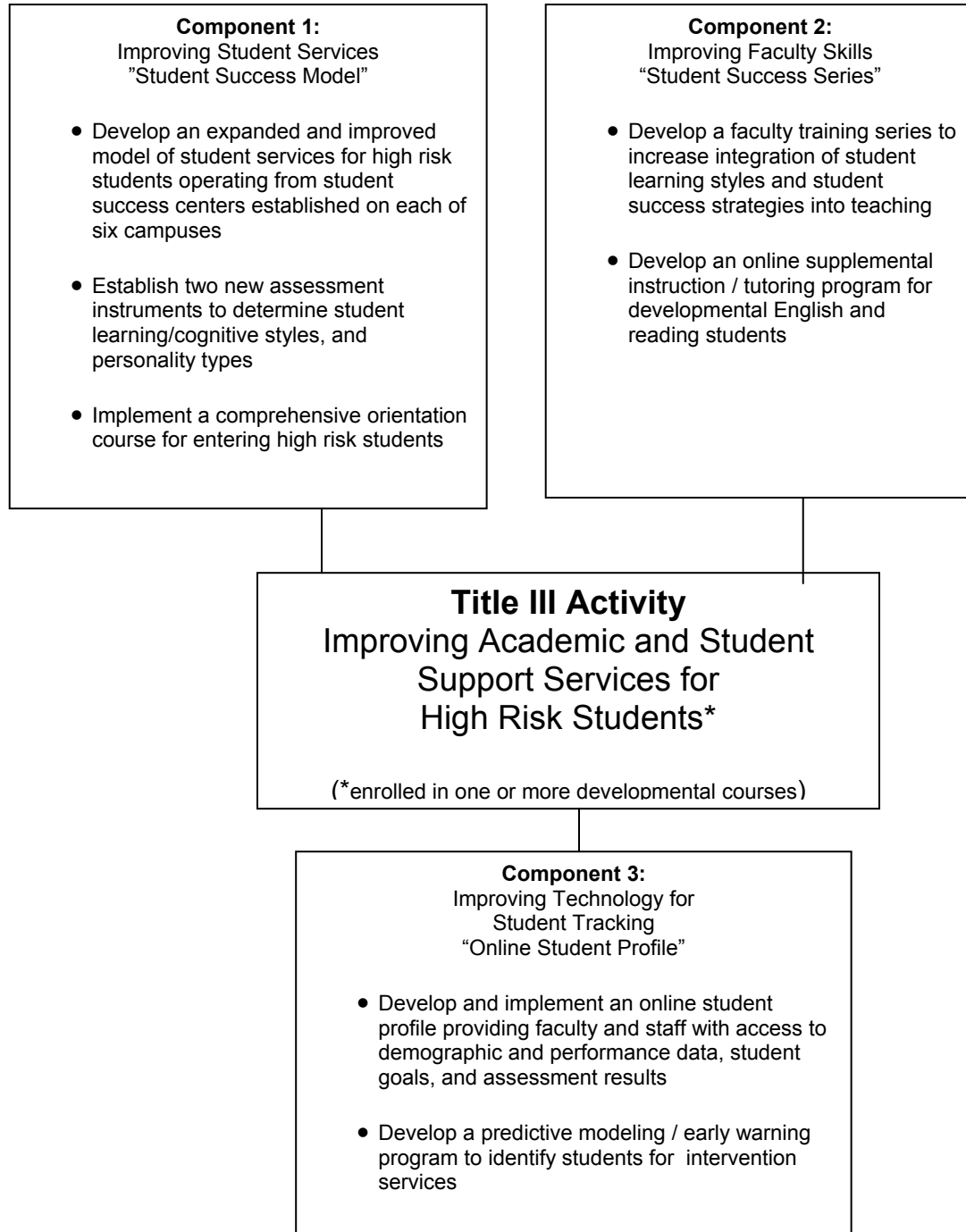


Figure 1. CPCC Title III Grant Activity Structure

The Title III Writing Team completed and CPCC submitted a formal proposal for funding of this activity plan to the U.S. Department of Education in February, 2003. Funding for the five-year, \$1.765 million project was awarded in July, 2003, and work on the grant project formally began on October 1, 2003.

Component Two of the CPCC's Title III activity is focused on improving faculty skills through development and implementation of a training series focused in part on increasing the integration of instructional methods designed to accommodate a wide variety of student learning styles. Marshall (1987) indicated that the way information and concepts are presented to students may be more important to the learning process than the learning aptitudes of the students. Cross (2002) and Smith (1983) demonstrated the usefulness of the learning style accommodation approach to teaching in improving student achievement, increasing student satisfaction with instruction, and lowering rates of student attrition. Smith also showed that using learning style diagnosis with students can encourage teachers to analyze their teaching methods and their reasons for choosing them. Hardigan and Sisco(2001) argued that because teachers often do not have the time or the expertise to assess all of their students' learning styles, it would be more practical if these assessments could be automated, made available to students via the Internet, and the results delivered to both teachers and students, with students having access to only their results. Based upon research into the effectiveness of using a learning style approach to encouraging faculty members to vary their teaching methodologies in the classroom to better meet the needs of students, CPCC chose to focus on methodologies for teaching to students who have visual, auditory, and/or kinesthetic learning styles as an important part

of the faculty training component of the Title III activity. The faculty members on the CPCC Title III group planning the faculty training program indicated their belief that by focusing on the more basic elements of learning/cognitive preference theory (the needs of auditory, visual, and kinesthetic learners) during the training, those participating in the training would easily grasp why it is necessary to include activities that meet the needs of learners. Additionally, through the prototype Online Student Profile (OSP) system designed for Component Three of the grant activity, "Improving Technology for Student Tracking," an automated learning style inventory testing and reporting system was made available to faculty.

With the faculty training component designed and being used, and with the OSP system relating to learning style assessment and reporting in place, it was possible to evaluate whether the training and access to the OSP data have encouraged faculty teaching in the developmental Reading and/or English areas at CPCC to vary their teaching methods to better meet the learning styles of students and, therefore, encourage greater success among at-risk students.

Research into the effect of community college faculty development programs (Murray 2002, Grant & Keim 2002) indicates that only 43 percent of community colleges attempt any assessment of the efficacy of faculty development programs. Those community college that do attempt assessments of faculty training programs do so primarily via post-training participant surveys which ask faculty whether the training will impact their teaching. Gaff & Pruitt (1998) reported that colleges and universities with institutionalized, formal staff development programs that require faculty participation do

experience gains in student retention and that faculty teaching within such institutions report a sense of professional renewal as a result of their participation.

Statement of the Problem

This study was conducted to determine the impact of the CPCC Title III-developed faculty training program on the variety of teaching methods employed by faculty members who were teaching developmental reading and/or English courses at CPCC during Spring Term 2005 and/or Spring Term 2006. Prior to this study being conducted, CPCC did not have any program in place to gauge this impact.

Purpose of the study

The purpose of this study was to evaluate the impact, if any, of participation in CPCC's Title III-related faculty training program on the variety of teaching methods employed by faculty members who were teaching developmental reading and/or English courses at CPCC. The primary assumption underlying this study, which is well-supported by the literature (Hardigan 2001, Marshall 1987, Cross, 2002, and Smith 1983), is that the more varied a faculty member's teaching methods are and the more they are tailored to meet the needs of all students' preferred learning styles, the better all of the students in their classes will perform academically.

This study examined the teaching methods employed by faculty members who had completed CPCC's Title III faculty training program and compared those methods to teaching methods employed by faculty members who had not completed the faculty training program. The study was conducted using data that spanned two years, to gauge the impact of broadening the mandatory faculty training (mandatory for all faculty

teaching developmental reading and/or English at CPCC by 2008) from approximately 25 percent of the full- and part-time faculty in Spring of 2005 to approximately 50 percent of full- and part-time faculty in Spring of 2006.

A primary goal of the CPCC Title III faculty training program is to increase the number of instructional strategies being used by faculty members teaching developmental reading and/or English courses. Assessing the effectiveness of this training could potentially have followed several models of assessment. Quantifiable assessments of the effectiveness of faculty training programs designed to encourage faculty members to change the way(s) they teach fall into three general categories (Grant & Keim, 2002; Murray, 2002):

- faculty self-reporting of intended change(s) which are collected via survey following the training,
- changes in the trained faculty members' standardized student opinion survey results, using surveys that are generic to an institution or an area within an institution,
- and/or measurements of the trained faculty members' students' success via retention or grade data.

The three faculty training assessment approaches identified from the review of the literature share one common weakness – none of them directly measure the ways in which faculty members' teaching methods have changed as a result of the training, which is what CPCC representatives wanted to assess. The first assessment method measures faculty members' intention to change but does not measure actual change. The second assessment method measures whether students are more generally pleased with different

aspects of the faculty member's teaching style but not the use of specific teaching methods. The third assessment method measures improvements in student retention and performance but not specific teaching methods employed by the faculty members that may have led to these improvements.

