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COLLEGE AND UNIVERSITY DEVELOPMENTAL EDUCATION:
THE PROFESSIONAL DEVELOPMENT NEEDS OF COLLEGE AND UNIVERSITY
REMEDIAL INSTRUCTORS

A Dissertation Presented for the
Doctor of Philosophy Degree in Higher Education
The University of Mississippi

by

KYLE T. MILLER

August 2011

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ABSTRACT

The purpose of this mixed method study, which utilized both survey data and personal interviews, was to determine if Murray's (2001) theory of six constructs applies to faculty who instruct remedial students at both four and two-year institutions. The research study used both quantitative and qualitative methods of research. A survey that included 23 items concerning college and university remedial faculty's perceptions about professional development at their institutions was administered to 300 remedial instructors. Ninety seven participants' responses were analyzed for the study. Survey answers were analyzed using factor analysis with Cronbach's α reliability tests. Survey responses from college and university remedial faculty suggest that Arkansas institutions of higher education provide opportunities for remedial faculty to participate in professional development but that remedial faculty may not be recognized for their participation in professional development by administrators. Interview responses from college and university administrators were analyzed using a qualitative clustering approach. Administrators' interviews suggested that although institutions offer remedial faculty opportunities to participate in professional development, much of the professional development that is offered to remedial faculty is not structured or content specific to remedial faculty's areas of instruction.

DEDICATION

This dissertation is dedicated to my father

Dr. Robert D. Miller, Jr. M.D.

who always wanted a doctor in the family,

and to my mom

Mrs. Trudy L. Miller

who continued to support me and wash my clothes while I was working on my degree.

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It would not have been possible to complete my degree without the assistance of many others. I would first like to thank my advisor and dissertation chair, Dr. Lori Wolff, who has given me so much support and direction for this dissertation. Several times my studies seemed to overwhelm me, yet Dr. Wolff encouraged me to continue by confirming that I was on the right track. Sometimes Dr. Wolff nudged me to the completion of assignments by reiterating when tasks were due and requesting work from me. This accountability proved to be extremely needed and beneficial toward me completing my goal. I would also like to express my gratitude to Dr. Germain McConnell, Dr. Dennis Bunch, and Dr. Timothy Letzring for agreeing to guide me through my dissertation and serve on my dissertation committee. Each of them brought unique perspectives and insight that helped strengthen my research.

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I would like to thank my family for their love and moral support. I thank my parents, Dr. Robert and Mrs. Trudy Miller for instilling in me the value of an education and why it was important to go to college. I thank my Aunt Maxine for loving me unconditionally and always telling me how proud she is of me. And I thank my dear sister Maxine Miller for always being in my corner. I thank my brother Brian for always providing sound advice. And I thank my brother Robert III for always making me laugh and teaching me not to take life so seriously.

Finally, I would like to thank my Lord and Savior, Jesus Christ, for giving me favor and allowing me to be accepted into the PhD program in Higher Education Administration at the University of Mississippi. There is no way I would have been able to finish without His help and guidance. “I press on toward the goal to win the prize for which God has called me heavenward in Christ Jesus” (Philippians 3:14, NJV).

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CHAPTER I

INTRODUCTION

America spends at least \$3.7 billion a year on students who enter colleges and universities without the basic skills necessary to enroll in freshmen level mathematics and English courses (Alliance, 2006). Of this \$3.7 billion, a massive amount of money - \$1.4 billion - will be spent on remedial education for underprepared college and university students (2006). According to Greene and Winters (2005), only half of American high school graduates are academically prepared for postsecondary education. One of the standard college admissions exams, the ACT, reports just half of all test participants are ready for college level courses in math, history, science, and English (Alliance, 2006). As colleges and universities continue to push toward increasing enrollment, diversifying student population, and improving student access, many of these same institutions may expect to see increases in the numbers of students who need remediation (Soliday, 2002). Yet, how will colleges and universities prepare for this influx of students who need remediation? In particular, how will institutions of higher learning enable underprepared students to matriculate through developmental courses onto college level courses?

Statement of the Problem

The number of students entering American institutions of higher education required to take remedial math and English courses is vast. The U.S. Department of Education reported during the years 1992-2000, 61% of two-year public college students and a quarter of students

enrolled at four-year colleges and universities needed remediation (Killough, 2009). College and university graduation rates are dramatically affected by the hefty numbers of students needing remediation. Only 30 to 57% of students who take remedial courses complete a degree program (Killough, 2009; Snyder & Blocker, 1970). Moreover, the number of remedial courses a college or university student takes can also negatively affect graduation rates. As the number of remedial classes students are required to take increases, the likelihood these same remedial students will graduate decreases (Adelman, 1998). Students who take developmental/remedial reading courses may have a harder time graduating than their peers who are only required to take developmental/remedial math courses. As noted above, remedial math students may be able to successfully matriculate into college level courses within a semester of taking remediation. Yet, out of those students who are required to take remedial reading, only nine – twelve percent earned bachelor's degrees (Adelman, 1998).

Research concerning the value of remediation has been mixed. Some would suggest the benefits of college remedial education are outweighed by the costs associated with providing developmental education to college students (Phipps, 1998). Research also indicates the more remedial education hours in which a student is enrolled, the less likely the student will graduate (Adelman, 1998; Clark, 1960). Finally some state legislatures have considered eradicating college programs on the premise that developmental courses are a waste of taxpayers' money and should not be offered at the college level (Associated Press, 2006; Ikenberry & Stix, 1998; Phipps, 1998).

Yet, eradicating remedial education programs may not be a viable or realistic option for colleges and universities. Policy consultant, Alene Russell (2008) states:

The need for developmental education is large and not going away. The nation's ability

to compete in the global economy depends on having unprecedented numbers of workers with postsecondary credentials. Without developmental education – also known as remedial or basic skills education – these students have reduced chances of succeeding in regular college classes, of achieving their educational goals, and ultimately, of contributing fully to society and the nation’s economy. (p. 1)

Research indicates the number of first time students needing remedial education continues to grow (Levin & Calcagno, 2007). From 1995 to 2002 at least 28% of all first time students were required to take one or more remedial course (U.S. Department of Education, 2010). In 2004, at least one-third or approximately 30% of first time two-year college and university students enrolled in remedial reading, writing, and mathematics courses (Armario, 2010).

Furthermore, what are the qualifications and credentials of those who teach remediation? According to the National Center for Development Education (B. Bonham, personal communication, April 11, 2010), few instructors responsible for teaching developmental courses have any training or coursework in understanding the characteristics of developmental education students. Some of these remedial instructors are unknowledgeable of best practices in the field of developmental education (Bonham, 2010). Finally, the majority of developmental instructors are part-time/adjunct faculty (Rouche, Rouche, & Millron, 1995). Higher education institutions hire part-time/adjunct faculty because few full-time faculty desire to work with remedial students and would rather “avoid having much contact with them by hiring part-time instructors from outside to do the work” (Astin, 1998, p. 12). Rouche and Rouche (1999) state that although it is not necessarily a detriment to institutions to use part-time/adjunct faculty to teach remedial courses, using a large number of part-time faculty to teach remedial courses can be problematic unless

high expectations are reflected in an institution's hiring practice. These instructors should "thoroughly understand a college's goals and the complexity of the at-risk population" (Rouche & Rouche, 1999, p.12). At four-year institutions, remedial instructors are generally less well credentialed than their colleagues (Boylan, Bonham, Jackson, & Saxon, 1994), and regrettably, most full developmental education instructors have no training in the area of teaching remedial students (Boylan et al., 1994).

According to Smittle (2003), for a college or university to facilitate a strong remedial/developmental education program they must establish the following principles among faculty who teach developmental courses:

1. Commit to teaching underprepared students – Colleges and universities should select teachers who have an invested interest in underprepared students.
2. Demonstrate good command of the subject matter and the ability to teach a diverse student population – Teachers should be able to present subject matter in different ways.
3. Address noncognitive issues that affect learning – Teachers must deal with affective as well as cognitive needs.
4. Provide open, responsive learning environments – Teachers should develop various methods of communication outside the classroom in-order to create feelings of belonging.
5. Communicate high standards – Teachers should have a clear understanding of subsequent curriculum and how it relates to developmental curriculum.

6. Engage in on-going evaluation and professional development – Program evaluation and professional development are paramount to helping effective teachers manage change (Smittle, 2003).

Consequently, college and university faculty should have a year or more of deliberate training their first year of teaching (Boice, 1992; Lewis, 1996). Professional development is critical to a faculty member's success (Astin et al., 1974). The Group for Human Development in Higher education speaks of college and university faculty members without professional development as "pedagogical amateurs" (1974).

Purpose Statement

The purpose of this mixed method study, which utilized both survey data and personal interviews, was to determine if Murray's (2001) theory of six constructs applies to faculty who instruct remedial students at both four and two-year institutions. Murray's (2001) six constructs needed for strong institutional professional development are:

- A climate that fosters and encourages professional development
- A formalized, structured, and goal-directed development program
- A connection between faculty development and the reward structure
- Faculty ownership
- Colleagues' support for investments in teaching
- The belief that good teaching is valued by administrators

Significance of Study

Little research exists dealing with the need for professional development among college remediation instructors. Act 971 (2008) stated professional development should be offered for remedial education instructors. Officials in other states such as Florida, California and South

Carolina have discussed or implemented similar policies encouraging content specific professional development for remedial instructors. Even with current legislation, little is being offered in the area of content specific professional development for remedial instructors in the state of Arkansas (L. Cook, personal communication, June 28, 2010). In addition, if current college enrollment trends continue, the number of students being required to take remediation courses will continue to grow. Research is needed to explore this topic. If current enrollment trends continue, many American colleges – especially those that have high numbers of remedial students – will be searching for ways to retain and matriculate developmental students. This study on the professional development needs of remedial instructors employed research that may be used by higher education authorities as a means to identify the professional development needs for instructors of remedial education.

Due to the expansion of access to higher education, there has been an increase in the diversification of the student body (Murray, 2001). This diversification has caused college faculty to explore new and innovative ways of teaching (Murray, 2001).

Currently, no research has been conducted to validate Murray's 2001 survey. Factor analysis may be used to test a theory developed from previous research (Field, 2009). Pett, Lackey, and Sullivan (2003) considered using factor analysis for testing a survey instrument that has been developed from an "integrated review" of literature. By means of factor analysis, this study on the professional development needs of remedial instructors tested one of Murray's (2001) construct theories – the belief that good teaching is valued by administrators. After surveying college and university remedial instructors, results from factor analysis was used to further validate Murray's construct. Murray's other five constructs on the success of professional development were investigated by interviewing college and university administrators responsible

for the oversight of developmental programs. Administrators' interview responses were analyzed to determine if Murray's previously mentioned five constructs were existent at the institutions participating in the study.

Research Questions

1. What does your institution do to encourage faculty development participation for remedial instructors?
2. What does your institution do to ensure faculty development activities correspond to the personal and professional goals of faculty who teach remediation?
3. What activities are done to ensure faculty development activities for remedial instructors correspond to the mission of your institution?
4. How are faculty members who teach remedial courses recognized and/or rewarded for participating in professional development activities?
5. What types of activities are made available to faculty who teach remedial courses allowing them to participate in the selection and implementation of professional development opportunities?
6. How are faculty members who teach remediation encouraged to exchange pedagogical strategies and consult with peers on effective instructional strategies?

Limitations and Delimitations

This study involved Arkansas institutions of higher learning. Although many other states have implemented similar policies this might be considered a limitation. Yet, because the research deals with issues pertinent to many American colleges and universities, research may be applicable to institutions in other states with similar demographics. Secondly, because factor

analysis is exploratory in nature, “decisions about [the] number of factors and rotational scheme are based on pragmatic rather than theoretical criteria” (Tabachnick & Fidell, 2007, p.661).

Organization of the study

Arkansas college and university decision makers were interviewed using open-ended questions to determine what types of professional development opportunities are available for remedial instructors at their campuses. Also, an electronic survey was emailed to remedial instructors at Arkansas institutions of higher education to determine the types of institutional professional development offered at their institution and their perceptions of the value their institution places on the professional development of remedial instructors. Final outcomes of the electronic survey were compared with the section of Murray’s 2001 study dealing with faculty members’ beliefs regarding professional development. Results were analyzed to conclude if there are similarities.

Definition of terms

The following are definitions for terms that are mentioned in the following study.

Remediation – Some experts in the field of education consider the terms “remedial” and “developmental” to be one and the same (Breneman & Haarlow, 1998). “Remedial has largely been replaced with developmental, especially in the relevant education community” (Breneman & Haarlow, 1998, p.3). If there is any differentiation between the terms, remediation may be considered as reteaching whereas developmental education may include the involvement of student developmental theory and emphasize various instructional strategies such as student work groups, verbal participation, student choice, student responsibility, and even visual aids incorporated within instruction (Breneman & Haarlow, 1998). For the purpose of this study, the terms remediation and

developmental education are used interchangeably. Remedial/development courses are courses typically offered in mathematics and English.

Professional Development – Refers to official training offered by the institution and/or made available by the institution of employment which is designed to equip instructors with skills necessary to effectively implement instructional strategies (Boylan, 2002).

ACT 971 – Legislation passed in Arkansas' 2009 General Session. ACT 971 was the result of recommendations made by the Arkansas Task Force on Higher Education.

Current Arkansas Governor, Mike Beebe, assembled this task force in an attempt to find solutions on how to decrease the high proportions of Arkansas college and university students required to take remediation.

Summary

Chapter I stated the problem of the study. Background of the problem and issues associated with college remediation were given. The significance of the study was stated. A factor analysis design and research questions were presented along with a list of definitions of the terms. The following chapter presents current literature in the area of remediation.

CHAPTER II

LITERATURE REVIEW

Research on issues pertaining to college remedial education is quite vast. Although there has been research pertaining to the professional development of college and university faculty, there is little research in the area of the professional development of remedial instructors. The review of literature is divided into seven sections. The first section gives a brief overview of remediation, how the literature defines remediation, and the issues concerning the costs of college remediation. The second section deals with problems associated with remediation. The third section discusses the preparation of remedial students. The fourth section deals with the issue of persistence and remedial students. The fifth section discusses remediation in the State of Arkansas in light of Act 971. The sixth section gives a brief overview of the professional development of college and university faculty. The final section discusses the professional development needs of remedial instructors.

Overview

From its earliest beginnings, American colleges and universities have offered developmental courses (Merisotis & Phillips, 2000). College remedial education is not a new phenomenon, but was initiated as far back as the early colonial days at Ivy League schools such as Harvard (Payne & Lyman, 1998). By the 19th century more than 40% of first-year students enrolled in all of higher education were registered in precollegiate programs (Ignash, 1997).

According to a report published by the United States Department of Education's National

Center for Education Statistics (1993), almost 80% of all four-year colleges and universities and 100 percent of two-year institutions offered at least one remedial reading, writing, and/or math course. Twenty-nine percent of freshmen who were enrolled in college and 41% of first-time students took at least one remedial course in reading, writing, or math (Jenkins & Boswell, 2002; Phipps, 1998). Almost three-quarters of higher education institutions enrolling freshmen offered remedial writing and math courses; fifty-seven percent offered remedial reading courses (Phipps, 1998).