A stated goal of CPCC's Title III-related faculty training program is to encourage faculty members teaching developmental reading and/or English courses to vary their teaching methods in order to better meet the needs of students with differing learning style preferences. It follows that the most logical and thorough assessment for the program is to measure the variety of teaching methods that are being employed by faculty members who have been through the training and compare those with a baseline of methods used by faculty who have not been trained, to see if the variety of methods employed does increase. Since students are in the best position to see all or at least most of the faculty members' teaching methods employed, they have a comprehensive knowledge of what methods the faculty member employs while teaching. Therefore, students are in the best position to identify, via a survey regarding specific teaching methods employed by their instructors, what teaching methods were used.

Research question

In this study, the following question was examined: Are faculty members who have completed CPCC's Title III faculty training program more likely to employ various teaching methods targeted to the needs of students with visual, kinesthetic, and auditory cognitive/learning style preferences than faculty members who have not completed the faculty training program?

Significance of the Study

This proposed study has significance beyond the assessment needs of CPCC. The goal of many faculty training programs is to encourage practitioners to use new teaching methods that have proven effective, but these programs are often ineffective due to lack of organization, lack of faculty participation in the development and/or delivery of the training programs, and dependence on voluntary participation by faculty (Angelo, 1994; Schratz, 1990). If the CPCC Title III-related faculty training program is shown through this study to be effective in increasing the number of instructional methods used by faculty who have been through the training, then other institutions may want to offer a similar faculty training program to achieve similar results. Additionally, if the proposed system for measuring the number and variety of teaching methods employed by trained faculty is shown to be effective, then similar systems may be used by others to gauge the impact of faculty training programs in encouraging the use of new or additional teaching methods.

Definition of Terms

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

1. Accuplacer – College entrance placement test published by The College Board, which assesses students' proficiency in the areas of mathematics, reading, and sentence skills. This test is used by CPCC to gauge students' readiness to enroll in college-level courses which require specific proficiency levels in these skill areas.

2. At-Risk Students – Students who enter CPCC needing developmental (remedial) coursework in reading and/or writing, as determined by scores on the College Board’s Accuplacer placement test.
3. Learning/Cognitive Style Preference – This term refers to students’ preferences for auditory, kinesthetic, or visual learning. Students may have multiple preferences.
4. Online Student Profile (OSP) – Web-based student information and communication system developed by CPCC staff as part of this Title III project. The OSP provides detailed, recipient-appropriate information regarding Accuplacer results, personality and learning style inventory results, and student enrollment data to faculty, staff, and students.
5. Teaching Methods – Specific instructional tools and/or strategies employed by faculty members in the teaching/learning process.
6. Title III Faculty Training – CPCC’s 48-hour faculty training program developed by a team of faculty and administrators in support of the college’s Department of Education Title III Improving Institutions grant. By 2008, all faculty teaching developmental reading or English courses at CPCC will be required to have completed this training series.

Organization of the Study

There are four chapters which follow this introduction. Chapter Two is a review of the literature pertaining to various elements addressed in this study: trends regarding teaching and learning of at-risk students in the community college, student retention efforts targeted to at-risk students, efforts within community colleges to become more

learner-centered (particularly in order to meet the needs of at-risk students), methods that have been employed successfully in improving the success of at-risk students in higher education, student assessment of faculty teaching, the efficacy of college faculty training programs, and evaluation of college faculty training programs. Chapter Three is a description of the methodology and research design of the study. Chapter Four presents the results for the research question. Chapter Five includes discussion of results, limitations of the study, implications of the study, recommendations relating to future research, and the conclusion.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

Organization of Literature

This chapter provides a review of the literature related to a variety of topics relevant to this study, including: (a) trends regarding at-risk students in the community college, (b) student retention efforts targeted to at-risk students, (c) teaching to the learning/cognitive styles of students to improve the success of at-risk students in higher education, (d) the efficacy of community college faculty training programs, (e) evaluation of college faculty training programs, and (f) student assessment of faculty teaching.

Trends regarding at-risk students in the community college

In recent years, there has been much attention paid to the plight of at-risk students in the community college. There are many at-risk students who enroll in community colleges, due to open admissions policies, job-oriented programs, lower tuition, and greater program flexibility as compared to selective four-year colleges and universities (Fusch, 1996). As noted by Jones and Watson (1990), causes for the high risk of attrition among some community college students involve interrelated factors that are both academic and non-academic, although they do identify some specific student groups with which a relatively high risk of attrition is associated. They identify these groups as being academically disadvantaged (under-prepared students), disabled, minority, and low socio-economic status. As Jarrell (2004) puts it, strategies for intervention with at-risk

community college students which are based in methods that research has proven to work must be developed and implemented, and these strategies must help at-risk students develop not only academic skills which will help them succeed but also non-academic competencies that increase the likelihood of student success and retention. Tinto (2003) illustrates that student retention can be improved if colleges make efforts to integrate students into the academic and social life of the college and if they help students acquire the knowledge and skills needed to become successful learners.

Student retention efforts targeted to at-risk students

As Vincent Tinto (1987) notes, the successful development and implementation of programs to enhance student retention is difficult “if only because of our continuing inability to make sense out of the variable character of student leaving” (p.3). Tinto is not suggesting that colleges should avoid trying to enhance student retention via programs targeted at students who are at-risk. Rather, he suggests is that while there are many examples of successful retention programs to be found in the literature, it is not so clear which elements of successful retention programs are specific to the circumstances at individual institutions and which are generalizable to all colleges’ retention efforts. However, Tinto does attempt to generalize some basic principles that he found to be common to all successful retention programs that he studied in his extensive review of the literature. These principles (which are, again, not specific to community colleges but to all higher education institutions) are:

1. *Institutions should ensure that new students enter with or have the opportunity to acquire the skills needed for academic success;*
2. *Institutions should reach out to make personal contact with students beyond the formal domains of academic life;*
3. *Institutional retention actions should be systematic in character;*
4. *Institutions should start as early as possible to retain students;*
5. *The primary commitment of institutions should be to their students;*
6. *Education, not retention, should be the goal of institutional retention programs (pp. 139-140).*

One particularly influential work which expands on Tinto's principles for retention in higher education and which makes them specific to the community college is Terry O'Banion's book *A Learning College for the 21st Century* (1997). O'Banion calls a community college that places the students' learning needs first a "learning college." He states that the learning college is based on six principles:

1. *The learning college creates substantive change in individual learners;*
2. *The learning college engages learners as full partners in the learning process, with learners assuming primary responsibility for their own choices;*
3. *The learning college creates and offers as many options for learning as possible;*
4. *The learning college assists learners to form and participate in collaborative learning activities;*

5. *The learning college defines the roles of learning facilitators by the needs of the learners;*
6. *The learning college and its learning facilitators succeed only when improved and expanded learning can be documented for its learners (p.47)*

O'Banion and his collaborators on this book posit that many of the realities regarding the education of students who fit the at-risk profile described earlier in this paper require that colleges forego many traditional ways of operating – particularly a “one size fits all” delivery of instruction and student services – in favor of delivery of instruction and services in a manner that is tailored to the needs of the individual student and that is designed to provide specialized assistance to help students persist to completion, whatever that completion may be. But how does a community college move forward in retaining at-risk students by putting the education of students first, as Tinto suggests, and altering the learning environment to adapt to the specific needs of the individual learner, as O'Banion further suggests?

While researchers can identify and have identified many specific factors which can make a student at-risk for failure, it is not possible to proscribe a single activity to address a single risk factor and expect to impact the problem of remedial student retention. Jeff Hoyt (1999), writing in *Community College Review*, expressed this point directly:

As demonstrated by the sometimes conflicting findings in the literature, studying student retention remains difficult and complex. Many possible factors can directly and indirectly influence a student's decision to persist. For this reason,

both two- and four-year institutions use several interventions in their attempts to reduce attrition. An effective student retention program requires a campus-wide effort, and can involve several different student sub-populations. (p.8)

In other words, the general consensus among those who study efforts to increase retention of at-risk students in the community college is that the best approach is a shotgun approach, one in which community colleges try as many interventions as possible to better meet the needs of at-risk students. However, to extend the metaphor, the shotgun should be equipped with a tight choke, that choke being specific demographic and other factors influencing the individual college's at-risk populations. Every college is different. Even among urban community colleges, which as larger institutions often have much in common on a number of fronts, there are significant differences in the characteristics of the at-risk student population. Intervention efforts should meet the needs of as many students as possible (Hoyt 1999, O'Banion 1997).

Teaching to the preferred learning/cognitive styles of students

Marshall (1987) indicated that the way information and concepts are presented to students may be more important to the learning process than the learning aptitudes of the students. Cross (2002) and Smith (1983) demonstrated the usefulness of the learning style accommodation approach to teaching in improving student achievement, increasing student satisfaction with instruction, and lowering rates of student attrition. Smith also showed that using learning style diagnosis with students can encourage teachers to analyze their teaching methods and their reasons for choosing them. Hardigan (2001)

argued that because teachers often do not have the time or the expertise to assess all of their students' learning styles, it would be more practical if these assessments could be automated and could be made available to students via the Internet, with the results delivered to both teachers and students, but with students having access to their results only. In general, these studies posit that the use of varied teaching methods is related to effective instruction.

The efficacy of community college faculty training programs

Gaff & Pruitt (1998) reported that colleges with institutionalized, formal staff development programs that require faculty participation do experience gains in student retention and that faculty teaching within such institutions report a sense of professional renewal as a result of their participation. However, most faculty development programs in community colleges, colleges, and universities lack specific focus on institutional change or student success outcomes (Richardson & Moore, 1987; Brookes and German, 1983). This lack of focus is problematic, as faculty training programs in community colleges that exhibit greater degrees of student success are clearly linked in systematic ways to institutional priorities (Richardson & Wolverson, 1994). Murray (2002) argues that many faculty members teaching in community colleges are not well-prepared by their discipline-based educational backgrounds to understand the philosophies that underlie the missions of community colleges. Because of this, Murray emphasizes, it is imperative for community colleges to provide faculty development activities that tie the teaching and learning process to goals such as helping at-risk students succeed.

Implementation of directed, outcome-focused faculty training programs in community colleges is a key component in promoting student success and particularly the success of at-risk students (Clark & Corcoran, 1989; Eble & McKeachie, 1985). However, when left to their own choosing, faculty members tend to participate in sabbaticals and conference attendance for their staff development activities (Maxwell and Kazlauskas, 1992). Effective institutionalized faculty development requires more than individualized choices by faculty members to participate in isolated, individually-oriented staff development activities; it requires a formal plan that includes a number of inter-related activities presented over time and all tied to the improvement of teaching within the institution (Tierney, Ahern, & Kidwell, 1996; Vineyard, 1994). In order to create an environment conducive to establishment of formalized faculty training programs, faculty members need to be assured that taking risks by being more creative in their teaching methods is not a risk to their performance evaluations and is, in fact, to be formally valued by the institution, so that faculty members are encouraged to innovate (Ferren, 1993; Millis, 1994; Watson & Grossman, 1994).

Faculty members are generally disinclined to participate in formal staff development programs unless the programs are designed and implemented by faculty members and are likely to resist staff development programs that are perceived as being imposed by the college administration (Maxwell & Kazlauskas, 1992). Additionally, faculty members tend to accept advice about teaching from other faculty members within their disciplines and are often motivated by the respect of their departmental colleagues (McGrath, 1992). This argues for heavy participation of faculty in the design and

implementation of formalized faculty development programs, if the institutional goal is to elicit enthusiastic participation by faculty members.

Many studies (Brawer, 1990; Maxwell & Kazlauskas, 1992; Angelo, 1994; Centra, 1975; Baldwin, 1981) have addressed the issue of faculty participation in faculty training, all drawing similar conclusions, which follow. Very few faculty members access faculty development programs, and those who do tend to be the faculty members who least need the staff development. The teachers who most need to improve are the least likely to seek out staff development. Many faculty members indicate that they do not like institutional staff development activities because they are often disconnected from what they do in the classroom. Murray (2002) emphasized that for faculty development activities that support innovative approaches to teaching at-risk students to be successful, community colleges need to call upon faculty members to assist in the development of faculty training programs.

Successful community college staff development programs generally focus on specific topics, are of limited duration, and are of limited scope. This may be because programs focused on specific topics tend to have desired outcomes that are pre-defined and measurable (Schratz, 1990). Successful programs are directly tied to institutional goals that are well-defined (Tierney, Ahern, & Kidwell, 1996). Faculty who attempt to improve their teaching must be recognized in some meaningful way for their efforts (Nwagwu, 1998).

Evaluation of community college faculty training programs

Research into the effect of community college faculty development programs (Murray 2002, Grant & Keim 2002) indicates that only 47 percent of community colleges attempt any formal assessment of the efficacy of faculty development programs. Those community colleges that do attempt assessments of faculty training programs do so primarily via post-training participant surveys which ask faculty whether the training will impact their teaching and which do not measure any desired changes in teacher or student behavior (Maxwell & Kazlauskas, 1992; Richardson & Moore, 1987). One explanation for this is that only 43 percent of those community colleges that formally evaluate their faculty development programs (and this is only 47 percent of community colleges) establish any evaluation criteria prior to conducting the evaluation (Grant, 2000). As a result, in the literature regarding faculty development in community colleges there is information regarding the structure and operation of professional development functions but no data available to measure program effectiveness (Sydow, 2000).

Student assessment of faculty teaching

Studies regarding college student assessment of faculty teaching tend to focus on the most common form of student assessment, the student opinion surveys used by most colleges and universities in the United States. Haskell (1997), Marsh (1992), and Cashin (1983) demonstrated faculty concerns about student evaluations being the primary or, in some cases, only formal evaluation of their teaching performance. Studies of the reliability and validity of student evaluations of faculty performance have resulted in varying conclusions. Simmons (1996) identified problematic student opinion survey

statements as a source of poor reliability, citing ambiguous and/or leading language of statements as major issues. However, other studies (Marsh & Bailey, 1993; Peterson and Kauchak, 1982) found student opinion surveys to be a reliable measure of faculty performance, particularly when student evaluations of faculty are studied in aggregated form. Obenchain and Abernathy (2003) and Feldman (1988) studied individual students' responses on student opinion surveys and found that while aggregated student responses may show reliability over time, individual student responses (and, ultimately, the patterns of aggregated responses over time) regarding their perceptions of effective teaching may not correlate with institutions' perceptions of effective teaching.

As this review shows, there is considerable disagreement as to the value of student evaluations of teachers via traditional student opinion surveys. Those studies that found problems with student opinion survey responses identified the use of vague or leading language in the surveys and apparent conflict between students' interpretations of the survey statements and institutions' interpretations of those same statements. In other words, problems with student opinion surveys are problems relating to the fact that they ask for opinions, which can be based upon just about anything. For these reasons, the student surveying to be done for this study will avoid any opinion-based items. Students will be asked to answer "yes" or "no" to a series of factual statements relating to specific teaching methods employed by their instructors.

CHAPTER THREE: METHODOLOGY

Chapter Organization

This study involves data collected via teaching methodology identification surveys completed by students enrolled in developmental reading and/or English composition courses at CPCC during Spring Term 2005 and Spring Term 2006. The study compared the use of specific teaching methods by developmental reading and English instructors who had participated in a 48-hour faculty training program with the use of those same methods by developmental reading and English instructors who had not participated in the training program. The training program was designed and implemented as part of CPCC's Title III Improving Institutions grant project, which began in October of 2003. A primary purpose of the training program is to encourage faculty to use varied teaching methods in order to meet the learning/cognitive preferences of all students. The purpose of the study was to determine if faculty members who had participated in the training program were more likely to use specific teaching methods than faculty members who had not completed the training.

This chapter describes the methodology of the research project, including faculty training, the survey instrument, the sample population surveyed, the survey instrument, the data collection process, the data analysis process, a limitation to the methodology, and a summary.

Faculty Training

Because of the provisions of a United States Department of Education Title III grant, all faculty teaching developmental reading and/or English courses at CPCC will be required to complete a 48-hour training series by Fall Term of 2008. The training is offered over the course of a year, one series each year. This series covers issues relating to learning styles, personality types, active learning strategies, use of technology for teaching, lesson plan development, and use of a CPCC-developed Online Student Profile (OSP) system which offers faculty members detailed information regarding the students in their classes (demographic information, individual and aggregated results of personality type and learning style assessments for each class section, survey information from each student, and academic history information). The goal of these aspects of the training program is to emphasize the importance of teaching in varied ways, using several different approaches to teaching, and to have this importance continually reinforced by the Online Student Profile system.

The faculty training series was developed via collaboration among five full time faculty members teaching developmental reading and English courses, the coordinator of CPCC's student success skills instructional program, two faculty members from the student success skills instructional program, and the activity director of the CPCC Title III grant project (the researcher in this study). The faculty development activities involve training modules in how to modify instructional delivery to accommodate differing student learning styles and personality types and how to offer students information regarding how to plan their educational careers and access student services. There is also

instruction and practice in how to use various instructional approaches to meet the diverse learning needs of students. Among issues covered in the training are lesson plan development and in the use of computer-based tools for instructional delivery. Both during and following training activities, the faculty members work in teams to develop lesson plans that are then made available to all instructors teaching the courses for which the lesson plans are developed. Because the grant program calls for all full- and part-time instructors teaching developmental reading and/or English courses at CPCC to complete the training by 2008 and because the available research on faculty training programs indicates that faculty members are more likely to accept and benefit from faculty-designed and delivered training programs, the researcher considered the participation and leadership of the developmental reading and English full time faculty members key to the potential for success of the faculty training program. A full description of all modules in the CPCC Title III faculty training program is provided in Appendix A.

It is important to note that since the time that the Title III grant was awarded to CPCC, all faculty teaching developmental reading and/or English courses at CPCC have been informed repeatedly that by the end of the five-year grant period, no faculty member will be allowed to teach developmental reading or English courses if he/she has not been through the complete training process. It is also important to note that all faculty members are paid to attend the training, which occurs during non-teaching staff development days.