The Cost of Remediation

In a report published by The Southern Regional Education Board (1992), remedial education costs states anywhere from two to ten million dollars annually. Manno (2001) contends there are many hidden costs associated with postsecondary institutions offering remediation. According to Manno (2001), some of these costs include the hiring of additional staff to instruct developmental students, and overhead associated with instructing these students along with additional student support services that are generally needed. More than 30,000 people teach remedial courses and around half of these people are hired specifically to teach developmental courses (Manno, 2001).

At the community college level, the number of students enrolled in remedial courses is staggering. Seventy-nine percent of students entering community colleges will be required to take at least one remedial course (Dell-Amen & Rosenbaum, 2002). According to The Center for the Study of Community Colleges (CSCC), 29% of the English classes and 32% of community college math courses were categorized as developmental (Schuyler, 1999).

Because of the costs associated with remediation, some state legislators have begun to prohibit four-year institutions from offering developmental education. Many of these decisions to

eradicate developmental education at four-year institutions college level have proved to be very controversial. The City of New York's Board of Trustees voted to phase out remediation at City University of New York's four-year institutions and to limit community-college remediation to one year (Ikenberry, 1998). This decision was met with some public backlash. Demonstrations took place during these talks. According to Ikenberry (1998), those opposed to the eradication of developmental courses at four-year institutions met the legislators' decision with protest (Ikenberry, 1998).

Problems with Remediation

One problem addressed in research is the issue of how colleges and universities determine who takes remedial courses. Merisotis and Phipps (2000) concur that there is no consistent method among institutions as to who should be required to take remediation. Furthermore, community colleges may have more students taking developmental courses because they have a more organized method for determining who takes remedial courses (Merisotis & Phillips, 2000). Finally, the authors argued that although some critics of remedial education have said that remedial education is a drain on a college's or university's budget, only one to two percent of colleges' and universities' budgets are dedicated to remedial education.

After citing data, Merisotis and Phipps (2000) made the following recommendations concerning college remedial courses:

- Higher education and secondary school systems should align curriculums to better prepare students for college.

- Early intervention programs for at-risk students should be established while students are in high school and students should be made aware of financial aid options.
- Student tracking and high school feedback systems should be established informing high schools of how prepared (or unprepared) students are once they come to college.
- There should be an effort made to improve teacher education programs.

Merisotis and Phipps (2000) concluded the most effective way to reduce the number of students taking college remedial courses is not to reduce funding to remedial programs, but rather to appropriate money to improve secondary/postsecondary institutions' relationships with each other. The researchers state interinstitutional collaboration between colleges, comprehensive college remedial programs, and the utilization of technology are effective ways to improve the quality of college remedial education.

In contrast, there is research to support the detrimental effects of remediation. Clark (1960, 1973) described a phenomenon known as "cooling out" in which students who are classified as developmental/remedial become increasingly unmotivated and academically unambitious after enrolling in remedial education. This decline in academic aspirations for developmental students may increase with the number of remedial courses taken (1960, 1973). Using Clark's conceptual framework of "cooling out," Dell-Amen and Rosenbaum (2002) conducted a study to determine the perceptions of remedial students at two Midwest community colleges who were enrolled in developmental courses that were not specifically identified as remedial. These colleges had an established a policy of not specifically identifying to their

students that they were enrolled in remedial courses in an effort to prevent cooling out. The research identified “cooling out” as an attitude remedial students often take when instructors or advisors specifically discuss with them that they are enrolled in developmental courses. Although the element of “cooling out” may be reduced by not specifically identifying remedial courses as such, the majority of students were unclear as to whether or not remedial courses actually counted towards degree completion. When asked, “Do remedial courses count toward a degree?” Thirty-nine percent of students surveyed said “yes” and 37.9% said that they were “not sure.”

Another issue closely associated with developmental education is access. The primary mission of the community college is to provide equal access to everyone (Cowen & Brawer, 2003). McMillian, Parke, and Lanning (1997) remark, “As open access institutions, community colleges have an obligation to provide remedial/developmental education for students who are underprepared for college-level work” (p. 25). Yet as the number of underprepared students at colleges increase, so may the concern about standards.

Perin (2006) investigated state and institutional policies for 15 community colleges concerning remediation. All six states that participated in the study – Texas, Illinois, California, Washington, Florida, and New York – had various methods for determining which students qualified for remedial instruction. Community college administrators, faculty, and counselors were interviewed individually for one hour to determine how their prospective schools determined who was required to take remedial courses. Answers varied from standardized tests to students’ grade point averages as instrument tools for determining which students needed remediation.

Perin (2006) concluded some states' college remedial programs were very specific concerning student requirements for taking such courses, while other states had virtually no policies in place for determining whether a student begins in remedial courses or enters college level courses upon enrollment. According to this research, there is no consistent national policy for determining whether college students are required to enroll in college remedial courses or not. The study also found there was no consistent method for determining how students advance in or out of remedial courses.

Another issue concerning developmental education has been the issue of faculty workload. Boyer, Butner and Smith (2006) examined the workload of faculty members who teach both remedial courses and non-remedial courses at private and public two-year colleges institutions to determine whether faculty workloads were heavier among instructors who taught remedial courses and if there was a difference in the assessment of students at two-year, four-year public, and four-year private institutions. Building upon research compiled by the National Center for Educational Statistics (1999), this study defined faculty workload as the total amount of time per week faculty members devote to teaching, research, administration, and public service. Citing Allen (1996), faculty members devote as much time to teaching as they do research. Furthermore faculty who teach at two-year colleges have heavier teaching loads than those who teach at four-year doctoral and non-doctoral institutions (Boyer et al., 2006).

Research consisted of faculty members who taught remedial courses at community colleges and four-year colleges and universities along with public and private institutions (Boyer et. al, 2006). The study found there was not a significant difference in course loads among two-year and four-year faculty who taught remedial courses and their counterparts who did not teach

remedial courses. Moreover, contact hours and student credit hours were actually higher for nonremedial classes than remedial classes at both public and private institutions. Concerning assessment techniques, faculty at public institutions typically used competency based grading, essay midterm/finals, and short answer midterm/finals. Faculty at private institutions tended to use term/research papers, competency based grading, and short answer midterms/finals.

Remedial Student Preparation

One issue prevailing throughout developmental and remediation education literature is preparation. The question is asked: how effective is remediation in preparing students to successfully matriculate into college level courses? Weissman, Bulakowski, and Jumisko (1997) state, “The purpose of developmental education is to enable students to gain the skills necessary to complete college-level courses and academic program successfully” (p. 74). To assess the effectiveness of a developmental education program, institutions should ask themselves, “Do students complete developmental education successfully?”; “Do students move from developmental education to college-level courses?”; “Are students who have taken remedial/developmental courses completing college-level courses successfully?”; and, “Are students persisting in pursuing their academic goals?” (Weissman et al., p. 74).

Due to the increasing numbers of students needing remedial reading, writing, and math at the college level, there has been an increasing amount of concern as to the preparedness—or lack thereof—of graduating high school students who enter colleges and universities. Hoyt, Jeff, and Sorensen (1999) conducted a study to determine how high school preparation affects remedial placement rates at one state college, Utah Valley State College (UVSC). How well do high school courses prepare students for college course work in the hopes it may be used as a basis for

possible interventions?

Hoyt et al. (1999) looked at the academic preparation of students in both English and math from two local school districts near UVSC. Five hundred and nine students from District 1 and 378 students from District 2 who attended UVSC were observed. Students were assessed on preparedness by comparing ACT or COMPASS test scores with the level of math and/or English courses students completed in high school prior to enrollment. ACT and COMPASS cut scores were used to determine which students would be recommended to take remedial math and English courses. Descriptive statistics and logistic regression were used to assess the preparedness of participants.

Over half of students who only completed 11th grade English required remediation (Hoyt et al., 1999). Also, around 35% of students earning a C- or higher in 12th grade English in District I and 36% in District II were required to take remedial education. Remedial placement rates were lower when students had a B- in English. The study also found students often matriculated to the same level of math in college which was completed in high school. Ninety percent of students who earned a C- or higher in Algebra 2, Intermediate Algebra, and Geometry needed to repeat Intermediate Algebra (Math 1010) in college. In contrast, when students successfully completed higher levels of math such as calculus in high school, the remedial placement rates declined. Furthermore, students who did not follow the placement recommendations and bypassed two levels of math remediation failed freshman level math courses.

In a 1983 study, Boylan studied the effectiveness of college and university developmental education programs. Boylan categorized articles, books, and monographs which included

documentation of the effectiveness of developmental education activities. Data was collected to identify unpublished reports documenting the effectiveness of developmental education activities. Three trends emerged from the data: Students who enroll in basic skill courses show measureable gains in basic skill development, students who enroll in basic skill courses show greater gains in basic skills than similar students who do not enroll in developmental courses and, underprepared students who enroll in basic skill courses frequently score higher on standardized tests administered following course's completion compared to students who took the same test but did not enroll in developmental courses.

Concerning the issue of GPA, Boylan (1983) found that students who participate in developmental programs are likely to obtain higher grade point averages than admissions predictors indicated (Boylan, 1983). The study also found that students with low grade point averages improved after participation in developmental programs and students who participated in developmental programs tended to obtain higher grades than similar students who did not participate in such programs. Furthermore, students who participated in developmental programs were retained to a greater degree than some would anticipate and are more likely to be retained than similar students who do not participate in such programs. These students are sometimes retained at greater rates than better-prepared students who do not participate in developmental programs.

Learning centers may be an effective method for reducing the drop-out rate improving the academic achievement of remedial students. Most remedial students lack the skills necessary to successfully matriculate through college (Perin, 2004; Proctor, Hurst, Prevatt, Petscher, & Adams, 2006). Students who experience academic difficulties typically exhibit poor study skills

compared to normal-achieving students (Proctor et al., 2006). Learning centers offer student support services to struggling students who desperately need skills enabling them to experience academic success.

Perin (2004) studied what, if any, benefits are there for community colleges to facilitate learning centers to assist in improving the academic preparedness of college students requiring remediation. This study asked whether remedial functions were served by colleges' learning assistance centers and what issues transpired as a result of this type of instruction. Perin interviewed 630 students from 15 community colleges in the states of Washington, California, Texas, Illinois, Florida, and New York to determine the effectiveness of learning assistance centers as a method of increasing academic preparedness. Learning assistance centers were observed with services coded for frequency. Interviews with students and instructors were used to determine the effectiveness of these centers.

According to Perin (2004), learning assistance centers were beneficial to students' success in community college. Students who paid more than six visits to their colleges' learning centers had a GPA of a point or more higher than those who paid fewer visits and there was an increase in retention in college English courses when students received learning assistance. The researcher stated, "The ubiquity of learning assistance at community colleges reinforces the reputation of these institutions as places that prioritize instruction and care deeply about students" (p. 581).

Experts in education believe developmental students require different instruction for them to become engaged in instruction (Eggen & Kauchak, 2004). Bruning et al. (1999) and Mayer (1996) agree there are four characteristics necessary in influencing the learning of developmental

students. These characteristics are:

- Learners construct understanding which makes sense to them.
- New learning depends on current understanding.
- Social interaction facilitates learning.
- Meaningful learning occurs within real-world tasks.

Persistence of Remedial Students

Another issue concerning developmental/remediation education is persistence. Theorists in the field have asked whether students who enroll in remediation actually persist toward graduation (Rouche, 1973, 1999). Adelman (1998) contends the number of students who complete remedial programs is low and out of those students who do, very few actually persist toward degree completion and subsequent graduation. Furthermore, the more remedial classes a student is required to take the less likely the student will graduate (Adelman, 1998).

According to Attwell et al. (2006), although community college students are less likely to graduate than students who attend four-year institutions of higher education, when looking at students with equal high school preparation, there was little difference in the number of remedial students who graduated in comparison to students who did not take remedial courses. Using data from a 1998 report from the National Educational Longitudinal Study, Attwell et al. (2006) remarked community college students were more likely to enroll in remedial courses than students who attended four-year institutions. Students who attended public four-year institutions and did not enroll in remedial courses were less likely to graduate in comparison to students who attended private four-year institutions who did not enroll in remedial courses. Although African American students typically took more remedial courses than whites, almost 40% of these

students graduated. Finally, remedial courses may increase the amount of time it takes students to graduate from college, but there was no significant difference in graduation rates of students with adequate high school preparation who take remedial courses and these same prepared students who do not take remedial courses (Attwell et al., 2006).

Batzer (1997) sought to determine if underprepared students enrolled at an Indiana Community College, Ivy Tech State College, during the fall of 1994 persisted toward graduation. The study examined 766 full-time students who were considered to be “academically deficient” in reading, writing, and/or mathematics. After taking the Assessment of Skills for Successful Entry and Transfer test (ASSET), a standardized test measuring core competencies in reading, writing, and math were analyzed. Students who scored below a 40 cut score were recommended for remedial education. This study found students who were recommend for remedial courses and did so while also completing such courses performed better in college level courses as compared to students who were recommended for remedial courses but instead enrolled in college level reading, writing and math courses. Furthermore, students who finished a remedial education track, matriculating to college level courses, had higher grade point averages in comparison to students who were recommend for remediation but rather bypassed developmental instruction and immediately entered college level courses. Remediation completers also obtained substantially more credit hours than their counterparts who bypassed remedial courses (Batzer, 1997).

In another study, Kreysa (2006) found a positive relationship between graduation rates and students who took remedial courses. According to Kreysa (2006), there was a significant difference in graduation rates between students who took remedial courses and students who did

not take remediation courses. Although remedial students typically had lower grade points during their first semester than non-remedial students - after completing a remedial track – remedial students made academic improvements. Twenty-eight percent of remedial students compared to 35.5% of non-remedial students graduated. Among the various demographic groups of remedial students who matriculated through a remedial curriculum to college graduation, African Americans demonstrated the most significant relationship between enrollment and completion of remedial courses and subsequent graduation.

A project conducted by Sinclair Community College's Institutional Planning and Research department (1993) examined whether or not participation in developmental/remedial courses had an effect on student retention and academic performance at an institution in Dayton, Ohio, Sinclair Community College. Students were tracked for three years based on retention and grade point averages. Students who participated in only some of the recommended remedial courses had the lowest scores on the ASSET. Students who had taken all the recommended remedial courses generally took more credit hours than students in other groups but had lower earned/attempted course completion ratio than students who took no remedial courses. Furthermore, students who only took partial development coursework had the lowest credit hour performance ratio (1993). Students who took all the recommended remedial courses had higher cumulative GPAs than those who only took partial requirements, yet their GPA did not exceed those who refused or did not need remediation. A large percentage of the English 111, 131, and Math 101 students who took all of the recommended remedial courses received a C or better (68.6% English 111, 61.4% English 131, 52.0% Math 101) – higher than the students who took only some of the recommended developmental courses. Yet both of these groups had smaller

success rates found among students who had taken none of the recommended developmental courses or needed no remediation.

Remediation and Arkansas Act 971

Due to the current economic downturn, many states are dealing with continual budget constraints. Because of tightening budgets, colleges, state legislators, and community people are asking many questions about the effectiveness of remediation (Adelman, 1998; Bahr, 2008; Brown, Joseph, & Marti, 2006). Some questions being asked include: Does it work? Is it worth the cost? Who should be held accountable? And who should be responsible for providing remediation?

Another issue facing colleges and universities that offer remedial/developmental programs is the issue of exit standards. Bettinger (2005) claims most states do not have exit standards for students who are required to take remediation. Moreover, currently there are no “benchmarks” to judge the effectiveness of higher education’s remediation programs (Ohio Board of Regents, 2001).

In an effort to institute a means by which the success of remedial programs can be measured, in 2009, the Arkansas State Legislature passed Act 971. Act 971 states:

The board, in collaboration with state-supported institutions of higher education, shall develop by institution uniform measurable exit standards for remedial courses that are comparable to the ACT or SAT equivalent required for college-level enrollment in credit courses to be implemented no later than the fall semester of 2010. (d)(1) The board shall work with state-supported institutions of higher education to (A) Develop innovative alternatives to traditional instruction and delivery methods for remedial courses; and (B)

Provide professional development opportunities to help remedial education faculty gain knowledge in best practices and trends in the instruction and delivery of remedial education (Act 971, 2009).

Jerri Derlikowski, Administrator for Arkansas' Bureau of Legislative Research states, "Act 971 was a by-product of extensive work by the Arkansas Task Force on Higher Education's remediation, retention, and graduation rates" (personal communication, November 21, 2009).

The Arkansas Department of Higher Education requires Arkansas colleges and universities use the COMPASS or ASSET exams as the instrument tool to measure proficiency in reading, writing, and math. Each of these assessments on standardized tests measure core competencies to determine students reading, writing, and mathematic skills. With the passage of Act 971, many questions remain unanswered. Some of these questions include: What are the perceptions of administrators, faculty, and college students concerning the issue wherein students are now mandated to "test out" before enrolling in college level courses? Will grades be as significant as they once were for developmental/remedial students – especially since the primary method for determining whether students advance into college level courses will be a standardized test instead of a passing class score? Qualitative and quantitative research measuring higher education administrators, faculty, and student perceptions towards the new legislation and its implications may help uncover information that may contribute to current research dealing with issues related to college and university problems, along with student persistence and preparation as it relates to controversial issues dealing with developmental education.

Besides the challenges that higher education institutions face concerning the academic

preparation of remedial college students, there is also the issue of how to best prepare remedial instructors. Although Act 971 requests that professional development opportunities be provided for developmental education faculty, it is extremely unclear as to what professional development, if any, is currently being offered. There are also no courses offered in Arkansas teacher education programs that deal with the instructional needs of developmental students.

The Professional Development of College and University Faculty

The National Staff Development Council (2001) considers professional development as a comprehensive, sustained, and intense approach to improve teacher effectiveness and raise student achievement. Francis (1975) defined “faculty development” as a “process which seeks to modify the attitudes, skills and behavior of faculty members toward greater competence and effectiveness in meeting student needs, their own needs, and the needs of the institution” (p. 720). Later, Lewis (1996) concurred that faculty development had become a more encompassing term to include three areas: personal development (self-reflection, vitality and growth), instructional development (course and student-based initiatives), and organizational development.

Prior to 1955, there was very little professional development offered to college and university faculty (Lindquist, 1981). After 1955, three branches of faculty development emerged (Lindquist, 1981). The first branch consisted of instructional resource centers that included media such as instructional television, films, slides, and videotape (Lindquist, 1981). The second branch of faculty development that emerged in the sixties was ‘instructional development’ (Lindquist, 1981). Instructional development primarily consisted of educational specialist employed at universities to help faculty, who on their own initiative, visited them for

instructional support such as diagnosing teaching problems, help with developing new instructional approaches and the evaluation of new instructional approaches (Lindquist, 1981).

The third branch of faculty development that also emerged in the 1960s was the study of learning, teaching, and administration through faculty study centers that were established at universities (Lindquist, 1981). Linquist (1981) stated:

Study centers constitute vital resources for professional development in the modern American college. They supply theory and a data base. They provide a place where faculty and administrators can go to educate themselves about curriculum, teaching, student development, organizational dynamics, finance, administrative, and organizational development for their own universities and for colleges in their region. (p. 736)

In the 1970s three new branches of faculty development emerged (Lindquist, 1981). These branches included attention to the personal development needs of faculty, principles and practices of organizational development in higher education, and the increase of professional networks (Lindquist, 1981). According to Lindquist (1981), the personal development of college and university faculty continues to be an issue of importance because institutions of higher education are recruiting less-prepared and older students to diversify their student body and make ends meet yet most faculty members are unskilled in how to teach students who lack basic academic knowledge, skills, habits and attitudes (Chism, Lees, & Evenbeck, 2002; Lindquist, 1981).

In more recent years, due to an increasingly diverse undergraduate student body, the faculty development has experienced a major paradigm shift from a singular focus on developing

pedagogical skills to an emphasis on student learning (Ouellett, 2010). Student-centered instructional methods that incorporate a collaborative approach along with problem and inquiry based learning strategies have become increasingly more important (Ouelett, 2010). Currently, colleges and universities have found it necessary to concentrate on enhancing faculty instruction by providing professional development opportunities that enable instructors to bring students directly into teaching and learning (2010).

The Professional Development of Remedial Instructors

“Effective teaching in developmental education is one of the most challenging jobs in the college teaching profession” (Smittle, 2003, p. 10). Smittle (2003) believes that there are six principles necessary for developmental education instructors:

1. Commitment to teaching underprepared students.
2. Demonstration good command of the subject matter and the ability to teach a diverse student population.
3. Addressing noncognitive issues that affect learning.
4. Provide open and responsive learning environments.
5. Communicate high standards.
6. Engage in on-going evaluation and professional development.

Smittle (2003) recommends colleges purposefully commit to and develop strong developmental education programs. The professional development of remedial instructors is a primary means by which colleges and universities can facilitate effective developmental education programs.

Smittle (2003) states:

Faculty improvement is usually achieved through professional development activities that

include reading professional journals, writing professional articles, taking courses, and attending professional workshops and conferences. These activities are time-consuming, but effective development educators make this a part of their continuing education. (p. 14)

In his policy paper to the Education Commission of the states, Spann (2001) recommends that initial training and ongoing professional development should be offered to remedial instructors by educators experienced in working with under-skilled students. Spann (2001) stated that remedial educators require “specialized training in the content and processes” (p. 4) to effectively teacher remedial students. The report also made recommendations for professional development and training of remedial instructors in the area of technology.

In a research study of successful development education programs in Texas, one common theme appeared among each of the 10 institutions studied – each institution had a commitment to the professional development of its remedial instructors (Boylan & Saxon, 2005). Institutions that experienced success in the matriculation of remedial students were “very serious about developing the professionals who worked with developmental students” (p.11) and aggressive in providing professional development opportunities for its staff. These institutions made available to its remedial instructors many opportunities for professional development including funding to attend conferences and workshops. Such institutions also paid a significant amount of attention to the orientation and training for adjunct faculty who taught developmental courses.

Developmental programs that concentrate on the professional development of their instructors are more successful than programs than other programs (Boylan, 2002). Boylan, Bonham, Claxton, and Bliss (1994) discovered when intense professional development was

combined with student support services such as tutoring, advising, and instructional programs, students were retained at greater rates and performed better in developmental courses in comparison to programs that did not place an emphasis on professional development. Regardless of what component of developmental education was being studied – when training and professional development were emphasized the outcomes for tutoring, advising and instruction improved (Boylan et al., 1994). Boylan and Saxon (1998) found developmental programs that placed a strong importance on the professional development of its instructors had higher post developmental education pass rates on standardized state competency tests. Boylan (2002) states:

In the most successful developmental education programs, training and professional development is a priority. Faculty and staff working with developmental students are supported and encouraged to attend conferences, training institutes, and graduate courses. Those who participate in such activities are encouraged to share what they have learned with their colleagues in formal and informal settings. (p. 46-47)

professional development opportunities for college remedial instructors should be ongoing and long-term (Boylan, 2002). Effective professional development should include a variety of instructional strategies that are subject specific (Garret, Porter, Desimone, Birman, & Yoon, 2001; NSDC, 2001). John Murray (2001) found that successful developmental education programs are facilitated in an environment where the institution fosters and encourages faculty development. This environment of fostering and encouraging professional development typically comes from the institutions' administrators.

In a report submitted to the executive board of the National Association of Developmental Education (2001), it was recommended that to improve college developmental

education programs, institutions of higher education must hire credentialed, trained, educated, and experienced faculty and professional staff to establish strong developmental education programs. The report went on to state colleges and universities should offer “continuing support and sufficient funding for existing faculty and staff to remain current in the field” (NADE Executive Board, 2001, p. 2) by providing professional development opportunities. Successful developmental education programs are staffed by professionals who exhibit competence in their subject area and who base their instructional practices on research and literature and also have a keen understanding of their content areas (NADE, 2001).

Professional development of college remedial faculty may play a critical role in enhancement of instructional strategies best suited to the diverse needs of developmental students (Boylan, 2002; Gabriner et al., 2007, Jenkins, 2006). Remedial instructors should have the opportunity to participate in professional development related to developmental education (Boylan, 2002).

Summary

Although the review of literature does not settle the issue of the effectiveness or ineffectiveness of developmental education programs, there is various research to support both positions. Current research does suggest remedial instructors may benefit greatly from professional development that is specific to the needs of developmental education.

There has been little research dealing with the professional development needs of instructors who teach remedial students. Through surveying developmental education instructors, this study ascertained the perceived professional development needs of those responsible for teaching developmental students along with their opinions on how well they feel their college

supports professional development. This study gathered data from college and university administrators to determine to what degree participating institutions incorporate Murray's constructs for successful faculty development.

CHAPTER III

METHODOLOGY

This chapter is divided into eight sections. The first section is a brief introduction about the proposed study. Section two explains the research design. Section three gives a description of the participants involved in the study. Section four discusses the instrumentation employed. Section five explains procedurally how research for the study was conducted. Section six explains how factor analysis was utilized. Section seven lists the research questions used in the study. Section eight explains how the data was analyzed.

Methodology Overview

Although most higher education institutions offer professional development opportunities for its general population, there has been little research conducted on the professional development needs of developmental education instructors. According to Barbara Bonham, researcher for the National Center for Development Education (personal communication, April 11, 2010), few instructors responsible for teaching developmental courses have any training or coursework in understanding the characteristics of developmental education students. Neither are these remedial instructors knowledgeable of best practices in the field of developmental education (Boylan, 2010). Many of these developmental education instructors are part-time/adjunct faculty who enter the classroom underprepared to teach remedial courses (Boylan et al., 1994). According to Murray (2001), successful developmental education programs are facilitated in an environment where the institution fosters and encourages faculty development.

This environment of fostering and encouraging professional development typically comes from the institutions' administrators (Burnstad, 1994; Nwagwu, 1998; Schwant, 1996). This mixed method study utilized both survey data and personal interviews to determine if Murray's (2001) six construct theory was applicable for university as well as two-year college faculty who instruct remedial students.

When incorporating research that is both quantitative and qualitative in nature, Creswell and Plano-Clark (2007) stated:

Mixed methods research is a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative approaches in many phases in the research process. As a method, it focuses on collecting, analyzing, and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone (p. 5).

Research Design

In a comprehensive study of what organizational components nurture good professional development opportunities for community college instructors, Murray (2001) found that college climate, mission related faculty development, connections between faculty development and reward structures, faculty ownership of professional development, collegial support for teaching, and administrative validation are six constructs needed for effective professional development.

Factor analysis may be used by researchers to develop and evaluate existing tests and scales (Pallant, 2007). Factor analysis is used as a method to construct a questionnaire which measures underlying variables. Factor analysis was conducted utilizing twenty-three questions from Murray's (2001) questionnaire pertaining to faculty members' beliefs regarding faculty development. Responses from participating college and university faculty who teach remedial students were compared with Murray's responses from community college faculty to determine if beliefs regarding professional development were significantly different. Administrators' interview responses were analyzed to determine if Murray's other constructs for successful faculty development - a climate that fosters and encourages faculty development; a formalized, structured, and goal-directed development program; a connection between faculty development and reward structures, faculty ownership of professional development; collegial support for investments in teaching - existed at the institutions participating in the study.

Because data for remedial instructors and college and university administrators were gathered concurrently, rigorous quantitative and qualitative procedures were employed. Survey results for remedial instructors were not analyzed and interpreted until after personal interviews for administrators were completed so as to guard against biases in the interpretation of guided interview answers.

Participants

Remedial Instructors

The first target population for this study was Arkansas higher education instructors who teach students enrolled in remedial courses. The sample consisted of remedial instructors at 32 public institutions, both two-year and four-year Arkansas colleges and universities, who instruct

students who take remedial classes. According to Gall et al. (2007), purposeful sampling may be utilized to gain “information rich data” (p. 178). Through data collected from the Arkansas Department of Higher Education, institutions which have at least 30% of its first time students enrolled in remedial education were identified for participation in this study. A request was made to institutions’ research department or administrators requesting email lists of faculty who instruct students who are currently or have previously taught remedial courses.

Researchers have found contacting respondents before sending a questionnaire increases the rate of response (Gall et al., 2006; Kaplowitz, Hadlock, & Levine, 2004). Watt (1999) suggested that offering a large prize as an incentive for completing a survey may increase response rates. Two weeks prior to the survey’s administration - an informational email was sent to respondents requesting their participation in the survey. The email included the purpose of the study and informed potential participants that their participation in the study was voluntary. The email also stated that participants' names would be entered into a drawing for a free Apple iPad if they wanted to participate. Instructors who did not want to participate in the study or did not want to partake of the drawing had the option of clicking a button indicating they did not want to participate.

The email also ensured that the names and institutions of participating faculty would not be known to anyone except the researcher and would not be revealed to anyone. The sample of remedial faculty included both two-year and four-year institutions having a substantial number of students – at least 30% of first time students - enrolled in remedial courses.

Administrators

The second target population for this study was college and university administrators who supervise remedial instructors. Utilizing data collected from the Arkansas Department of Higher Education, Arkansas institutions of higher learning have a large portion of students enrolled in remedial education – at least 30% of first time students– were contacted to determine who is responsible for making decisions concerning developmental education at the same institutions where remedial faculty have been surveyed. Decision makers – deans, developmental program administrators, presidents, etc. – were then be contacted and asked for a personal interview. The sample of administrators included five decision makers from both two-year and four-year institutions.

Instrumentation

Instructors' Survey

After the initial informative email was distributed, a 53 question survey was administered by email. Kaplowitz, Hadlock, and Levine (2004) found that email may be an effective means of conducting research when advance notification is sent to participants. Participants filled out the survey by clicking on a link in the email that connected to SurveyMonkey™. The 53 question survey adapted from a previous survey constructed “on the basis of a review of relevant literature” (Murray, 2001, p. 5), was administered to Arkansas instructors who teach remedial courses. The initial survey was a 65 question survey asking college instructors and administrators various questions about the need for professional development at their institution along with how their institution supports professional development. Questions in the initial survey that focused on college administrators who were responsible for professional development at institutions were

removed. As an additional means for determining content validity, experts in the field of developmental education reviewed the survey prior to its dissemination to critique the content of survey. Experts included higher education faculty experienced in designing surveys.

The first part of the survey asked what activities and programs offered by the institution and activities the college conducts to promote teaching excellence. The second part of the survey asked faculty members' beliefs regarding professional development. On a five point Likert scale of 1=strongly disagree to 5=strongly agree, survey participants were asked various questions concerning the type of institutional professional development offered and their perceptions of the value their institution places on the professional development of remedial instructors. Two weeks after the surveys had been submitted, a follow up email was sent to remedial instructors encouraging those who had not already participated in the survey to do so. A link to the survey on SurveyMonkey™ was also resent for convenience of participation.