Teaching Method Survey Process

Students enrolled in randomly selected developmental reading and/or English courses taught by Title III-trained instructors and in randomly selected developmental reading and/or English courses taught by instructors who have not been through the Title III training were surveyed. This occurred after the 12th week of the term in Spring Term of 2005 and again in Spring Term of 2006 to determine which of a list of teaching methods had been employed by their teacher in that course. Surveys were a list of methodologies, with students answering “Yes” or “No” to the prompt “Did your instructor use the following teaching methods in this class?” These surveys were designed by a team of faculty from the developmental reading and English areas, in collaboration with the CPCC Title III Assessment Team, comprised of faculty, administrators from Student Services, Instruction, Information Technology Services, and Planning & Research. All data were intended to be compiled and presented in aggregated form to protect the anonymity of individual faculty members, with groupings done only by whether the faculty members whose classes were surveyed were Title III-trained.

Sample Population

All participants in the survey process were CPCC students enrolled in developmental reading and/or English courses at CPCC during Spring Term 2005 or Spring Term 2006. CPCC is located in Charlotte, NC, and has a student enrollment of 56,805 (CPCC Fact Book, 2004-2005). Of this student population, 47 percent were members of racial/cultural minority groups (self-reported, non-white) and 53 percent were members of the majority ethnic group (self-reported, white, non-Hispanic). Students

take courses at six CPCC campus locations in Mecklenburg County, NC, as well as online.

To be included in the study, students had to be currently enrolled in a developmental reading or English course at CPCC during Spring Term 2005 or Spring Term 2006. Because many of the teaching methods identified on the survey used in this study were specifically in-person teaching methods, online students were exempted from sampling for this study. All students taking on-campus developmental reading and/or English courses taught by any instructor were eligible for random selection to complete the survey process.

Due to the ongoing nature of the CPCC Title III faculty training program, different percentages of the whole population of developmental reading and English faculty had participated in the faculty training program in Spring 2005 and Spring 2006. By Spring Term 2005, slightly over 25 percent of faculty teaching developmental reading and/or English courses at CPCC had completed the Title III faculty training. By Spring Term 2006, slightly over 50 percent of faculty teaching developmental reading and/or English courses at CPCC had completed the Title III faculty training. In order for the randomly selected samples of course sections to be surveyed to represent the actual populations of students enrolled in sections being taught by Title III-trained and non-Title III-trained instructors in 2005 and 2006, a stratified random sampling procedure was used for each year.

In stratified random sampling, the population to be surveyed is divided into parts according to some characteristic. The characteristic is related to the major variables being

studied. For the purpose of this study, the parts chosen for the stratified sampling were developmental reading and English class sections taught by the two distinct groups of instructors, those who had participated in the training and those who had not. In order to accomplish the stratified random sampling procedure for the two years, based on the percentages of faculty members who had been trained at the time of the survey processes in 2005 and 2006, the courses being taught by two distinct populations of faculty being studied were separated prior to random selection of sections.

In this way, for 2005, 25 percent of the developmental reading and English class sections randomly sampled were taken directly from the comprehensive list of face-to-face courses being taught by Title III-trained instructors, and 75 percent of developmental reading and English class sections randomly sampled were taken directly from the comprehensive list of courses taught by non-Title III-trained instructors. For 2006, 50 percent of the developmental reading and English class sections randomly sampled were taken directly from the comprehensive list of in-person (not online) courses being taught by Title III-trained instructors, and 50 percent of developmental reading and English class sections randomly sampled were taken directly from the comprehensive list of in-person courses being taught by non-Title III-trained instructors. Thusly, the survey results for each year reflect the actual percentages of the faculty population that had participated in the training and that had yet to participate.

Results from two years of surveying were studied in order to gauge any measurable changes in the use of the various teaching methods in the sample populations

of faculty members as the overall percentage of Title III-trained faculty increased as a percentage of the total developmental reading and English faculty population.

The Survey Instrument

The survey instrument was a list of teaching methods which students identified as having been used by answering “yes” or “no” to each of them. The survey design was done by two groups of experts, working independently of one another, in order to ensure content validity. Review of an instrument by a single panel of expert judges was sufficient to establish content validity (Leedy & Ormrod, 2001) The survey instrument used in this research was developed by a panel of experienced (minimum of five years of college teaching experience) full-time faculty members teaching in the developmental reading and/or English areas. These faculty members had recently completed an intensive study of best practices in teaching methods that are effective in working with students with auditory, kinesthetic, and visual learning style preferences. This panel developed a list of teaching methods that they either had used or planned to use in their classes to meet the learning needs of students with varied learning style preferences. This list was reviewed for both content and clarity of written description by a team of evaluators comprised of instructional administrators, student services administrators, faculty members, counselors, and an educational research professional. Following this review, the survey instrument was returned to the faculty group for review and approval prior to the instrument’s use with students. The items on the yes-or-no survey to be completed by students enrolled in randomly selected sections of developmental reading and/or English were as follows:

Which of the following methods did your instructor use (select all that apply):

1. Visual
 - a. Blackboard online system
 - b. writing/drawing on whiteboard or chalkboard
 - c. black and white handouts
 - d. color handouts
 - e. videos
 - f. maps/charts/posters
 - g. cartoons/comics
 - h. PowerPoint, internet, and computer graphics
 - i. Overhead transparencies
 - j. chat-rooms

2. Auditory
 - a. music
 - b. lecture
 - c. interviews
 - d. voice recordings
 - e. peer discussions
 - f. outside speakers
 - g. oral instructions
 - h. oral tests
 - i. oral presentations
 - j. debates
 - k. student/teacher conferences

3. Kinesthetic
 - a. activities requiring movement
 - b. form groups
 - c. activities outside the classroom
 - d. hands-on projects
 - e. service learning
 - f. role playing
 - g. drawing

Data Collection

Survey distribution to students in randomly selected sections of developmental reading and English occurred after the 14th week of the Spring Term in 2005 and 2006. It was coordinated by the CPCC Title III grant administration office. Course sections were

chosen for surveying by stratified random sampling to ensure that students in appropriate percentages of sections taught by trained or non-trained faculty members were being sampled. Surveys were in the form of customized, bubble response sheets, with each teaching method listed and a choice of “yes,” that method was used by the teacher, and one for “no,” meaning that the method was not used. Survey sheets were numerically bar-coded to indicate that they were to be used in sections taught by trained instructors or in sections taught by non-trained instructors. Surveys contained no other markings to identify from which section the completed surveys came. This was to protect the anonymity of the faculty members. Once completed, surveys were returned to the Title III office for processing. Again, the only identifying markings on the forms were codes which identified the surveys as coming from trained or non-trained instructors’ classes.

Data Analysis

Completed surveys were scanned via computerized optical scanning equipment, with bar codes identifying responses from students in Title III-trained instructors’ sections and those from non-Title III-trained instructors’ sections. Teaching methodology use comparisons (with negative responses coded as zero and positives recorded as one) between trained and non-trained faculty members were made. Use of individual teaching methods among trained and non-trained faculty was analyzed via descriptive statistics, to compare the student-reported usage of listed teaching methods by Title III-trained and non-Title III-trained instructors. Pearson’s chi-square significance test was applied to the results for each teaching method. Results from the 2005 surveys and the 2006 surveys were kept separate. This was done to gauge any measurable changes in the use of the

various teaching methods in the sample populations of faculty members as the overall percentage of Title III-trained faculty increased as a percentage of the total developmental reading and English faculty population.

Limitation

The surveys being used were not intended to gauge the extent to which faculty members use individual teaching methods, nor were they intended to gauge the quality of the instructors' use of the individual methods. As part of the survey instrument development process, the majority opinion of both the faculty group and the group made up of a variety of faculty, staff, and administrators was that students would be more likely to simply identify methods used than they would be to gauge the extent or effectiveness of the use of those methods. Because significant research exists to support the effectiveness of learning style-focused teaching when all learning style preferences are accommodated, the decision for this study was that a finding of more methods being employed by trained teachers would be sufficient to show the success of that element of the training program.

Another limitation is that, due to the strong desire among the CPCC Title III management team to have these evaluations of teaching methods employed by the trained and non-trained faculty groups be anonymous (and therefore not perceived as threatening by the faculty), individual instructors were not pre- and post-tested. While this method would have been preferable from a research perspective, the gains in faculty trust and acceptance of the overall Title III project were deemed more important. The facts that instructors know they have to do the training at some point during the five-year window and that faculty are paid to attend (during non-teaching times) are thought to mitigate

against a halo effect, wherein enthusiastic instructors volunteer to participate in a new training program and their performance is then gauged against that of less enthusiastic instructors.

Summary

This study methodology was designed to gauge whether the CPCC Title III-related faculty training program has been effective in encouraging faculty members teaching developmental reading and/or English courses to use specific teaching methods, so that similar faculty training programs may be developed and used by other educational institutions desiring to improve the success of at-risk students. Additionally, the method of surveying students to gauge the effectiveness of a faculty training program designed to encourage faculty use of specific teaching methods is an approach that may be useful to others.

Data were collected via surveys administered to students in randomly selected course sections of developmental reading and English during the final two weeks of Spring Term 2005 and Spring Term 2006. Students identified specific teaching methods employed by their instructors in those classes during the term in which they completed the surveys. Results for faculty who had completed the training and those who had not were analyzed, and Pearson Chi-square tests were performed to determine the significance of the results.

CHAPTER FOUR: RESULTS

The purpose of this study was to evaluate the effectiveness of CPCC's Title III faculty training program in encouraging the use of varied teaching methodologies by developmental reading and English faculty members in order to improve the success of at-risk students. Due to the ongoing nature of the CPCC Title III faculty training program, different percentages of the whole population of developmental reading and English faculty had participated in the faculty training program in Spring 2005 and Spring 2006. By Spring Term 2005, slightly over 25 percent of faculty teaching developmental reading and/or English courses at CPCC had completed the Title III faculty training. By Spring Term 2006, slightly over 50 percent of faculty teaching developmental reading and/or English courses at CPCC had completed the Title III faculty training. In order for the randomly selected samples of course sections surveyed to represent the actual populations of students enrolled in sections being taught by Title III-trained and non-Title III-trained instructors in 2005 and 2006, a stratified random sampling procedure was used for each year. As a result of the stratified random sampling process, total of 279 students completed surveys in Spring Term 2005, and a total of 351 completed surveys in Spring Term 2006. Therefore, results for 2005 and 2006 are presented separately, for each teaching method identified on the survey instrument.

Research Question

In this study, the following question was examined: Are faculty members who have completed CPCC's Title III faculty training program more likely to employ various teaching methods targeted to the needs of students with visual, kinesthetic, and auditory cognitive/learning style preferences than faculty members who have not completed the faculty training program?

Presentation of Results

All data for Title III-trained faculty members and non-Title III-trained faculty members are presented in aggregated form for each year studied. Cumulative use percentages for each teaching methodology are presented in the order in which they appeared on the survey instrument. Results for the three categories of teaching methods (visual, auditory, and kinesthetic) are grouped by type. For each measured teaching method, Pearson's chi-square test was performed to determine whether a significant difference existed between the Title III-trained and non-Title III-trained groups. The survey results addressing the research questions are presented in table form, along with the Pearson chi-square calculations for each teaching method.

Methods for visual learners

Ten commonly used teaching methods that work well with students who have a visual learning preference were identified by faculty from the developmental reading and English area when the CPCC Title III faculty training program was being developed. These methods were subsequently emphasized during the 48-hour faculty training program, with focus on how to use the methods in specific learning situations that occur

in developmental reading and/or English courses. The ten identified instructional delivery methods for visual learners were:

1. Blackboard online system
2. writing/drawing on whiteboard or chalkboard
3. black and white handouts
4. color handouts
5. videos
6. maps/charts/posters
7. cartoons/comics
8. PowerPoint, internet, and computer graphics
9. overhead transparencies
10. chat-rooms

The tables that follow present the results of the 2005 and 2006 student surveys for the questions relating to their instructors' teaching methods targeted at visual learners.

Table 1a

Use of Blackboard Online System in Instruction

	Non-trained	Trained
2005 Percent faculty using method	32.9%	67.9%
2006 Percent faculty using method	43.9%	65.6%

Table 1b

Chi-square for use of Blackboard Online System in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	21.765	1	.001
2006 Pearson Chi-Square	16.166	1	.001

With a p value of less than .05, the results indicate a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 2a

Use of writing/drawing on whiteboard or chalkboard in instruction

	Non-trained	Trained
2005 Percent faculty using method	91.4%	90.4%
2006 Percent faculty using method	88.5%	91.4%

Table 2b

Chi-square for writing/drawing on whiteboard or chalkboard in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	.059	1	.808
2006 Pearson Chi-Square	.781	1	.377

With a p value of more than .05, the results indicate that there is not a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 3a

Use of black and white handouts in instruction

	Non-trained	Trained
2005 Percent faculty using method	87.7%	94.3%
2006 Percent faculty using method	84.9%	85.1%

Table 3b

Chi-square for black and white handouts in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	1.909	1	.167
2006 Pearson Chi-Square	.059	1	.958

With a p value of more than .05, the results indicate that there is not a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 4a

Use of color handouts in instruction

	Non-trained	Trained
2005 Percent faculty using method	32.1%	47.1%
2006 Percent faculty using method	31.4%	35.1%

Table 4b

Chi-square for use of color handouts in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	4.060	1	.044
2006 Pearson Chi-Square	.528	1	.468

With a p value of less than .05, the results for 2005 indicate a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

With a p value of more than .05, the results for 2006 indicate that there is not a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 5a

Use of videos in instruction

	Non-trained	Trained
2005 Percent faculty using method	22.9%	56.6%
2006 Percent faculty using method	40.3%	36.9%

Table 5b

Chi-square for use of videos in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	23.166	1	.001
2006 Pearson Chi-Square	.408	1	.523

With a p value of less than .05, the results for 2005 indicate a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

With a p value of more than .05, the results for 2006 indicate that there is not a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 6a

Use of maps/charts/posters in instruction

	Non-trained	Trained
2005 Percent faculty using method	48.6%	67.9%
2006 Percent faculty using method	41.4%	59.7%

Table 6b

Chi-square for maps/charts/posters in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	6.367	1	.012
2006 Pearson Chi-Square	11.129	1	.001

With a p value of less than .05, the results indicate that there is a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 7a

Use of cartoons/comics in instruction

	Non-trained	Trained
2005 Percent faculty using method	33.5%	34.6%
2006 Percent faculty using method	27.1%	41.7%

Table 7b

Chi-square for cartoons/comics in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	.024	1	.878
2006 Pearson Chi-Square	7.947	1	.005

With a p value of more than .05, the results for 2005 indicate that there is not a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

With a p value of less than .05, the results for 2006 indicate that there is a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 8a

Use of Powerpoint/Internet and computer graphics in instruction

	Non-trained	Trained
2005 Percent faculty using method	43.6%	94.2%
2006 Percent faculty using method	51.0%	69.0%

Table 8b

Chi-square for Powerpoint/Internet and computer graphics in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	43.281	1	.001
2006 Pearson Chi-Square	11.634	1	.001

With a p value of less than .05, the results indicate that there is a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 9a

Use of overhead transparencies in instruction

	Non-trained	Trained
2005 Percent faculty using method	50.5%	55.1%
2006 Percent faculty using method	41.4%	54.3%

Table 9b

Chi-square for overhead transparencies in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	.340	1	.560
2006 Pearson Chi-Square	5.673	1	.017

With a p value of more than .05, the results for 2005 indicate that there is not a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

With a p value of less than .05, the results for 2006 indicate that there is a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 10a

Use of online chat rooms in instruction

	Non-trained	Trained
2005 Percent faculty using method	12.9%	20.0%
2006 Percent faculty using method	14.7%	15.8%

Table 10b

Chi-square for online chat rooms in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	1.688	1	.194
2006 Pearson Chi-Square	.067	1	.795

With a p value of more than .05, the results indicate that there is not a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Methods for auditory learners

Eleven commonly used teaching methods that work well with students who have an auditory learning preference were identified by faculty from the developmental reading and English area when the CPCC Title III faculty training program was being developed. These methods were subsequently emphasized during the 48-hour faculty training program, with emphasis on how to use the methods in specific learning situations that occur in developmental reading and/or English courses. The 11 identified instructional delivery methods for visual learners were:

1. music
2. lecture
3. interviews
4. voice recordings
5. peer discussions
6. outside speakers
7. oral instructions
8. oral tests
9. oral presentations
10. debates
11. student/teacher conferences

The tables that follow present the results of the 2005 and 2006 student surveys for the questions relating to their instructors' teaching methods targeted at auditory learners.

Table 11a

Use of music in instruction

	Non-trained	Trained
2005 Percent faculty using method	7.7%	18.4%
2006 Percent faculty using method	18.2%	21.5%

Table 11b

Chi-square for music in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	5.146	1	.023
2006 Pearson Chi-Square	.582	1	.446

With a p value of less than .05, the results for 2005 indicate that there is a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

With a p value of more than .05, the results for 2006 indicate that there is not a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 12a

Use of lecture in instruction

	Non-trained	Trained
2005 Percent faculty using method	94.4%	88.2%
2006 Percent faculty using method	89.8%	93.1%

Table 12b

Chi-square for lecture in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	2.466	1	.116
2006 Pearson Chi-Square	1.226	1	.268

With a p value of less than .05, the results for 2005 indicate that there is a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

With a p value of more than .05, the results for 2006 indicate that there is not a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 13a

Use of interviews in instruction

	Non-trained	Trained
2005 Percent faculty using method	39.6%	42.0%
2006 Percent faculty using method	23.5%	38.9%

Table 13b

Chi-square for interviews in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	.095	1	.758
2006 Pearson Chi-Square	9.122	1	.003

With a p value of more than .05, the results for 2005 indicate that there is not a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

With a p value of less than .05, the results for 2006 indicate that there is a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 14a

Use of voice recordings in instruction

	Non-trained	Trained
2005 Percent faculty using method	9.1%	29.2%
2006 Percent faculty using method	16.2%	18.3%

Table 14b

Chi-square for voice recordings in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	13.937	1	.001
2006 Pearson Chi-Square	.246	1	.620

With a p value of less than .05, the results for 2005 indicate that there is a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

With a p value of more than .05, the results for 2006 indicate that there is not a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 15a

Use of peer discussions in instruction

	Non-trained	Trained
2005 Percent faculty using method	94.4%	88.2%
2006 Percent faculty using method	89.8%	93.1%