Administrator Interviews

Telephone contact requesting personal interviews was made with the presidents of five North Central accredited institutions – two-year and four-year - where at least 30% of its first time student population is required to take remedial courses. Schools were selected to reflect the five geographical regions of Arkansas – Northwest, Northeast, Central, Southeast and Southwest. The president of each institution, or someone designated by the college or university was contacted to identify the administrator(s) responsible for developmental education at participating institutions. After an interview date was selected, the researcher visited the administrators for the personal interview. Prior to personal interviews, participating administrators were informed that their participation in the study was voluntarily, their responses

would be kept in strict confidentiality, and their identities would be protected. Participants were also informed that the interview would last no longer than an hour.

Standardized, open-ended interviews provide an exact instrument for inspection by those who use the findings of a study (Patton, 2002). For time efficiency, open-ended interviews should be highly focused and responses are generally easy to find and compare (Patton, 2002).

Data for the personal interviews was collected through note taking and audio recording of interview sessions. The focus of the qualitative section of this study dealt with how administrators support their developmental education faculty. Murray's five constructs - a climate that fosters and encourages faculty development; a formalized, structured, and goal-directed program; a connection between faculty development and the reward structure; faculty ownership, and colleagues' support for investments in teaching – were investigated by interviewing college and university administrators responsible for the oversight of developmental programs. Administrators' interview responses were analyzed to determine if Murray's previously mentioned five constructs are existent at the institutions participating in the study.

Administrators were asked standardized, open-ended questions on what their institutions do to encourage faculty development participation along with how their institutions ensure faculty development activities correspond to faculty members' personal and professional goals. Administrators were then asked what types of professional development activities are utilized to correspond to the mission of their institution, how faculty members are recognized and/or rewarded for participating in professional development activities, and what types of activities are made available to faculty empowering them to participate in the selection and implementation of professional development opportunities. Finally, college administrators were asked what types of

activities are available to faculty which encourages the exchange of instructional strategies among peers.

Following site visits, administrators responsible for the oversight of remedial programs were contacted again by telephone and/or email to further clarify accuracy in interpreting responses to questionnaire. After interviews were recorded and transcribed, data was analyzed to determine if Murray's (2001) constructs for successful faculty development existed among participating institutions. To ensure accuracy in the recording of data, participants were allowed to read interview transcriptions as a means of member checking. Member checking data was compared with transcriptions to verify for accuracy. Peer debriefing with a professional colleague was incorporated to test insights gathered from the study. Finally, documents such as pamphlets, course catalogues and other artifacts pertaining to the colleges' and universities' developmental education programs were gathered to compare with administrators' responses.

Researcher as an Instrument

Patton (2002) believes qualitative report should include some information about the researcher such as experience, training, and perspective brought to the field. The researcher has over five years experience in higher education as a director in student support services at a community college where at least 70% of its students are required to enroll in at least one remedial course. The researcher is also directly responsible for developing and facilitating professional development activities at his institution of employment. The researcher is firmly committed to the idea there is great value in college remediation and the professional development of instructors who teach remedial courses. The researcher believes that college remediation may be used as a means to provide college access to traditionally underserved

student populations. The researcher utilized peers in the field of higher education to validate questions being asked. Peers also conducted a critical analysis of the researcher's interpretation of qualitative data to ensure the data was not tainted by personal biases.

Procedure

Approval for this study was obtained first from the dissertation committee. Then application was made to the university's Institutional Research Board (IRB) prior to testing. An email of voluntary participation in both the instructors' survey and the administrators' interviews was submitted to participants prior to participation in the study. Sending notification of a survey prior to its dissemination may increase participation in research studies (Kaplowitz et al., 2004). The response rate of electronic surveys may be just as effective as paper surveys in gathering research (Boyer, Olson, Calatone, & Jackson, 2002). Instructors who did not return the survey were sent a follow-up email requesting participation. The data from the surveys were placed in a data base. The personal interviews were organized and recorded in an electronic journal. Administrators who did not respond to the initial contact received a follow up phone call requesting their participation in the interview.

Factor Analysis

After survey data was compiled, a factor analysis utilizing SPSS was conducted to identify factors which may explain correlations within the set of observed variables. Factor analysis was used as a method of data reduction to identify a small number of factors explaining the majority of the data collected from the survey. Factor analysis was also used to develop and evaluate tests and scales to reduce related variables to a "more manageable number, prior to

using them in other analyses” (Pallant, 2007, p.179). According to Pallant, (2007) the following four assumptions should be made when utilizing factor analysis:

1. Sample size – The overall sample size should be 150+ with a ratio of at least five cases for each variable.
2. Factorability of the correlation matrix – To be considered suitable for a factor analysis the correlation matrix should show at least some correlations of $r=.3$ or greater.
3. Linearity – Because factor analysis is based on correlation, it is assumed the relationship between the variables is linear.
4. Outliers among cases – Part of the initial data screening process should check for outliers. Outliers should either be removed or recoded. (p. 185-186)

A factor analysis was conducted on responses from the 23 questions obtained from Murray’s (2001) survey dealing with faculty belief’s regarding professional development. The study included a sample size of 123 faculty who teach students enrolled in remedial courses. Factorability of the correlation matrix was determined by using Bartlett’s test of Sphericity with a value at $p<.05$ and a Kaiser-Meyer-Olkin value at .6 or above. Both values were present as part of the output from SPSS factor analysis. Linearity was determined by doing spot checks of some combinations of variables using scatterplots.

Research Questions

1. What does your institution do to encourage faculty development participation for remedial instructors?
2. What does your institution do to ensure faculty development activities correspond to the

personal and professional goals of faculty who teach remediation?

3. What activities are done to ensure faculty development activities for remedial instructors correspond to the mission of your institution?

4. How are faculty members who teach remedial courses recognized and/or rewarded for participating in professional development activities?

5. What types of activities are made available to faculty who teach remedial courses that allows them to participate in the selection and implementation of professional development opportunities?

6. How are faculty members who teach remediation encouraged to exchange pedagogical strategies and consult with peers on effective instructional strategies?

Data Analysis

To determine the statistical significance of survey data, the collected data was entered into the Statistical Package for the Social Sciences (SPSS). Categories of grouping were identified as financial support, personal development, and institutional/administrative support. Afterwards the data was analyzed for underlying constructs. Constructs were identified by the grouping of variables and then studied for underlying attributes.

Data analyzed from personal interviews were collected from recorded transcriptions. Transcriptions were documented in an electronic journal. Transcriptions were then studied to determine if responses were different from responses in Murray's 2001 study.

Conclusion

A mixed methods study using a survey and a personal interview is appropriate for the investigation of college and university faculty and administrators perceptions on the value of

professional development for remedial instructors at two-year and four-year institutions.

Research suggests that the professional development of remedial instructors is critical to the success of an institution's remedial education program. The results from the research may help enlighten higher education experts on what professional development opportunities are offered to remedial instructors. The research may also identify what value Arkansas remedial instructors place on professional development. Finally, the research may help determine what value institutions of higher education place on the professional development of remedial instructors.

In this chapter, a methodological overview and research design for this study were presented. Participants involved in the study, instrumentation used to gather research, and procedure are then discussed. Finally, the methodology used for factor analysis and the study's research questions for this mixed design study were given.

Chapter IV provides results of this study. Data analysis for the quantitative section is given including the reliability of factors using inter-item correlation of factor items and Cronbach's α . Data analysis for the qualitative section is given for each of the research questions. Chapter IV concludes with a summary of the data for both the quantitative and qualitative sections.

CHAPTER IV

ANALYSIS OF DATA

Introduction

The purpose of this mixed method study, which utilized both survey data and personal interviews, was to determine if Murray's (2001) theory of six constructs applies to faculty who instruct remedial students at both four and two-year institutions. Murray's (2001) six constructs are: A climate that fosters and encourages professional development; A formalized, structured, and goal-directed development program; a connection between faculty development and the reward structure; faculty ownership; colleagues' support for investments in teaching and; the belief that good teaching is valued by administrators.

This chapter is divided into two sections. The first section is an analysis of quantitative data. Section one begins with a description of the participants of the survey, including institution type and position, followed by a report of mean averages and standard deviations for each of the 23 survey questions. An analysis of data by Factor Analysis using SPSS statistical software was then conducted. In the final portion of the quantitative section of this chapter, Cronbach α was used to measure the reliability of factors. The second half of this chapter is an analysis of the qualitative data. Section one of the qualitative section begins with a description of participants and institutions represented in the study followed by an analysis of the data.

Quantitative Survey Participants

Three hundred Arkansas fulltime and part-time remedial instructors at four-year and two-

year colleges and universities with various student populations were contacted to participate in the study. Instructors from all 32 undergraduate institutions in Arkansas participated in the study.

Colleges and Universities of Remedial Faculty Participants – Student Populations

#	Inst. Type	College/University	Enrollment AY2009	
			Undergraduate	All Students
1	1	Arkansas State University	11,507	14,575
2	1	Arkansas Tech University	7,864	9,088
3	1	Henderson State University	4,040	4,626
4	1	Southern Arkansas University	3,213	3,859
5	1	University of Arkansas	17,440	22,019
6	1	University of Arkansas Fort Smith	7,951	8,535
7	1	University of Arkansas Little Rock	12,109	15,933
8	1	University of Arkansas Monticello	3,583	4,298
9	1	University of Arkansas Pine Bluff	3,858	4,035
10	1	University of Central Arkansas	11,211	14,919
11	2	Arkansas Northeastern College	2,763	3,133
12	2	Arkansas State University Beebe/Searcy	5,852	6,678
13	2	Arkansas State University Mountain Home	1,795	1,898
14	2	Arkansas State University Newport	2,857	3,345
15	2	Black River Technical College	2,984	3,171
16	2	Cossatot Community College of UA	1,621	2,100
17	2	East Arkansas Community College	2,029	2,214
18	2	Mid-South Community College	2,823	3,221
19	2	North Arkansas College	2,643	2,899
20	2	National Park Community College	4,031	4,877
21	2	North West Arkansas Community	9,990	10,842
22	2	Ouachita Technical College	1,466	2,122
23	2	Ozarka College	1,517	1,767
24	2	Phillips Community College	2,216	3,299
25	2	Pulaski Technical College	13,441	13,798
26	2	Rich Mountain Community College	1,093	1,362
27	2	South AR Community College	2,032	2,262
28	2	Southeast Arkansas College	1,960	3,692
29	2	South AR Technical College	3,020	3,264
30	2	UA Community College Batesville	1,932	2,095
31	2	UA Community College Hope	1,790	1,960
32	2	UA Community College Morrilton	2,713	2,782

Figure 1: For institution type 1 = four-year college or university. 2 = community college.

Adopted from “Annual Unduplicated Enrollment by Academic Year and Institution,”

Arkansas Department of Higher Education 2010 Comprehensive Report, p.4.6.13.

There was a return rate of 40%. From the 300 remedial college and university instructors who were contacted, 123 completed the study of which 97 were used for data analysis. Some institutions did not forward the survey to remedial faculty. In instances where email was not forwarded to remedial faculty, remedial faculty were identified by looking at the department sections of institutions' web pages and then searching for email addresses. Several institutions did not have faculty listed according to subject taught. In these cases, an email with the survey attached was sent to the entire department. Because remedial faculty were not always able to be identified, this may have accounted for the lower initial response rate of 123 instead of the desired 150+

Fifty-one or 44.7% of participants worked at a four-year college or university. Sixty-four or 54.4% of participants worked at a two-year community college. Only one participant, who was forwarded the survey from a colleague, was employed at a private institution. The majority of respondents (79%) were full-time faculty (N=83) with the rest of the participants being adjuncts (12.4%, N=13); administrators (2.9%, N=3); full-time staff (3.8%, N=4) and; graduate assistants/tutors (1.9%, N=2). Eighteen participants did not answer the question concerning their position at the institution.

Survey participants were asked a filter question: "Are you a remedial instructor? i.e. teach classes students are required to take prior to enrolling in Freshmen level English and/or math courses?" Twenty-six respondents' surveys were thrown out of the study due to skipping the filter question (N=11) or identifying that they were not a remedial instructor (N=15). The final sample for this study consisted of 97 college and university faculty.

Data Analysis

The basic objective of factor analysis is to group “highly intercorrelated variables into distinct factors” and to define the underlying structures among variables (Hair, Black, Babin, & Anderson, 2010, p.95). The quantitative section of this study was to determine if Murray’s (2001) construct that “good teaching is valued by administrators” was able to be identified among faculty at four-year and two-year institutions in Arkansas.

Factor analysis was conducted utilizing twenty-three questions from Murray’s (2001) questionnaire pertaining to faculty members’ beliefs regarding faculty development. Remedial faculty were asked their beliefs regarding professional development. On a five point Likert scale (1=strongly disagree to 5=strongly agree) survey participants were asked various questions concerning the type of institutional professional development offered and their perceptions of the value their institution places on the professional development of remedial instructors (see Figure 2).

Beliefs regarding faculty development

Item	Mean	SD
1. The administration strongly supports my efforts at faculty development.	3.814	.9501
2. My college offers support for those faculty members wishing to develop their teaching techniques.	3.773	.9072
3. Most faculty members at my college could agree on a definition of "good teaching."	3.237	1.115
4. Most academic administrators at my college could agree on a definition of "good teaching."	3.103	1.159
5. Our administration moves quickly to offer assistance to teachers perceived as needing help with their teaching.	2.659	.9883
6. Individuals whose teaching performances are perceived to be inadequate (by either students and/or peers) are terminated if improvement is not made.	2.567	1.019
7. Tuition reimbursement to full-time faculty members for graduate course work is a valuable faculty development tool.	3.690	1.325
8. Doing research and writing papers for either publication in professional journals or presentations at conferences can be a valuable means of professional growth for faculty members.	4.010	.8838
9. Extrinsic rewards motivate faculty to improve teaching better than intrinsic rewards.	3.238	.9411
10. Good teachers are born not made.	3.525	.9905
11. Good teachers will eventually be recognized by peers and/or administrators and rewarded.	2.845	1.000
12. Most chairpersons care about the quality of teaching within the college.	3.732	1.005
13. My academic dean\VP cares about the quality of teaching within the college.	3.814	1.092
14. My president cares about the quality of teaching within the college.	3.556	1.127
15. The trustees of the college care about the quality of teaching within the college.	3.587	.9869
16. Good teaching is an acquired skill.	3.514	.9930
17. Faculty will improve their teaching if they are paid more money.	2.886	1.078
18. There are educational experts on the faculty who could assist other faculty to improve teaching.	3.525	1.078
19. Faculty who do research, present at conference(s), or publish in professional forums, are less effective in the classroom than those who only teach.	3.732	1.081
20. Good teachers are recognized and held in high esteem here.	2.938	.9630
21. Publications and presentations at professional conferences are valued at my college.	3.402	1.028
22. Professional development activities are recognized and rewarded.	3.092	.9363
23. Most faculty members care about teaching well and periodically evaluate how they might improve.	3.762	.8632

Figure 2: Survey questions with mean averages and standard deviations. N=97.

The first step in the data analysis was to administer a dimension reduction (principal component analysis) on the 23 items to determine how many factors to use. Principal component analysis (PCA) was the most appropriate method for analysis. Whereas, common factor analysis is used to identify underlying factors or dimensions (Hair et al., 2010) PCA is used when “the objective is to summarize most of the original information (variance) in a minimum number of factors for prediction purposes” (Hair et al., 2010 p. 107).

According to Tabachnick and Fidell (2007), an eigenvalue with a component less than one (1) should not be observed as an important variable. Eigenvalues - which represent variances - less than one were extracted. Initial SPSS found factor analysis to be an appropriate test for the data. The data had a determinant value of .00005 - greater than the necessary value of .00001- which means there was no multicollinearity or singularity among items (Field, 2009). The Kaiser-Mayer-Olkin measure verified the sampling adequacy for the analysis.

Table 1

KMO and Bartlett Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.798
Bartlett's Test of Sphericity	Approx. Chi-Square	866.578
	df	253
	Sig.	.000

KMO values between 0.7 and 0.8 are good (Field, 2009). The KMO value for this study was 0.798. In factor analysis, the Bartlett test of sphericity is a statistical test conducted to determine the overall significance of all correlations within a correlation matrix (Hair et al., 2010) Although less than the suggested sample size of 150+ (Pett, Lackey & Sullivan, 2003), Bartlett’s test of

sphericity $\chi^2(253) = 866.578, p < .001$, indicated the relations between items for this study were sufficiently large enough for principal component analysis (PCA).

An initial analysis was run to obtain eigenvalues for each component of the data (see Table 2). Eight components had eigenvalues over Kaiser's criterion of one. Factor 8 had only one item so additional dimension reduction analyses were run with a seven, then six, then five factor extraction. Both a seven and a six factor extraction had at least one factor with only one item assigned. With a five factor extraction, each factor had at least two items per component. Factor extraction was conducted with four factors. With four factors, at least a third of the items loaded on to two or more factors with five items loading negatively. After careful observation of the data, five factors appeared to be the best number of factors with at least two items grouped into a factor (Hair et al, 2010; Tabachnick & Fidell, 2007, see Table 2).

Table 2

Total Variance Explained with 8 components

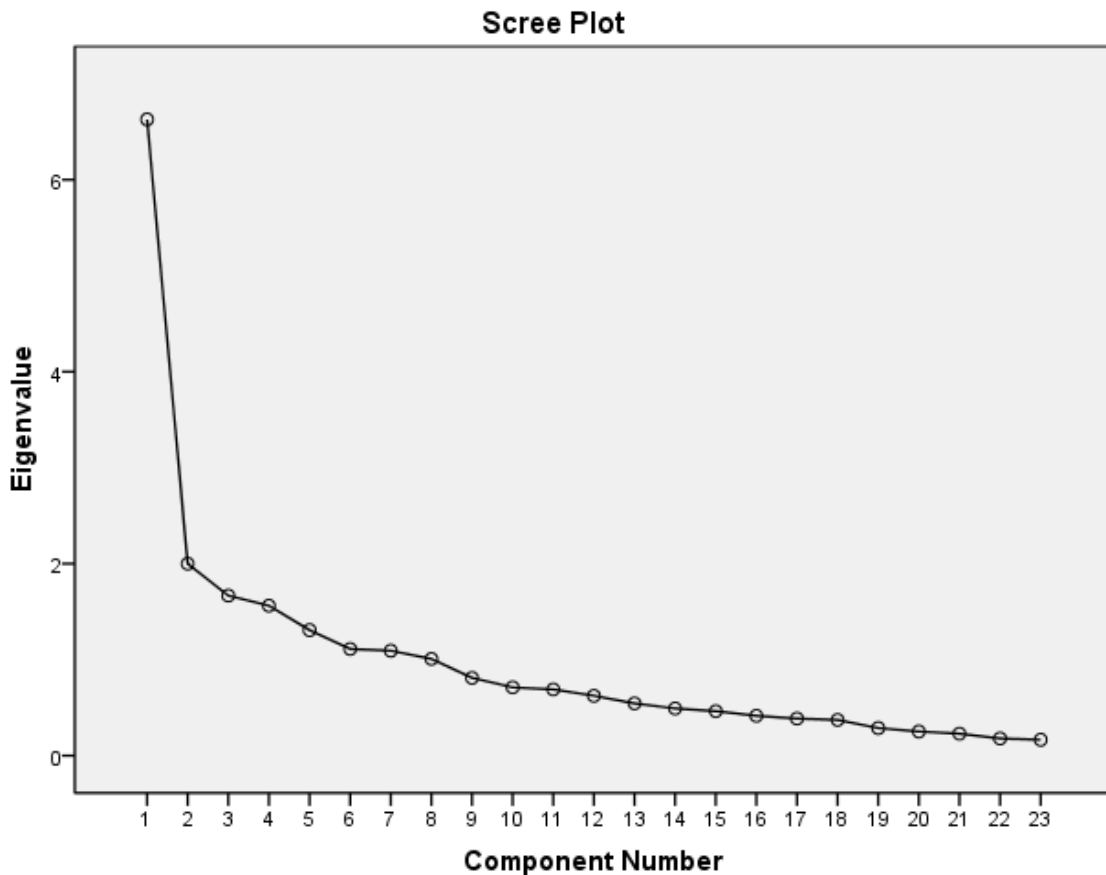
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.629	28.820	28.820	6.629	28.820	28.820	4.407	19.162	19.162
2	2.000	8.696	37.516	2.000	8.696	37.516	2.276	9.895	29.056
3	1.667	7.248	44.764	1.667	7.248	44.764	2.161	9.395	38.451
4	1.562	6.792	51.556	1.562	6.792	51.556	2.080	9.044	47.496
5	1.308	5.687	57.243	1.308	5.687	57.243	1.510	6.566	54.062
6	1.111	4.832	62.076	1.111	4.832	62.076	1.358	5.905	59.967
7	1.093	4.752	66.827	1.093	4.752	66.827	1.355	5.891	65.858
8	1.008	4.383	71.210	1.008	4.383	71.210	1.231	5.352	71.210
9	.810	3.524	74.734						
10	.711	3.091	77.825						
11	.690	3.001	80.826						
12	.624	2.713	83.539						
13	.545	2.369	85.908						
14	.491	2.135	88.043						
15	.463	2.014	90.057						
16	.415	1.806	91.863						
17	.386	1,678	93.542						
18	.372	1.619	95.161						
19	.287	1.250	96.410						
20	.251	1.092	97.503						
21	.229	.998	98.500						
22	.179	.779	99.279						
23	.166	.721	100.000						

Note: Total variance with eight components. Extraction Method: Principal Component Analysis.

Another method used to determine the appropriate factor extraction is the scree plot (Field, 2009; Hair et al., 2010). When using computer assisted statistical software, the scree plot is the best choice for researchers in deciding how many factors to extract (Costello & Osborne, 2005). The scree plot for the data showed an inflection point between three and five which would also justify extracting five factors (See Graph 1). PCA was conducted again extracting 5 factors. Due to the adequate sample size, the convergence of the scree plot and Kaiser's criterion on five components, five factors were retained in the final analysis.

Graph 1

Scree plot with 8 factors



After conducting the initial component analysis, Hair et al. (2010) suggests the next step should be conducting a Varimax orthogonal rotation. A Varimax orthogonal rotation simplifies the columns of the factor matrix along with making it easier to interpret data (Pett, Lackey & Sullivan, 2003). A Varimax orthogonal rotation is also considered to be the first step and generally the best method of factor rotation (Pett, Lackey & Sullivan, 2003) Figure 3 shows the factor loadings of items after rotation. Factors were named based on the subject matter of items that loaded onto the five components. The majority of items loaded onto Factor 1 – Institutional Support for Professional Development. Factor 1 had an Eigenvalue of 6.629 with 28.820% of variance. Factor 2 – Institutional Support for Teaching – had an Eigenvalue of 2.000 with 8.696% of variance. Factor 3 – Publications and Extrinsic Rewards- had an Eigenvalue of 1.667 with 7.248% of variance. Factor 4 – Teacher Improvement – had an Eigenvalue of 1.562 with 6.792% of variance. Factor 5 – Teacher Quality - had an Eigenvalue of 1.306 with 5.687% of variance. The cumulative percentage of variance for eight factors was 71.210%. The cumulative percentage of variance for seven factors and six factors were 66.827% and 62.075% respectively. The cumulative percentage for five factors was 57.243%. Although with five factors there was a loss in percentage of cumulative variance compared to eight, seven, and six factors, there was a gain in the number of items that attached to factors after rotation. A cumulative variance or 100% was only obtainable with 23 factors.

Survey Questions with Rotated Factor Loading

Survey question	Factors				
	1	2	3	4	5
1. My college offers support for those faculty members wishing to develop their teaching techniques.	.781				
2. The administration strongly supports my efforts at faculty development.	.736				
3. My president cares about the quality of teaching within the college.	.636				
4. Publications and presentations at professional conferences are valued at my college.	*.591		*.472		
5. My academic dean\VP cares about the quality of teaching within the college.	.571	.442		.411	
6. Professional development activities are recognized and rewarded.	.554				
7. Good teachers will eventually be recognized by peers and/or administrators and rewarded.	.498				
8. Most faculty members at my college could agree on a definition of "good teaching."		.800			
9. Most faculty members care about teaching well and periodically evaluate how they might improve.		.697			
10. Individuals whose teaching performances are perceived to be inadequate (by either students and/or peers) are terminated if improvement is not made.		.690			
11. Our administration moves quickly to offer assistance to teachers perceived as needing help with their teaching.	.451	.591			
12. Most academic administrators at my college could agree on a definition of "good teaching."	.441	.576			
13. Most chairpersons care about the quality of teaching within the college.	.461	.544			
14. Good teachers are recognized and held in high esteem here.	.470	.480			
15. Doing research and writing papers for either publication in professional journals or presentations at conferences can be a valuable means of professional growth for faculty members.			.737		
16. Extrinsic rewards motivate faculty to improve teaching better than intrinsic rewards.			.579		
17. Tuition reimbursement to full-time faculty members for graduate course work is a valuable faculty development tool.					
18. Good teachers are born not made.				.706	
19. Faculty who do research, present at conference(s), or publish in professional forums, are less effective in the classroom than those who only teach.				.535	
20. Good teaching is an acquired skill.				.463	
21. The trustees of the college care about the quality of teaching within the college.		.417		.430	
22. There are educational experts on the faculty who could assist other faculty to improve teaching.					.718
23. Faculty will improve their teaching if they are paid more money.			-0.437		.676

Figure 3: Rotated factor items. Bolded numbers are items that remained within factor. ()*

Indicates item was included for both factors. Extraction Method: Principal Component

Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in

23 iterations.

Removal of cross-loaded component items

After factor extraction was conducted with 5 factors, there were a few items that cross-loaded on more than one factor. Even with factor rotation, items will sometimes loading strongly on several factors (Pett, Lackey & Sullivan, 2003). “Crossloading” is a term used when an item loads at .32 or higher on two or more factors (Costello & Osborne, 2005). When an item crossloads on two or more factors, that item may be dropped and included on another higher loading factor. (Costello & Osborne, 2005). Decisions on what items should be excluded from factors that load highly onto multiple factors should be based not only on statistical findings but also on the researcher’s knowledge about how the items fit together both rationally and theoretically on each factor (Pett, Lackey & Sullivan, 2003). Below is an explanation for why various items that crossloaded onto more than one factor were attached to a higher loading factor.

Factor 1: Four items that loaded higher on Factor 2 were dropped from Factor 1 and attached to Factor 2: “Our administration moves quickly to offer assistance to teachers perceived as needing help with their teaching;” “Most academic administrators at my college could agree on a definition of ‘good teaching;” “Most chairpersons care about the quality of teaching within the college” and, “Good teachers are recognized and held in high esteem here.” These items were attached to Factor 2.

Factor 2: “My academic dean\VP cares about the quality of teaching within the college” crossloaded on Factor 2. This item was dropped from Factor 2 and attached to Factor 1 because it loaded higher on Factor 1 (Factor 1 .571, Factor 2 .442).

Factor 3: “Faculty will improve their teaching if they are paid more money” loaded

negatively (-.437). Because of its moderately high loading on Factor 5 (.676), the item was dropped from Factor 3 and attached to Factor 5. Although, the item “Publications and presentations at professional conferences are valued at my college” crossloaded higher on Factor 1 (.571) than on Factor 3 (.472), the researcher was interested in looking at the reliability of factors for both faculty and publications (Factor 3) and how institutions support publications (Factor 1). The item “Publications and presentations at professional conferences are valued at my college” was retained for both Factor 1 and Factor 3. According to Field (2009) the dependence between factors such as Factor 1 and 3 exhibited by items loading onto more than one factor sometimes occurs among factors. In this case, the support that administrators give remedial faculty in the area of professional development may be associated with administration’s support for personal development in the area of professional publications.

Factor 4: “My academic dean\VP cares about the quality of teaching within the college” crossloaded on Factor 4. This item was dropped from Factor 4 because it loaded higher on Factor 1 (Factor 1 .571, Factor 4 .411). This item was attached to Factor 1.

Factor 5: “Faculty will improve their teaching if they are paid more money” loaded negatively on to Factor 3 (-.437). This item loaded higher on Factor 5. This item was attached to Factor 5 (.676). Figure 4 includes a listing of which items were grouped with factors.

Survey Questions with Factors

Survey question	Factors				
	1	2	3	4	5
1. My college offers support for those faculty members wishing to develop their teaching techniques.	.781				
2. The administration strongly supports my efforts at faculty development.	.736				
3. My president cares about the quality of teaching within the college.	.636				
4. Publications and presentations at professional conferences are valued at my college.	*.591		*.472		
5. My academic dean\VP cares about the quality of teaching within the college.	.571				
6. Professional development activities are recognized and rewarded.	.554				
7. Good teachers will eventually be recognized by peers and/or administrators and rewarded.	.498				
8. Most faculty members at my college could agree on a definition of "good teaching."		.800			
9. Most faculty members care about teaching well and periodically evaluate how they might improve.		.697			
10. Individuals whose teaching performances are perceived to be inadequate (by either students and/or peers) are terminated if improvement is not made.		.690			
11. Our administration moves quickly to offer assistance to teachers perceived as needing help with their teaching.		.591			
12. Most academic administrators at my college could agree on a definition of "good teaching."		.576			
13. Most chairpersons care about the quality of teaching within the college.		.544			
14. Good teachers are recognized and held in high esteem here.		.480			
15. Doing research and writing papers for either publication in professional journals or presentations at conferences can be a valuable means of professional growth for faculty members.			.737		
16. Extrinsic rewards motivate faculty to improve teaching better than intrinsic rewards.			.579		
17. Tuition reimbursement to full-time faculty members for graduate course work is a valuable faculty development tool.					
18. Good teachers are born not made.				.706	
19. Faculty who do research, present at conference(s), or publish in professional forums, are less effective in the classroom than those who only teach.				.535	
20. Good teaching is an acquired skill.				.463	
21. The trustees of the college care about the quality of teaching within the college.				.430	
22. There are educational experts on the faculty who could assist other faculty to improve teaching.					.718
23. Faculty will improve their teaching if they are paid more money.					.676

Figure 4: Rotated factor items with crossloaded items removed. Extraction Method:

Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 23 iterations.