Table 15b

Chi-square for peer discussions in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	2.466	1	.116
2006 Pearson Chi-Square	1.226	1	.268

With a p value of less than .05, the results for 2005 indicate that there is a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

With a p value of more than .05, the results for 2006 indicate that there is not a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 16a

Use of outside speakers in instruction

	Non-trained	Trained
2005 Percent faculty using method	31.1%	49.0%
2006 Percent faculty using method	41.4%	57.5%

Table 16b

Chi-square for outside speakers in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	5.615	1	.018
2006 Pearson Chi-Square	1.226	1	.003

With a p value of less than .05, the results indicate that there is a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 17a

Use of oral instructions in instruction

	Non-trained	Trained
2005 Percent faculty using method	91.6%	84.3%
2006 Percent faculty using method	86.1%	93.6%

Table 17b

Chi-square for oral instructions in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	2.463	1	.117
2006 Pearson Chi-Square	5.510	1	.019

With a p value of more than .05, the results for 2005 indicate that there is not a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

With a p value of less than .05, the results for 2006 indicate that there is a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 18a

Use of oral tests in instruction

	Non-trained	Trained
2005 Percent faculty using method	28.2%	44.0%
2006 Percent faculty using method	36.1%	36.8%

Table 18b

Chi-square for oral tests in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	4.669	1	.031
2006 Pearson Chi-Square	.020	1	.888

With a p value of less than .05, the results for 2005 indicate that there is a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

With a p value of more than .05, the results for 2006 indicate that there is not a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 19a

Use of oral presentations in instruction

	Non-trained	Trained
2005 Percent faculty using method	53.6%	76.5%
2006 Percent faculty using method	65.2%	78.3%

Table 19b

Chi-square for oral presentations in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	8.816	1	.003
2006 Pearson Chi-Square	7.362	1	.007

With a p value of less than .05, the results indicate that there is a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 20a

Use of debates in instruction

	Non-trained	Trained
2005 Percent faculty using method	52.6%	64.0%
2006 Percent faculty using method	62.3%	64.7%

Table 20b

Chi-square for debates in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	2.118	1	.146
2006 Pearson Chi-Square	.198	1	.657

With a p value of more than .05, the results indicate that there is not a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 21a

Use of student/teacher conferences in instruction

	Non-trained	Trained
2005 Percent faculty using method	52.7%	60.4%
2006 Percent faculty using method	52.6%	56.7%

Table 21b

Chi-square for student/teacher conferences in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	.945	1	.331
2006 Pearson Chi-Square	.556	1	.456

With a p value of more than .05, the results indicate that there is not a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Methods for kinesthetic learners

Eight commonly used teaching methods that work well with students who have a kinesthetic learning preference were identified by faculty from the developmental reading and English area when the CPCC Title III faculty training program was being developed. These methods were subsequently emphasized during the 48-hour faculty training program, with emphasis on to how to use the methods in specific learning situations that occur in developmental reading and/or English courses. The eight identified instructional delivery methods for kinesthetic learners were:

1. activities requiring movement
2. form project groups
3. activities outside the classroom
4. hands-on projects
5. service learning
6. role playing
7. drawing

The tables that follow present the results of the 2005 and 2006 student surveys for the questions relating to their instructors' teaching methods targeted at kinesthetic learners.

Table 22a

Use of activities requiring physical movement in instruction

	Non-trained	Trained
2005 Percent faculty using method	45.9%	72.0%
2006 Percent faculty using method	51.6%	67.2%

Table 22b

Chi-square for activities requiring physical movement in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	10.970	1	.001
2006 Pearson Chi-Square	8.436	1	.004

With a p value of less than .05, the results indicate that there is a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 23a

Use of activities requiring students to form groups in instruction

	Non-trained	Trained
2005 Percent faculty using method	75.0%	74.5%
2006 Percent faculty using method	87.9%	88.0%

Table 23b

Chi-square for activities requiring students to form groups in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	.005	1	.942
2006 Pearson Chi-Square	.002	1	.967

With a p value of more than .05, the results for indicate that there is not a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 24a

Use of activities requiring students to form groups in instruction

	Non-trained	Trained
2005 Percent faculty using method	46.0%	58.8%
2006 Percent faculty using method	49.7%	70.5%

Table 24b

Chi-square for activities requiring students to form groups in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	2.716	1	.099
2006 Pearson Chi-Square	15.275	1	.001

With a p value of more than .05, the results for 2005 indicate that there is not a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

With a p value of less than .05, the results for 2006 indicate that there is a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 25a

Use of hands-on projects in instruction

	Non-trained	Trained
2005 Percent faculty using method	49.8%	75.5%
2006 Percent faculty using method	60.4%	77.6%

Table 25b

Chi-square for hands-on projects in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	10.651	1	.001
2006 Pearson Chi-Square	11.730	1	.001

With a p value of less than .05, the results indicate that there is a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 26a

Use of service learning projects in instruction

	Non-trained	Trained
2005 Percent faculty using method	35.0%	52.0%
2006 Percent faculty using method	34.5%	52.2%

Table 26b

Chi-square for service learning projects in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	4.950	1	.026
2006 Pearson Chi-Square	10.390	1	.001

With a p value of less than .05, the results indicate that there is a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 27a

Use of role playing in instruction

	Non-trained	Trained
2005 Percent faculty using method	22.0%	32.7%
2006 Percent faculty using method	30.7%	37.2%

Table 27b

Chi-square for role playing in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	2.501	1	.114
2006 Pearson Chi-Square	1.562	1	.221

With a p value of more than .05, the results indicate that there is not a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Table 28a

Use of drawing activities in instruction

	Non-trained	Trained
2005 Percent faculty using method	39.2%	54.2%
2006 Percent faculty using method	24.8%	44.0%

Table 28b

Chi-square for drawing in instruction

	Value	df	Asymp. Sig. (2-sided)
2005 Pearson Chi-Square	3.624	1	.057
2006 Pearson Chi-Square	13.111	1	.001

With a p value of more than .05, the results for 2005 indicate that there is not a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

With a p value of less than .05, the results for 2006 indicate that there is a statistically significant difference between the cumulative usage rate of faculty who participated in CPCC Title III training and those who did not.

Summary

This chapter presented an overview of the results of this research. Survey results were presented to illustrate whether faculty who had participated in the CPCC Title III faculty training program were using various teaching methods more than faculty who had not participated in the training program. Stratified random sampling of developmental reading and English class sections of instructors who had participated in the training program and those who had not led to completion of surveys by 279 students in Spring Term 2005 and 351 students in Spring Term 2006. The surveys asked students to identify teaching methods their instructors had used from a list of methods presented to them. The survey results indicated percentages of student respondents who answered that their instructors did use each method. These results were analyzed for statistical significance through use of Pearson's chi-square test. Of the 28 teaching methods identified on the survey instrument, raw survey data indicated that faculty members who had participated in the faculty training program used 21 of the methods more frequently than faculty members who had not.

There were eight teaching methods for which the difference in usage between non-trained and trained faculty members was found to be statistically significant ($p < .05$) for both survey years, 2005 and 2006. Three of these were teaching methods identified as benefiting visual learners: use of Blackboard online system, use of maps/charts/posters, and use of Powerpoint/internet/computer graphics. Two of these were teaching methods identified as benefiting auditory learners: use of guest speakers and assignment of oral presentations. Three of these were teaching methods identified as benefiting kinesthetic

learners: use of activities requiring movement, use of hands-on projects, and use of service learning projects. The results for these eight teaching methods indicate that trained faculty members were considerably more likely to use the methods than non-trained instructors.

Discussion of these results and recommendations for future research are presented in Chapter Five.

CHAPTER FIVE: DISCUSSION

Overview of Purpose

The purpose of this study was to evaluate the impact, if any, of participation in CPCC's Title III-related faculty training program on the variety of teaching methods employed by faculty members teaching developmental reading and/or English courses at CPCC. The study examined two years of Spring Term survey data collected from students enrolled in randomly selected sections of developmental reading and/or English courses at CPCC. Students completing the surveys identified whether their instructors in these courses had used each of 28 different teaching methods listed on the survey instrument. The teaching methods were categorized by the learning style they most directly addressed, visual, auditory, or kinesthetic. Student responses for each of the 28 items were aggregated by the status of their instructors, meaning whether they had participated in CPCC's Title III-related faculty training program. Percentages of positive and negative student responses regarding their instructors' uses of each teaching method were calculated. For each measured teaching method, Pearson's chi-square test was performed to determine whether a statistically significant difference existed between the Title III-trained and non-Title III-trained groups. The relationship of the findings to the two research questions is discussed in this chapter. Following the discussion of the

research findings, this chapter includes limitations of the study and recommendations for future research.

Discussion of Results

This study focused on a research question relating to the effectiveness of CPCC's Title III-related faculty training program. Specifically, that question was: Are faculty members who have completed CPCC's Title III faculty training program more likely to employ various teaching methods targeted to the needs of students with visual, kinesthetic, and auditory cognitive/learning style preferences than faculty members who have not completed the faculty training program?

In order to answer this question, student responses to the Spring Term 2005 and Spring Term 2006 faculty teaching methods surveys were calculated in terms of percentages of positive and negative responses to the prompt, "In this class, has your instructor used the following methods?" For each listed teaching method, usage percentages were calculated for the entire survey group and for each distinct population being studied, the CPCC Title III-trained and non-trained instructors.

A Pearson's Chi-square test was performed to determine whether a significant difference existed between the two groups (trained and non-trained) for use of each listed teaching method.

For example, in Spring Term of 2005, 39 percent of students in randomly selected classes taught by instructors who had not participated in the faculty training program reported that their instructors used the Blackboard online system in their teaching. For the same term, 67.9 percent of students in randomly selected classes taught by instructors

who had participated in the faculty training program reported that their instructors used the Blackboard online system in their teaching. There was a statistically significant difference between the usage rate of Blackboard among trained and non-trained instructors, based on results of a Pearson Chi-Square ($p < 0.05$). Specifically, the trained instructors were reported to use the Blackboard system by 35 percent ($67.9 - 32.9 = 35$) more of their students than were the non-trained instructors. A logical conclusion is that the CPCC Title III-trained instructors were 35 percent more likely to use the Blackboard system in their teaching. Because Blackboard was identified as a teaching method that is beneficial for visual learners, a logical conclusion is that instructors who participated in the faculty training program were, as a group, better meeting the learning needs of their students who are visual learners due to their use of the Blackboard system.

As illustrated in the literature review for this study (Jarrell, 2004; Hardigan, 2001, O'Banion, 1997; Cross, 2002; Smith, 1983), students tend to perform better (in terms of retention and grade performance) when their learning style preferences are taken into account in the teaching/learning process. For at-risk students, who typically earn lower grades and are much less likely to stay enrolled in a community college until they reach goal completion, anything that can be done to encourage faculty to use teaching methods that meet the learning preferences of all students is advisable. In terms of the specific at-risk student population, it is especially important for faculty teaching developmental courses to vary their teaching methods in order to meet the learning preferences of all students.

A primary goal of the CPCC Title III faculty training program is to relay to developmental reading and English instructors the importance of using varied teaching methods in their classes and to equip them with the knowledge and skills needed to do so. As illustrated in the literature review for this study (Murray, 2002; Tierney, Ahern & Kidwell, 1996; Richardson & Wolverson, 1994; Vineyard, 1994), community colleges rarely tie faculty-oriented staff development programs to institutional goals, and when they do, they rarely evaluate the efficacy of the staff development programs in terms of the effect, if any, the programs have on faculty behavior in the classroom.

This study was possible because a group of faculty and administrators at CPCC determined as a group, through literature review and discussion, that it would be better for at-risk students in developmental reading and/or English courses if the faculty members teaching those courses were to use more varied teaching methods. Through study of the research on the subject, the participating faculty members compiled a list of teaching methods believed to meet the needs of visual, auditory, and kinesthetic learners. Subsequently, a faculty training program designed, in part, to communicate the importance of using varied teaching methods to faculty was implemented with the support of federal Title III funds. All faculty teaching in the developmental reading and English area were notified that participation in the faculty training program, designed and delivered in large part by their fellow developmental faculty members, would be mandatory by 2008. By Spring Term of 2005, approximately 25 percent of faculty from the developmental reading and English area had completed the training program. By Spring Term of 2006, 50 percent of faculty from this area had completed the program.

Random sampling of class sections to be surveyed was stratified to reflect the actual percentages of faculty that had been trained in each survey year. The results of this study indicate that the faculty training program has been effective in encouraging greater usage of varied teaching methods targeted to the learning needs of students with visual, auditory, and kinesthetic learning preferences.

Of the 28 teaching methods identified on the survey instrument, raw survey data indicated that faculty members who had participated in the faculty training program used 21 of the methods more frequently than faculty members who had not. The seven methods which the raw data indicated non-trained faculty used equal to or more than trained faculty were what could be termed more traditional, standard college teaching methods: writing on the whiteboard or chalkboard, using black and white handouts, using cartoons or comics, lecturing, forming groups, giving oral instructions, and encouraging peer discussions. However, in every instance in the two survey administrations when the non-trained faculty were shown to use a specific method more than trained faculty, the differences between the trained and non-trained faculty groups were found to be statistically not significant by the Pearson Chi-square test.

There were eight teaching methods for which the difference in usage between non-trained and trained faculty members was found to be statistically significant ($p < .05$) for both survey years, 2005 and 2006. Three of these were teaching methods identified as benefiting visual learners: use of Blackboard online system, use of maps/charts/posters, and use of Powerpoint/internet/computer graphics. Two of these were teaching methods identified as benefiting auditory learners: use of guest speakers and assignment of oral

presentations. Three of these were teaching methods identified as benefiting kinesthetic learners: use of activities requiring movement, use of hands-on projects, and use of service learning projects. The results for these eight teaching methods indicate that trained faculty members were considerably more likely to use the methods than non-trained instructors.

Methods for visual learners

In 2005, trained instructors used the Blackboard online system in their teaching at a rate of 67.9 percent, while non-trained instructors used it at a rate of 32.9 percent. In 2006, the rates were 65.6 percent for trained and 43.9 percent for non-trained.

In 2005, trained instructors used maps/charts/posters in their teaching at a rate of 67.9 percent, while non-trained instructors used them at a rate of 43.9 percent. In 2006, the rates were 59.7 percent for trained and 41.4 percent for non-trained.

In 2005, trained instructors used Powerpoint/internet/computer graphics in their teaching at a rate of 94.2 percent, while non-trained instructors used them at a rate of 43.6 percent. In 2006, the rates were 69 percent for trained and 51 percent for non-trained.

Methods for auditory learners

In 2005, trained instructors used guest speakers in their teaching at a rate of 49 percent, while non-trained instructors used them at a rate of 31.1 percent. In 2006, the rates were 57.5 percent for trained and 41.4 percent for non-trained.

In 2005, trained instructors used assignments of oral presentations in their teaching at a rate of 76.5 percent, while non-trained instructors used them at a rate of 53.6 percent. In 2006, the rates were 78.3 percent for trained and 65.2 percent for non-trained.

Methods for kinesthetic learners

In 2005, trained instructors used activities requiring movement in their teaching at a rate of 72 percent, while non-trained instructors used them at a rate of 45.9 percent. In 2006, the rates were 67.2 percent for trained and 51.6 percent for non-trained.

In 2005, trained instructors used hands-on projects in their teaching at a rate of 75.5 percent, while non-trained instructors used them at a rate of 49.8 percent. In 2006, the rates were 77.6 percent for trained and 60.4 percent for non-trained.

In 2005, trained instructors used service learning in their teaching at a rate of 52 percent, while non-trained instructors used it at a rate of 35 percent. In 2006, the rates were 52.2 percent for trained and 34.5 percent for non-trained.

Other statistically significant results

In addition to the eight methods which showed statistically significant results at the most commonly used p value for significance ($p < .05$) for both years of the study, there were two methods which showed the 2005 results to be statistically significant at a slightly higher p value ($p < .10$) and the 2006 results to be statistically significant at the more commonly used p value ($p < .05$). These teaching methods were assignment of activities to be done outside the classroom and drawing.

In 2005, trained instructors used activities outside the classroom in their teaching at a rate of 58.8 percent, while non-trained instructors used them at a rate of 46 percent. In 2006, the rates were 70.5 percent for trained and 49.7 percent for non-trained.

In 2005, trained instructors used drawing activities in their teaching at a rate of 54.2 percent, while non-trained instructors used them at a rate of 39.2 percent. In 2006, the rates were 44 percent for trained and 24.8 percent for non-trained.

There were also eight instances in which the results for only one of the two years were found to be statistically significant at the most commonly used p value for significance ($p < .05$). In each of these instances, the rate of use of the method for which the results were determined to be statistically significant was higher in the group of trained instructors as compared to the group of non-trained instructors.

The activities found to be used more by trained instructors in both survey years are all activities that are given emphasis during the faculty training series. Faculty members participating in the training series were exposed to 12 hours of instruction that was focused solely on the use of computers in instruction, and the trained faculty members were found to use the Blackboard system, PowerPoint, and internet-based activities more than non-trained instructors. Similarly, the importance of and methods for using non-electronic visual materials (maps/charts/posters), guest speakers, oral presentations by students, activities requiring movement, and Service-Learning activities are all directly addressed by trainers during the training series. Faculty members participating in the training were more likely to use all of these methods.

However, during the training some emphasis is also given to other teaching methods on the survey. It is possible that many of the methods for which a significant difference was not found between the two groups are simply more widely used by the faculty members teaching these courses at CPEC. For example, attending a training

session during which the importance of writing on the whiteboard or chalkboard is discussed may not make a faculty member more likely to do something that most faculty members do without being prompted.

Conclusions

The results suggest that participation in the CPCC Title III faculty training program does encourage faculty members teaching developmental reading and/or English at CPCC to use a wider variety of teaching methods than are used by faculty members who have not yet participated in the training program. The statistical significance of the results over both survey years for 10 of the teaching methods indicates that instructors' participation in the training program is likely encouraging their use of those methods. The fact that these 10 methods are distributed among the three learning preference groups (three for visual, two for auditory, and five for kinesthetic) indicates that at-risk students enrolled in developmental courses taught by instructors who have participated in the training program should be more likely to succeed in their developmental courses, as their learning preferences are more likely to be met by the instructional methods employed by their instructors.