Reliability of factors

Reliability is an assessment of the degree of consistency between multiple measurements of a variable (Hair et al., 2010). Reliability is defined as “the extent to which [measurements] are repeatable and that any random influence which tends to make measurements from occasion to occasion is a source of measurement error” (Nunnally, 1967, p.206). “Because no single item is a perfect measure of a concept, we must rely on a series of diagnostic measures to assess internal consistency” (Hair et al., 2010, p. 125). The first measure considered in testing the reliability of factors was by conducting Cronbach’s α . After Cronbach’s α was conducted, inter-item correlation among items was checked. Inter-item correlations should exceed .30 (Hair et al., 2010).

Cronbach’s alpha

Cronbach’s alpha is one of the most pervasive statistical tests in determining reliability (Cortina, 1993). The agreed upon lower limit for Cronbach’s alpha is .70 (Hair et al., 2010; Field, 2009). Research concludes though that for exploratory research such as this one, .60 may be acceptable (Hair et al., 2010). Cronbach’s alpha was used to determine survey reliability for each of the five factors.

Factor 1- *Institutional Support for Professional Development* – and
Factor 2 – *Institutional Support for Teaching* subscales both had high reliabilities of Cronbach’s α . Factor 1 Cronbach’s $\alpha = .825$. Factor 2 Cronbach’s $\alpha = .847$.

Scale analysis for Factor 3 was run twice: once as *Publications and Extrinsic Rewards* with the three items “Faculty will improve their teaching if they are paid more money;” “Publications and presentations at professional conferences are valued at my college,” and;

“Doing research and writing papers for either publication in professional journals or presentations at conferences can be a valuable means of professional growth for faculty members.” After the initial Cronbach’s α scale test was conducted, it was determined that the reliability for Factor 3 would increase if the item “Faculty will improve their teaching if they are paid more money” was removed. The first reliability scale test Cronbach’s $\alpha=.492$. The second reliability test was somewhat stronger at Cronbach’s $\alpha=.608$. Although below the desired $\alpha=.70$, because the research was exploratory in nature, it is considered acceptable (Hair et al., 2010).

Factor 4 – *Teacher Quality* and Factor 5 – *Teacher Improvement* each had low reliability. Factor 4 Cronbach’s $\alpha=.530$ for Factor 4 and $\alpha=.420$ for Factor 5.

Inter-item correlation of factor items

Inter-item correlations should exceed .30 (Hair et al., 2010). Factor 1- *Institutional Support for Professional Development* – the majority of items correlated greater than .30 (see Figure 5).

Factor 1 - Institutional Support for Professional Development

	Inter-Item Correlation Matrix						
	College support for faculty	Admin Support Faculty Development	President cares about quality teaching	Publications are valued	Dean/VP cares about quality teaching	Professional Development recognized rewarded	Good teachers are recognized
College support for faculty	1.000	.676	.461	.397	.409	.344	.331
Admin Support Faculty Development	.676	1.000	.526	.286	.408	.406	.286
President cares about quality teaching	.461	.526	1.000	.351	.685	.266	.407
Publications are valued	.397	.286	.351	1.000	.286	.446	.336
Dean/VP cares about quality teaching	.409	.408	.685	.286	1.000	.251	.416
Professional Development recognized/rewarded	.344	.406	.266	.446	.251	1.000	.493
Good teachers are recognized	.331	.286	.407	.336	.416	.493	1.000

Figure 5: Institutional Support for Professional Development inter-item correlation matrix. Inter-item values <.30 are bolded.

Only four items had an inter-correlation less than .30: “The administration strongly supports my efforts at faculty development” with “Good teachers will eventually be recognized by peers and/or administrators and rewarded” inter-item correlation was .286. “My president cares about the quality of teaching within the college” with “Professional development activities are recognized and rewarded” inter-item correlation was .266. “Publications and presentations at professional conferences are valued at my college” with “The administration strongly supports my efforts at faculty development” inter-item correlation was .286. “My academic dean\VP cares about the quality of teaching within the college” with “Professional development activities are recognized and rewarded” inter-item correlation was .251.

Factor 2 – *Institutional Support for Teaching* – had the strongest inter-item correlation (see Figure 6). Only one item loaded < .30: “Individuals whose teaching performances are perceived to be inadequate (by either students and/or peers) are terminated if improvement is not made” with “Good teachers will eventually be recognized by peers and/or administrators and rewarded.”

Factor 2 – Institutional Support for Teaching

	Faculty Defin of good teaching	Faculty care about teaching	Inadequate teachers	Admin Assistance to teachers	Admin Definition of good teaching	Chair cares about quality teaching	Good teachers recognition
Faculty definition of good teaching	1.000	.589	.421	.489	.585	.521	.452
Faculty care about teaching	.589	1.000	.332	.356	.441	.550	.462
Inadequate teachers	.421	.332	1.000	.483	.311	.312	.249
Admin assistance to teachers	.489	.356	.483	1.000	.513	.348	.503
Admin definition of good teaching	.585	.441	.311	.513	1.000	.525	.426
Chair cares about quality teaching	.521	.550	.312	.348	.525	1.000	.475
Good teachers recognition	.452	.462	.249	.503	.426	.475	1.000

Figure 6: Institutional Support for Teaching inter-item correlation matrix. Items <.30 are bolded.

Factor 3 – *Publications/Extrinsic Rewards* – Although it loaded onto Factor 3, the item “Faculty will improve their teaching if they are paid more money” was not included in the reliability testing for two reasons: It loaded negatively onto the rotated matrix at -.434 while also loading positively on Factor 5 (.676) and - due to its content - this item fit better with Factor 5 – Teacher Improvement. Factor 3 item, “Extrinsic rewards motivate faculty to improve teaching better than intrinsic rewards” had low inter-correlations with each of the other two items “Publications and presentations at professional conferences are valued at my college” and “Doing research and writing papers for either publication in professional journals or presentations at conferences can be a valuable means of professional growth for faculty members” (.105, .197). Crossloaded items may be removed from factors due to its loading higher on other factors or due to the content of that item fitting better with another factor (Field, 2009).

Factor 3 - Publications

Inter-Item Correlation Matrix

	Publications are valued	Publication for professional growth
Publications are valued	1.000	.440
Publication for professional growth	.440	1.000

Figure 7: Publications. Inter-item correlation matrix. Item “Faculty will improve their teaching if they are paid more money” not included.

Factor 4 – *Teacher Quality* – All four items had inter-correlations <.30 for each correlated item. For the first reliability test this factor was considered not reliable (see Figure 8).

Factor 4 – Teacher Quality

	Good teachers are born	Trustees care about quality teaching	Faculty who research less effective	Good teaching is acquired
Good teachers are born	1.000	.150	.171	.206
Trustees care about quality teaching	.150	1.000	.014	.197
Faculty who research less effective	.171	.014	1.000	.187
Good teaching is acquired	.206	.197	.187	1.000

Figure 8: Teacher Quality inter-item correlation matrix.

Factor 5 – *Teacher Improvement* – Inter-correlations for the two items, “There are educational experts on the faculty who could assist other faculty to improve teaching” with “Faculty will improve their teaching if they are paid more money” was moderately low at .266. For the first reliability test, this factor was considered not reliable (see Figure 9).

Factor 5 – Teacher Improvement

Inter-Item Correlation Matrix	
	Faculty assisting faculty for improvement
	Improve teaching for money
Faculty assisting faculty for improvement	1.000
Improve teaching for money	.266
	1.000

Figure 9: Teacher Improvement inter-item correlation matrix.

Qualitative Interview Participants

Interviews were conducted with five Arkansas college/university administrators who supervise instructors who teach remedial courses at institutions where at least 30% of first time students are required to take at least one remedial course. Administrators who participated in the interview represent two community colleges and three public universities in Arkansas.

Participants represent each of the five regions of Arkansas - Northwest, Northeast, Central, Southwest, and Southeast. Listed is a profile of the participants. Because each participant signed a consent form requesting anonymity, fictitious names are used to protect identities.

Participant #1 Amy

Amy is a college Dean at an institution that has a student population of more than 10,000 undergraduate students. Amy directly supervises Developmental Reading, and Developmental Writing faculty. At least half of all her remedial instructors are adjuncts. Almost 90% of first time students at her school are required to take at least one developmental reading, writing, or math course.

Participant #2 Janet

Janet is the Chair of the Math, Science, and Education department – the department where remedial course fall under at her college. Janet's institution has a student population of more than 1,000 undergraduate students. Janet oversees Developmental Reading, and Developmental writing faculty. More than half of all remedial instructors at her institution are adjuncts. More than 70% of first time students at Janet's institution are required to take at least one developmental reading, writing, or math course.

Participant #3 Sarah

Sarah is the dean of an institutional college where developmental reading is housed. Sarah supervises all remedial reading courses at her institution. Sarah's institution has an undergraduate student population of almost 4,000. Most remedial courses at Sarah's institution are taught by full-time faculty. Almost 70% of first time students at Sarah's institution are required to take at least one developmental reading, writing, or math course.

Participant #4 Jenny

Jenny is a Dean of an institutional college where all developmental courses are housed. Jenny supervises all remedial reading, remedial writing, and remedial math courses at her institution. Jenny's institution has an undergraduate student population of almost 8,000. The majority of remedial courses at Jenny's institution are taught by full-time faculty with about one-third being taught by adjuncts. Fifty percent of first time students at Jenny's institution are required to take at least one developmental reading, writing, or math course.

Participant #5 Nancy

Nancy is a Director of First Year Studies. Nancy supervises all remedial reading and writing courses at her institution. Nancy's institution has an undergraduate student population of around 10,000. The majority of remedial courses at Nancy's institution are taught by full-time faculty. Fifty percent of first time students at Nancy's institution are required to take at least one developmental reading, writing, or math course.

Research Questions

Interview participants were asked six questions which specifically addressed the study's research questions: "What does your institution do to encourage faculty development participation for remedial instructors?"; "What does your institution do to ensure faculty

development activities correspond to the personal and professional goals of faculty who teach remediation?"; "What activities are done to ensure faculty development activities for remedial instructors correspond to the mission of your institution?"; "How are faculty members who teach remedial courses recognized and/or rewarded for participating in professional development activities?"; "What types of activities are made available to faculty who teach remedial courses allowing them to participate in the selection and implementation of professional development opportunities?" and; "How are faculty members who teach remediation encouraged to exchange pedagogical strategies and consult with peers on effective instructional strategies?"

Each of the following research questions are analyzed including statements made by developmental education administrators who participated in the study.

Research Question 1. What does your institution do to encourage faculty development participation for remedial instructors?

From responses given by the five college administrators who participated in the interview, Arkansas colleges' efforts to encourage faculty development participation is not purposeful or directed. Most of the administrators mentioned "allowing" their remedial faculty to attend workshops as a method for encouraging faculty development participation. According to administrators, faculty are allowed to attend workshops and are provided funds to attend developmental educational conferences and workshops "if funds are available."

Two institutions did appear to have a method for encouraging remedial faculty to participate in professional development by making it part of the evaluation process for remedial faculty. Remedial faculty at these institutions submit professional plans that include goals for teaching and learning, scholarly publishing, and service. Remedial faculty can include professional development activities in their professional plans that are submitted as part of their

employee evaluation.

The issue of funding - or lack of it - was mentioned by three of the five institutions. At these three schools, most professional development is funded through a general operating budget. Professional development is funded primarily by grants at the other two institutions.

Most professional development comes by way of state and national workshops remedial faculty attend. One institution mentioned faculty having the option of taking webinars as a means of participating in professional development. A prevailing theme that emerged from the data is the issue that there seemed to be little content specific professional development directly related to developmental education. Professional development that faculty are encouraged to participated in was often referred to generically with terms such as “orientation workshops” and “university days” - times during the year when colleges meet with faculty. These orientation workshops and university days did not appear to deal with content specific subjects such as implementing pedagogical strategies with remedial students or how to best meet the instructional needs of remedial students.

Research Question 2. What does your institution do to ensure faculty development activities correspond to the personal and professional goals of faculty who teach remediation?

Three of the institutions mentioned that remedial faculty can include professional development as part of their personal development plan. At one of these institutions, faculty are required to devote at least 10% of their personal development plan to professional development. In discussing what her institution does to ensure professional development activities correspond to personal and professional goals, Amy said:

“We work it out with our supervisor. We decide what we are going to target...we pick a couple of areas and discuss with our supervisor what we think is going to help us - whether it is going to a conference, looking for a webinar, or visiting someone else’s class to see what they are doing – that kind of thing. We set a plan every year and every six months it is reviewed to see where we are. I did that with my faculty and my Vice Chancellor does it with me.”

In contrast, information gathered from the other two institutions’ developmental administrators suggests that utilizing professional development as a means to address faculty’s personal and professional goals ranged from vague to non-existent at their schools. Sarah said, “We don’t do that.” Yet Sarah did say that faculty and staff have the opportunity to suggest which professional development activities are offered. Nancy said faculty at her institution have an opportunity to submit requests for types of professional development they would like to participate in that will enhance their personal and professional goals.

“It’s pretty much up to the faculty members what they want to do. Can’t guarantee it will happen, but we have been able to go to our state developmental education conference... If they want to go to the Arkansas Association of Advising Conference...they’ve pretty much been able to go.”

Research Question 3. What activities are done to ensure faculty development activities for remedial instructors correspond to the mission of your institution?

None of the college administrators could address activities that are done to ensure faculty development activities correspond to the mission of their respective institutions. Amy mentioned that one of the purposes of her institution is to provide developmental education to students who need basic academic skills. Cynthia said, “I don’t see anything directly tied to professional

development. So I don't know how you would link our institution's mission to professional development."

Janet's response was somewhat similar:

"I'm not sure if we are thinking in that way. All of us are thinking on providing an education for our students and supporting the technical programs that we have. If you always have that in the back of your mind, whatever you are doing is focusing on what is best for our students. We hope to accomplish or improve skills so our student's skills are what they need to get a job or transfer to a four year university."

Officials' interviews at the other institutions were not able to determine if professional development activities corresponded to the mission of their institutions.

Research Question 4: How are faculty members who teach remedial courses recognized and/or rewarded for participating in professional development activities?

Three of the institutions associated "recognition" and "reward" of faculty with providing funding to remedial instructors to attend conferences. Nancy said:

"They get to go and we pay for it. We don't ask faculty to pay for their own professional development. We do come up with the money to do that. We have a way to get more money. We talk about what they learned and bring it back to the group. Most of our faculty thinks it's a nice reward just to be able to go - especially when it's off campus. But when it's webinars on campus we encourage faculty to participate by saying, 'Hey we are offering this.' We may also offer food as an incentive to get faculty to come to our on-campus workshops - even if it's just offering cookies. When we have professional development on campus we have food. It isn't recognition, but it is kind of an added

enticement.”

Making a somewhat similar remark about the lack of recognition programs, Sarah said:

“I am not sure that we have a recognition program as such. It’s not like we have a program at the end of the year where we applaud faculty that have participated in professional development. But I think by supporting them when they go off on professional development trips - they might consider that as a reward.”

Janet said remedial faculty may be encouraged to present at a conference. If they do, the college sends a press release to the local newspaper as a method of acknowledging that a faculty member has presented at a conference.

Research Question 5: What types of activities are made available to faculty who teach remedial courses allowing them to participate in the selection and implementation of professional development opportunities?

Three of the administrators interviewed in the study associated availability of professional development activities with faculty’s ability to choose which conferences and workshops they want to attend.

“They can choose their own; we are not saying you have to participate in X, Y, Z. If they hear about a conference they can request funding for it. If I have it in my budget I can send them - if I feel like it is going to be worth it.”