Another conclusion that can be reached as a result of this study is that student surveying regarding instructors' teaching methods is a viable way for colleges to assess the instructional practices of their teachers. Central Piedmont Community College holds becoming a more learner-focused college as an institutional priority, and, in this instance, its efforts to encourage faculty behavior that better meets the learning needs of students was evaluated in as direct a way as possible. As the literature review for this study

indicates (Murray, 2002), very few community colleges attempt to assess the efficacy of their faculty development programs. Those that do tend to rely on participant surveys of faculty or student opinion survey data as assessment tools. The system of evaluation applied in this study is specific to the intended outcomes of the CPCC Title III faculty training program. When being surveyed regarding their instructors' teaching methods, the students were not asked to make any value judgments regarding the quality of their instructors' teaching. The study documented only that instructors who participated in the training were using several methods that those who did not participate in the training were less likely to use. This was appropriate, as the efficacy of the training program in encouraging use of the specific methods was being assessed, not the overall efficacy of individual instructors.

Limitation of the study

The limitation of this study is that the methodology used did not allow for an absolute cause and effect relationship between participation in the CPCC Title III faculty training program and instructors' use of more varied teaching methods. In order to establish causation, it would have been necessary to arrange some form of pre- and post-test format for assessing changes in the individual instructors' teaching methods in the post-training period. While such a study might yield more conclusive results regarding causation, broader considerations relating to the environment in which this study was conducted argued for the treatment versus control format of this study. The broad goal of the CPCC Title III project under which the faculty training program is being offered is to improve the success rate of at-risk students. Faculty support for the project is very

important, and by devising a method for studying the effects of the faculty training program which allowed participating faculty members to remain anonymous, it was possible to assess the faculty training program's efficacy without assessing the performance of individual faculty members.

Recommendations for future research

A primary recommendation regarding future research is that community college personnel actively pursue formal, outcome-based evaluation of faculty development activities. Every researcher investigating faculty development activities within community colleges and whose work in this regard has been published in a peer-review journal has indicated that formal, outcome-based evaluation of the efficacy of faculty development activities is rarely done.

A recommendation regarding future research that is specific to the content of this study is that a pre- and post-test format would yield more conclusive results regarding a faculty training program's actual impact on the teaching of individual instructors. A similar survey instrument could be used with a faculty member's students both before and after the faculty member's participation in a formal training program with clearly stated goals in terms of encouraging specific teaching outcomes.

It is likely that other community colleges seeking to measure specific teaching-related outcomes of a faculty training program will be faced with similar environmental concerns as were present when this study was being designed for use at CPCC. If this is the case, replication of this study format may be advisable.

Additionally, further research on the impact, if any, of the training program on student performance would be valuable. Grade performance (both in-term and in subsequent reading- and writing-intensive courses) and retention of students in courses taught by trained instructors versus those in courses taught by instructors who had not been through the training might be studied to gauge the this impact.

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APPENDIX A: CPCC TITLE III FACULTY TRAINING DESCRIPTION

The following schedule and accompanying session descriptions are from 2005. The faculty training schedules have varied from year to year but have always included 48 total hours of training and have included the same overall breakdown of training hours by topic. Availability of presenters has affected the specific schedules, but the May and August training sessions have been consistent in their overall content and structure. Some additional hours of lesson planning work time for faculty teaching in the same disciplines are provided following the August training series, bringing the total training hours to 48.

May 2005

Day One

9 – 10 a.m. Overview of CPCC Title III Project

- Content designed to give faculty participants a broad view of the purpose and goals of the CPCC Title III project, with emphasis on goals for improving grade performance and retention of at-risk students.

10 – 12 a.m. Overview of instructional components of the CPCC Title III Project

- Faculty members from the ACA and developmental reading and English areas present information on how learning style information and thematic content focused on student success issues are presented in ACA and developmental reading and English courses.

- The faculty trainers emphasize the importance of lesson planning and the need to vary instructional activities to meet the needs of students who have preferences for learning in auditory, visual, and/or kinesthetic ways.

1 – 2 p.m. Who are the Developmental Students?

- Senior faculty members from the developmental reading and English areas share demographic information and practical observations about developmental students enrolled at CPCC. The purpose is to emphasize the need for faculty members to be creative in reaching out to students and teaching in ways that meet the needs of a diverse student population.

2 – 4 p.m. Learning style and personality inventories

- Faculty members from the ACA area and counselors from the Enrollment and Student Services area present an overview of the learning style and personality instruments taken by all students enrolled in the ACA111 orientation course. Participants in the training take the inventories and review their results. Discussion focuses on how to help students interpret their results.

Day Two

9 – 10 a.m. Online Student Profile system

- Participants learn to use the OSP system to access information regarding the students enrolled in their classes, to contact student services areas using the email alert features built into the OSP, and to guide students through the learning style and personality inventories and the resources for interpreting inventory results.

10 – 11 a.m. The Critical First Three Weeks of Class

- Participants learn why at-risk students are particularly vulnerable to attrition during the first three weeks of class and are presented with strategies that senior faculty members have used successfully in keeping students enrolled during this period.

11 – noon The role of counseling and advising

- Members of the CPCC counseling staff assigned to the Title III project detail services available to students and ways in which the professional counselors and advisors can directly assist faculty members in working with students.

1 – 4 p.m. Blackboard system training

- Participants train on how to use the Blackboard online course management system. Training is provided by representatives of the CPCC Instructional Development office and by faculty members from the ACA and developmental reading and English areas.

Day 3

9 – 10 a.m. Online Student Profile system

- Participants continue to learn to use the OSP system to access information regarding the students enrolled in their classes, to contact student services areas using the email alert features built into the OSP, and to guide students through the learning style and personality inventories and the resources for interpreting inventory results.

10 – noon Lesson planning and collaboration with other instructors

- Participants are guided through the basics of a lesson planning process designed specifically for the CPCC Title III grant by faculty participants. This process involves designing lessons which meet the needs of learners with auditory, kinesthetic, and/or visual learning preferences. Lesson plans which explicitly state how the needs of learners with various learning preferences are developed and shared with other instructors.

1 – 4 p.m. Blackboard system training

- Participants train on how to use the Blackboard online course management system. Training is provided by representatives of the CPCC Instructional Development office and by faculty members from the ACA and developmental reading and English areas.

Day Four

9 - noon Active Learning strategies

- Participants from the current faculty training group and from previous years' training groups work with an experienced facilitator on developing active learning strategies that fit the content of courses the participants teach.

1 – 4 p.m. Active Learning Strategies

- Morning activities continued.

August 2005

Day One

9 – 10 a.m. Overview of CPCC Title III Project

- Participants revisit the purpose and goals of the CPCC Title III project, with emphasis on goals for improving grade performance and retention of at-risk students.

10 – noon Blackboard system training

- Participants train on how to use the Blackboard online course management system. Training is provided by representatives of the CPCC Instructional Development office and by faculty members from the ACA and developmental reading and English areas.

1 – 2 p.m. The role of counseling and advising

- Members of the CPCC counseling staff assigned to the Title III project detail services available to students and ways in which the professional counselors and advisors can directly assist faculty members in working with students.

2 – 3 p.m. Student information and FERPA

- A representative of the CPCC Admissions Office gives an overview of federal regulations governing student information and the need for faculty members to keep certain student information confidential.

*Day Two*9 – noon Active Learning strategies

- Participants from the current faculty training group and from previous years' training groups work with an experienced facilitator on developing active learning strategies that fit the content of courses the participants teach. Emphasis is placed on lesson plan development and incorporation of activities for auditory, kinesthetic, and visual learners.

1 – 4 p.m. Active Learning strategies

- Participants from the current faculty training group and from previous years' training groups work with an experienced facilitator on developing active learning strategies that fit the content of courses the participants teach. Emphasis is placed on lesson plan development and incorporation of activities for auditory, kinesthetic, and visual learners.

*Day Three*9 – noon Active Learning strategies

- Participants from the current faculty training group and from previous years' training groups work with an experienced facilitator on developing active learning strategies that fit the content of courses the participants teach. Emphasis is placed on incorporation of activities for auditory, kinesthetic, and visual learners.

1 – 4 p.m. Lesson planning and collaboration with other instructors

- Participants work together in a lesson planning process designed specifically for the CPCC Title III grant by faculty participants. This process involves designing lessons which meet the needs of learners with auditory, kinesthetic, and/or visual learning preferences. Lesson plans which explicitly state how the needs of learners with various learning preferences are developed and shared with other instructors.

Day Four

8:30 – noon Participation in CPCC Fall Conference opening activities

- This section of the training was reserved for the part time instructors (who are paid to attend the training series) to be able to attend beginning of the year activities that are normally attended by full time personnel only. The intent is to encourage greater connections among part time faculty members and the college.

1 – 4 p.m. Blackboard system training

- Participants complete training on how to use the Blackboard online course management system. Training is provided by representatives of the CPCC Instructional Development office and by faculty members from the ACA and developmental reading and English areas.