And Nancy stated:

“Really and truly, we cannot send everybody everywhere. If faculty have something they want to do, we try to figure out a way to provide them with what they like to do. In faculty meetings, we go over this stuff. We can’t promise it will happen but we will give it a shot. We don’t have that much money in our own budget but we can go to the Dean

or whomever. Sometimes we have the money to do it - sometimes we don't."

Janet mentioned that her institution allows remedial faculty to offer suggestions at the beginning of the school year on what types of professional development they would like offered at their institution. Sarah said remedial faculty have the opportunity to select which professional development activities are offered at her institution. Sarah also mentioned that their institution has an "educational access committee" who have an active role in creating professional development activities for faculty. Jenny said that faculty are able to make recommendations for speakers to come to her institution as part of in-services that are provided for faculty.

Research Question 6: How are faculty members who teach remediation encouraged to exchange pedagogical strategies and consult with peers on effective instructional strategies?

Each of the administrators mentioned various ways by which remedial instructors exchange pedagogical strategies and consult with peers. These exchanges may take place during department meetings or even through informal ways - after someone has attended a conference.

"...Each time we have a meeting- when I have the university wide faculty/staff meeting - we have a presentation with some member of the faculty. It doesn't have to be very long maybe 15 to 30 minutes. Generally, it's someone who has attended a conference and they want to come back and share maybe a strategy or an idea with other faculty. Sometimes it's done with just hand-outs."

Only one of the administrators, Jenny, mentioned that her institution had a structured method by which remedial faculty could exchange pedagogical strategies. At Jenny's institution, there are established days on the academic calendar when faculty meet to exchange "best practices with their colleagues."

“You can imagine a reading instructor being in a writing class observing and all of the sudden - they are seeing connections. Writing and reading classes are all talking about tone so faculty can build activities together. We’re always looking for things to improve courses and become better in the classroom. We also observe adjunct faculty to give them additional feedback.

Jenny said that when her institution started doing peer evaluations it was beneficial for adjunct faculty. Because most adjuncts only work at night at her institution, it was difficult to share information with them. She found the peer evaluations helpful because – through the peer evaluation process – faculty were able to mentor adjuncts by providing feedback for improvement.

Summary of Quantitative Data

To conclude, chapter IV began by restating the purpose of the study. Next, a description of participants was given. Information was also given on the classification of employment for survey participants, e.g. full-time faculty, adjunct, etc. To complete the quantitative portion of the study, an analysis of data for the principal component factor analysis were explained and depicted in tables and figures. SPSS was utilized as a technical tool to organize, disperse, compute, and then disperse data.

Initial SPSS indicated that factor analysis was an appropriate test for the data. The data had a determinant value of .00005 ($p < .01$) with a KMO value of .798 with Bartlett’s test of sphericity $\chi^2 (253) = 866.578$ ($p < .001$). Data results indicated that the relations between items were sufficiently large for principal component analysis and that there was no multicollinearity or singularity among items.

The PCA for this study indicated that there may be eight components (factors) with

Eigenvalues of at least one (1). After observation of the scree plot for inflection points, extracting 7 factors, 6 factors, and then 5 factors, along with the grouping of items within factors, it was determined that Murray's (2001) 23 survey questions may best be grouped into 5 factors.

The majority of the survey questions loaded onto Factor 1 – *Institutional Support for Professional Development* (Eigenvalue 6.629, 28.820% of variance). Factor 2 – *Institutional Support for Teaching* – had an Eigenvalue of 2.000 with 8.696% of variance. Factor 3 – *Publications and Extrinsic Rewards* – had an Eigenvalue of 1.667 with 7.248% of variance. Factor 4 – *Teacher Improvement* – had an Eigenvalue of 1.562 with 6.792% of variance. Factor 5 – *Teacher Quality* – had an Eigenvalue of 1.306 with 5.687% of variance. The cumulative percentage of variance for the 5 factors was 57.243%. Items that crossloaded on more than one factor were dropped from lower loading factors and analyzed on the highest loading factor for that item. Only one item, “Publications and presentations at professional conferences are valued at my college” remained on two factors – Factor 1 and Factor 3 - because the researcher wanted to determine if faculty believed their institutions had a strong commitment to publications.

Three of the five factors were considered to be reliable based on Cronbach's alpha scale test. Factor 1- *Institutional Support for Professional Development* – and Factor 2 – *Institutional Support for Teaching* subscales both had high reliabilities (Factor 1 Cronbach's $\alpha = .825$. Factor 2 Cronbach's $\alpha = .848$). After running a scale analysis for Factor 3 and then removing an item, Factor 3 – *Publications* was retested. The second reliability test was somewhat better ($\alpha = .608$). Although below the desired $\alpha = .70$, because the research was exploratory, it may be considered acceptable (Hair et al., 2010). Factor 4 – *Teacher Quality* and Factor 5 – *Teacher Improvement* each had low reliability ($\alpha = .423$ and $\alpha = .420$).

Summary of Qualitative Data

The qualitative section of this study first gave profiles for the five developmental education administrators who participated in personal interviews. The data would suggest that subjects interviewed should be very knowledgeable about the professional development needs of college and remedial faculty – all participants were developmental education administrators at institutions with very large populations of remedial students (50% to 70%).

In regard to Research Question 1, most administrators indicated their institution does little to encourage remedial faculty to participate in professional development. Responses for Research Question 2 were varied. Three of the administrators said faculty have the opportunity to include professional development in their personal development plan. The other two administrators' responses were vague and inconclusive as to what their institution does to link professional development with remedial faculty's personal and professional goals. Concerning Research Question 3, none of the administrators could directly address activities done to ensure that faculty development activities for remedial instructors correspond to the mission of the college. Responses for Research Question 4 found that most college administrators considered allowing remedial faculty to attend out-of-town workshops and conferences by paying for them as the primary method for rewarding faculty who participate in professional development activities. Most of the administrators inferred that allowing faculty to choose which workshops and conferences they attended was synonymous with availability of professional development for remedial instructors (Research Question 5). Out of all five administrators who participated in the personal interview, only one indicated their institution had a structured method by which faculty members who teach remedial course could exchange pedagogical strategies (Research Question 6).

Chapter V offers conclusions on the results of this exploratory factor analysis and qualitative interview study. Recommendations and implications for further studies on the topic of the professional development needs of college and university remedial instructors are also given.

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS FOR FUTURE RESEARCH

American students are not learning the basic skills needed to succeed in college while in high school (Alliance, 2006). America is losing more than \$3.7 billion a year to teach college students basic reading, writing, and math skills (Alliance, 2006). Yet, it is not a viable option for state supported colleges to get rid of remedial courses when the need for remedial courses continues to grow.

According to the U.S. Department of Education (USOE, 2009), colleges and universities are growing exponentially. If enrollment trends continue, by 2018, college and university student populations may increase by as much as 10% (2009). In contrast, over the last decade, public funding for higher education has plummeted (Breneman, 2002). More than ever, there is an increased demand for postsecondary education (Rigg, 2010) yet the increase in student populations will probably mean an increase in the number of underprepared students entering American colleges and universities.

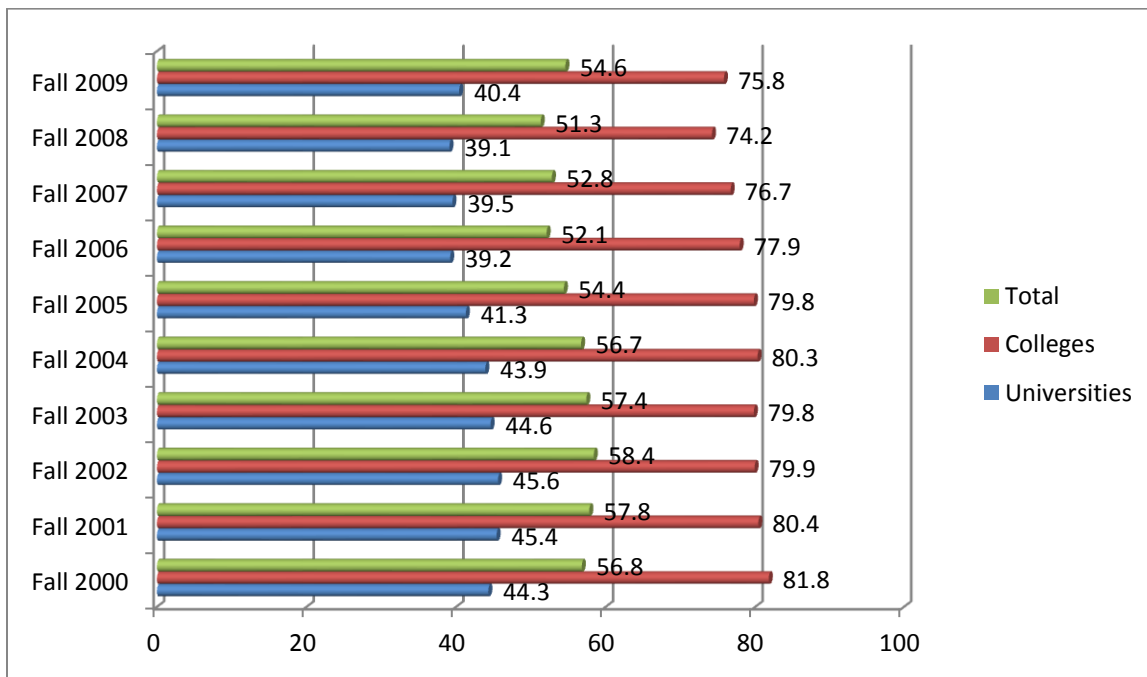
The current economic downturn may be a contributor to the rise in college attendance. States are decreasing funding for public college and universities. Many institutions are dealing with the possibility of lowering admissions standards to increase classroom size as a way to raise revenue (Breneman, 2002, Clark, 2009). This increase in class size may dramatically increase the number of students who are lacking the skills necessary to enroll in freshman level math and English courses. Another reason for the increase in college attendances is because weak

economic conditions typically cause an increase in enrollment - adults go back to school to improve their job skills (ADHE, 2010).

For the year 2009-2010, in Arkansas almost 12,000 (N=11,837) students were required to take at least one remedial reading, writing, or math course (ADHE, 2010). The number of students entering Arkansas colleges and universities who needed at least one remedial class grew over 1% in Fall 2009 compared to numbers for Fall 2008 (ADHE, 2010, see Graph 2). The number of students assigned to remediation in Arkansas has increased by 1,374 students at two-year institutions and by 1,291 students at all public 4-year institutions (ADHE, 2010).

Graph 2

Percentage of First Time Students Assigned to Remediation in at Least One Subject



Note: Adopted from “Remediation Rates,” Arkansas Department of Higher Education 2010 Comprehensive Report, p.4.1.3. Values are in percentages.

Research suggests that the more remedial courses a student takes, the less likely they are

to graduate (Adelman, 1998). A large percentage of faculty who teach remedial courses have had no pedagogical training on how to instruct students who have academic deficiencies (Boylan & Saxon, 2005; Ignash, 1997; Roueche & Baker, 1997). Furthermore, departments of higher education are requiring public colleges and universities to increase the percentage of students who matriculate and graduate. More research on the professional development needs of college and university remedial instructors is needed.

Conclusions

Many conclusions can be drawn about the professional development needs of college and remedial instructors from the survey data. First, most faculty felt as though their institutions supported their efforts to receive professional development. When responding to the survey question, “The administration strongly supports my efforts at faculty development,” almost half (46.4%, N=45) responded they agreed. Twenty-three point seven percent (N=23) said they strongly agreed that administrators support their efforts at faculty development. These findings are significant in light of previous research that indicated most faculty did not feel as though administration supported their efforts at receiving adequate professional development (Blanton & Stylianou, 2009; Murray, 2001).

Secondly, most remedial faculty believed that their institutions support teaching. When responding to survey questions that asked if remedial faculty felt as though their dean/VP, or president cares about the quality of teaching at their institution, most faculty agreed (dean/VP – agreed=43.3%, N=42; college president – agreed 40,8%, N=40). Although these findings are fairly consistent with previous research (Murray, 2001), in the earlier study, most of the respondents were administrators. This study consisted of mostly full-time remedial faculty (N=83). Surveying faculty to determine if they feel as though administration supports the quality

of teaching at their institution may present a more accurate description of how institutions of higher learning support remedial instructors.

Third, the majority of remedial faculty felt as though publications were a method by which remedial faculty could participate in their own personal and professional development (53.6%, N=52). In comparison to Murray's earlier study (2001), these findings are somewhat similar. In Murray's 2001 study, the mean average for publications and professional development was 3.66 (SD=1.76). For this study, the mean average was a little higher at 4.01 (SD=.883).

Fourth, the factoring of items confirmed Murray's construct concerning the belief that "good teaching is valued by administrators." Cronbach's α for Factor 1 and Factor 2, *Institutional Support for Professional Development* and *Institutional Support for Teaching* both were determined to be reliable. These findings are significant in light of previous research. Although respondents in Murray's (2001) study indicated their institutions were supportive of the professional development of faculty, the findings from this study are particularly relevant because the majority of participants were fulltime remedial faculty.

Factor 3 – *Publications* was also considered to be reliable but at much lower level of Cronbach's α . Although Factor 4 and Factor 5 were not considered to be reliable, Murray's construct dealing with the value of teaching was considered to be present in the research based on Factors 1 and Factor 2. Factor 1 and Factor 2 specifically deal with institutional support for professional development. Furthermore, remedial faculty at colleges and universities felt as though administrators do value teaching and provide them opportunities for professional development.

Fifth, concerning Murray's other five constructs for effective professional development,

formalized, structured, and goal-directed professional development programs seemed to be lacking from responses given by administrators, yet institutions did seem to give their faculty support – primarily in the way of funding – to participate in professional development activities. Although funding is essential in encouraging faculty participation, literature suggests that institutions utilize professional development as a technique for reinforcing good teaching skills. Gauff (1991) states:

Faculty development is not simply something nice to do. The evidence indicates that it is a very important strategy for strengthening general education by changing curriculum, by improving the nature of teaching and learning within courses, and by keeping the focus on the people at the heart of the enterprise – students and faculty members. (p. 120)

Sixth, from responses given by administrators, overall there did not seem to be formalized, structured, and goal-directed professional development programs at the institutions studied. These findings are consistent with findings in earlier studies that looked at how institutions provide professional development for their faculty (Boylan et al.; Gaff, 1991; Maxwell & Kazlauskas; Murray, 2001).

Seventh, reward structures for participating in professional development consisted only of financial assistance to attend workshops. Monetary rewards for faculty participation in professional development is important but it is only one way of rewarding instructors. The literature suggests institutions find multiple methods of acknowledging faculty for their participation in professional development (Ferren, 1996; Millis, 1994; Watson & Grossman, 1994).

Eighth, from responses given by administrators, faculty “take ownership” of professional development activities by being “allowed” to choose what types of development they participate

in. Being able to choose which types of professional development activities remedial faculty participate in is significant to their own personal and professional growth (Murray, 2001; American Association of Community and Junior Colleges, 1998). Furthermore, it is good for administrators to allow faculty to choose what types of professional development they participate in because administrators may misunderstand what are the development needs of faculty (Maxwell & Kazlauskas, 1992).

Implications

The purpose of this mixed method study, which utilized both survey data and personal interviews, was to determine if Murray's (2001) theory of six constructs applies to faculty who instruct remedial students at both four and two-year institutions in Arkansas. Administrative support of developmental education is critical to the success of developmental education (McCabe & Day; 1998; McCabe, 2003; Rouche & Rouche, 1999). Institutions whose administration has a strong commitment to the professional development of remedial faculty experience more success in their remedial programs than institutions that do not strongly commit the professional development of remedial instructors (Boylan & Saxon, 2005). According to the literature, successful developmental education programs are purposeful with content specific professional development given to remedial faculty (Blanton & Stylianou, 2009; Boylan & Saxon, 2005; Ignash, 1997).

Responses from the survey suggest that most remedial faculty feel as though their institutions do offer professional development activities (46.4%, N=45), and that college and university administrators care about the quality of teaching at their institutions (49.5%, N=49). In contrast, most remedial instructors (33%, N=32) believed their college did not recognize and reward faculty for good teaching. Boylan & Saxon (2005) believe that campus leaders should

regularly offer public praise of developmental educators before faculty and civic groups. Grubb, et al. (1999) maintains that higher education institutions rarely build good teaching into the reward system of an institution. A rewards system of recognition was generally non-existent for remedial faculty at higher institutions in Arkansas.

A qualitative interview was administered to remedial/developmental education administrators to determine what type of professional development support their institutions make available to remedial faculty. Aggressive professional development for remedial faculty is by and large considered to be one of the most important characteristics of successful developmental education programs (Boylan, Bliss, & Bonham, 1997; Grubb et al., 1999; McCabe, 2000; Rouche & Rouche, 1999). Although responses from the study suggests Arkansas colleges and universities are providing an adequate amount of professional development opportunities for remedial instructors, structure on how professional development is offered and how faculty choose professional development along with how professional development relates to faculty's personal and professional goals varied from institution to institution. Higher education entities in Arkansas might consider developing a template as to how to correlate faculty's personal and professional goals with professional development.

Another issue which emerged from administrators' responses is the issue of rewards. Administrators who were interviewed indicated that there were little, if any, reward structures in place for faculty to participate in professional development besides paying for workshops and conferences. Although payment to attend workshops can be a beneficial tool in rewarding faculty for attending professional development, institutions may consider developing a rewards system for faculty to participate in professional development. Reward structures may consist of points that could be applied toward time off, vacation days, and special recognition at faculty events.

On designated days, faculty who attend professional development activities might share what they have learned with colleagues and be acknowledged for the information they have brought back to their institutions in an effort to improve remedial instruction (Boylan & Saxon, Grubb, et al, 1999).

Implications for Further Research

The following are recommendations based on the research from the faculty development survey of remedial faculty and qualitative interviews of college and university administrators:

1. Additional studies similar to this one should be conducted with a larger sample size.

Although KMO results and the Bartlett test of sphericity for this study were good (0.798, $\chi^2(253) = 866.578, p < .001$), the sample size (N=97) was a smaller than the suggested size of 150+ (Pett, Lackey & Sullivan, 2003). A larger sample size might strengthen the reliability of factors (Cortina, 1993).

2. The purpose of this study was to determine the perceptions of remedial faculty at Arkansas colleges and universities and their institutions' support of professional development. For future research, a chi-squared analysis might be run to see if there is a significant difference in attitudes between remedial faculty at community colleges and remedial faculty at universities.
3. This study only interviewed five remedial/developmental education administrators. Future research may consider interviewing additional administrators to see if there are additional trends that emerge from responses.
4. From institutions studied in Texas, Boylan and Saxon (2005), suggest there is a strong correlation between the quality of developmental education programs and matriculation and graduation rates of students who benefit from these programs. Additional research

should be conducted to see if there are correlations between organized and structured developmental education programs and matriculation in other colleges and universities in America.

5. More research should be conducted on the benefits of college and university faculty peer observations. Faculty peer observations may be an effective professional development method because it allows faculty to assist each other in the improvement of pedagogical strategies (Gillespie & Robertson, 2010).

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List of Appendices

Appendix: A

APPENDIX A
FACULTY CONSENT TO PARTICIPATE IN SURVEY
Consent to Participate in a Relational Study
Title: College and University Developmental Education:
The Professional Needs of College and
University Remedial Instructors

Investigator
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Description

I want to know what are the professional development needs for college and university remedial instructors. To do this, in two weeks from today I would like to email you a survey. The approximate time to take this survey is around 15-20 minutes. The names of those who participate in the survey will go into a drawing to win a brand new Apple iPad™.

Risks and Benefits

There are no risks involved in this study. You will be asked various questions that are specifically in line with your profession.

Cost and Payments

It will take you between 15-20 minutes to take the survey. There are no other costs for helping with this study.

Confidentiality

Your name will not be mentioned in the study. Information concerning what you teach, how long you have been teaching, race, and gender will be gathered for documentation purposes only.

Right to Withdraw

You are in no way obligated to participate in this study. If you begin this study and later decide that you do not want to finish, you may call or email me, Kyle Miller. Whether or not you choose to participate or to withdraw will not affect your standing at the institution you are employed by, nor will it cause you to lose any benefits to which you are entitled.

The researcher may terminate your participation in the study without regard to your consent and for any reason.

IRB Approval

This study has been reviewed and has received a stamp of approval by The University of Mississippi's Institutional Review Board (IRB). IRB has determined that this study fulfills the

APPENDIX A (continued)

human research subject protections obligations required by state and federal law and University policies. If you have any questions, concerns, or reports regarding your rights as a participant of research, please contact the IRB at (662) 915-7482.

Statement of Consent

I have read the above information. I have been given a copy of this form. I have had an opportunity to ask questions, and receive answers. Participating in this electronic survey means I consent to participate in the study.

Name of participant

Appendix: B

APPENDIX B
ADMINISTRATOR CONSENT TO PARTICIPATE IN INTERVIEW

Consent to Participate in a Relational Study

**Title: College and University Developmental Education:
The Professional Needs of College and
University Remedial Instructors**

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Description

I want to know what are the professional development needs for college and university remedial instructors. To do this, I would like to interview you. The approximate time for this interview is approximately an hour.

Risks and Benefits

There are no risks involved in this study. You will be asked various questions that are specifically in line with your profession.

Cost and Payments

It will take you around an hour to participate in this interview. There are no other costs for helping with this study.

Confidentiality

Neither your name nor the name of your institution of employment will be mentioned in the study. Information concerning your position will be gathered for documentation purposes only.

Right to Withdraw

You are in no way obligated to participate in this study. If you begin this interview and later decide that you do not want to finish, you may inform me, Kyle Miller. Whether or not you choose to participate or to withdraw will not affect your standing at the institution you are employed by, nor will it cause you to lose any benefits to which you are entitled.

The researcher may terminate your participation in the study without regard to your consent and for any reason.

IRB Approval

This study has been reviewed and has received a stamp of approval by The University of Mississippi's Institutional Review Board (IRB). IRB has determined that this study fulfills the human research subject protections obligations required by state and federal law and University policies. If you have any questions, concerns, or reports regarding your rights as a participant of research, please contact the IRB at (662) 915-7482.

APPENDIX B (continued)

Statement of Consent

I have read the above information. I have been given a copy of this form. I have had an opportunity to ask questions, and receive answers. Participating in this interview means that I consent to participate in the study.

Name of participant

Appendix: C

**APPENDIX C
FACULTY SURVEY
CURRENT FACULTY DEVELOPMENT PRACTICES**

Name of college _____

Approximate FTE _____

Do you teach any classes? _____ Yes _____ No

If yes, how many
contact hours per week do you teach? _____
credit hours per term do you teach? _____

ACTIVITIES AND PROGRAMS OFFERED

Please place a check mark in front of any activities your college employs to encourage faculty development?

_____ Sabbatical leave

If yes, what is the percentage of annual salary paid to a faculty member on sabbatical for

_____ Full academic year

_____ One semester

If yes, please place a check mark by those groups who are eligible for sabbatical.

_____ Full-time faculty

_____ Full-time administrators

_____ Full-time staff

_____ Adjunct faculty

_____ Others (please indicate)

_____ A resource center for teaching effectiveness (i.e. a faculty library)

_____ Peer mentoring

If yes, are your mentors paid? _____

If yes, how much? _____

If yes, are mentors given release time _____

If yes, how much? _____

_____ Mini grants

If yes, what is the top amount? _____

approximately how many grants are awarded an academic year? _____

_____ Workshops featuring your own faculty members

If yes, are the faculty members paid? _____

If they are paid, how much _____

If yes, do you require attendance by all full-time faculty at these presentations?

_____ Tuition waivers at the college

If yes, please indicate who is eligible for tuition reimbursement by placing a check mark in front of those groups who are eligible.

_____ Full-time faculty

_____ Adjunct faculty

_____ Administrators

APPENDIX C (continued)

- Full-time staff
- Family members of full-time employees
- Others (please specify)
- Rewards to encourage faculty to do research that might result in publications or conference presentations?
If yes, please specify how this is encouraged.
- Payment of tuition at other colleges and universities
If yes, what is the cap on the amount one individual can receive in an academic year?
If yes, please indicate who is eligible by placing a check mark in front of those groups who are eligible.
 - Full-time faculty
 - Administrators
 - Adjunct faculty
 - Full-time staff
- Workshops using outside "experts" or consultants
If yes, please indicate the following:
How often do you schedule such events? _____
Is attendance required of all full-time faculty? _____
- Release time for faculty to work on projects that might either improve teaching or student learning?
If yes, what is the average amount of release time? _____
If yes, about how many faculty members are on release time during any one academic term? _____
- Financial support at the college-wide level for attending professional conferences?
If there is a cap, what is the top amount a faculty member can receive in one academic year? _____
- Financial support at the division/department level for attending professional conferences?
- Faculty exchange programs with other colleges?
If yes, how many faculty members have participated in the last 5 years? _____
- Faculty exchange programs with business and industry (including not-for-profit organizations)?
If yes, how many faculty members have participated in the last 5 years? _____
If yes, what percentage of the faculty member's salary does the college pay while he/she is on work exchange. _____

Please list any other faculty development activities you have participated in.

PROMOTING TEACHING EXCELLENCE

- Does your college offer any incentives for good teaching? Yes No
If yes, please list the incentives offered?

APPENDIX C (continued)

If you answer yes, to any of the following items, please rate the follow-up question according to the following scale.

- 1 = Not at all
- 2 = Very little
- 3 = Equally with other factors
- 4 = Heavily considered
- 5 = The only factor considered

Does your college have a rank system? Yes No

Are new adjuncts required to participate in an orientation? Yes No

If yes, how many sessions does the orientation involve? _____

How long is the average session? _____

Does this orientation include suggestions on teaching effectiveness? Yes No

Are adjunct faculty invited to participate in faculty development activities? Yes No

If yes, please place a check mark in front of the activities listed below that are available to adjunct faculty.

- Funds for attending conferences
- Full tuition waiver to take classes at your college
- Full tuition reimbursement to take graduate level classes
- Partial tuition waiver to take classes at your college
- Partial tuition reimbursement to take graduate level classes
- Mentoring
- Faculty development grants
- Attendance at all in-service faculty development activities.
- Merit pay

Please list any other faculty development activities available to adjunct faculty.

Are adjunct faculty eligible for promotion in rank? Yes No. We do not have faculty ranks.

APPENDIX C (continued)

BELIEFS REGARDING FACULTY DEVELOPMENT

Directions: Using the following scale, please circle the number that most closely expresses your belief about the statement given:

Strongly agree 5 Agree 4 Undecided 3 Disagree 2 Strongly disagree

The administration strongly supports my efforts at faculty development.	5 4 3 2 1
My college offers support for those faculty members wishing to develop their teaching techniques.	5 4 3 2 1
Most faculty members at my college could agree on a definition of "good teaching."	5 4 3 2 1
Most academic administrators at my college could agree on a definition of "good teaching."	5 4 3 2 1
Our administration moves quickly to offer assistance to teachers perceived as needing help with their teaching.	5 4 3 2 1
Individuals whose teaching performances are perceived to be inadequate (by either students and/or peers) are terminated if improvement is not made.	5 4 3 2 1
Tuition reimbursement to full-time faculty members for graduate course work is a valuable faculty development tool.	5 4 3 2 1
Doing research and writing papers for either publication in professional journals or presentations at conferences can be a valuable means of professional growth for faculty members	5 4 3 2 1
Extrinsic rewards motivate faculty to improve teaching better than intrinsic rewards.	5 4 3 2 1
Good teachers are born not made.	5 4 3 2 1
Good teachers will eventually be recognized by peers and/or administrators and rewarded.	5 4 3 2 1
Most chairpersons care about the quality of teaching within the college.	5 4 3 2 1
My academic dean\VP cares about the quality of teaching within the college.	5 4 3 2 1
My president cares about the quality of teaching within the college.	5 4 3 2 1
The trustees of the college care about the quality of teaching within the college.	5 4 3 2 1
Good teaching is an acquired skill.	5 4 3 2 1
Faculty will improve their teaching if they are paid more money.	5 4 3 2 1
There are educational experts on the faculty who could assist other faculty to improve teaching.	5 4 3 2 1
Faculty who do research, present at conference or publish in professional forums are less effective in the classroom than those who only teach.	5 4 3 2 1
Good teachers are recognized and held in high esteem here	5 4 3 2 1

APPENDIX C (continued)

Publications and presentations at professional conferences are valued at my college.	5 4 3 2 1
Professional development activities are recognized and rewarded.	5 4 3 2 1
Most faculty members care about teaching well and periodically evaluate how they might improve.	5 4 3 2 1

Appendix: D

APPENDIX D

ADMINISTRATOR INTERVIEW

Interview Questions for College Administrators

NAME OF INSTITUTION _____

NAME/TITLE OF THOSE INTERVIEWED _____

DATE OF VISIT _____

ORGANIZATION AND ADMINISTRATION

1. Please describe the structure of your developmental education program, including how it receives funding, its placement within the organization's administrative structure, and
2. What role does adjunct faculty play in your program? What type of orientation/professional development opportunities are they offered?

PROGRAM COMPONENTS

Please answer concerning your faculty who teach remedial students.

3. What does your institution do to encourage faculty development participation?
4. What does your institution do to ensure faculty development activities correspond to faculty members' personal and professional goals?
5. What activities are done to ensure faculty development activities correspond to the mission of your institution?
6. How are faculty members recognized or rewarded for participating in professional development activities?
7. What types of activities are made available to faculty allowing them to participate in the selection and implementation of professional development opportunities?

APPENDIX D (continued)

8. How are faculty members encouraged to exchange pedagogical strategies and consult with peers on effective instructional strategies?

Appendix: E

APPENDIX E

SURVEY RESPONSES

34. Using the following scale, please check the number that most closely expresses your belief about the statement given.							
	Strongly disagree	Disagree	Undecided	Agree	Strongly agree	Rating Average	Response Count
The administration strongly supports my efforts at faculty development.	1.0% (1)	10.3% (10)	18.6% (18)	46.4% (45)	23.7% (23)	3.81	97
My college offers support for those faculty members wishing to develop their teaching techniques.	1.0% (1)	10.3% (10)	19.6% (19)	49.5% (48)	19.6% (19)	3.76	97
Most faculty members at my college could agree on a definition of "good teaching."	8.2% (8)	24.7% (24)	17.5% (17)	42.3% (41)	7.2% (7)	3.15	97
Most academic administrators at my college could agree on a definition of "good teaching."	10.3% (10)	24.7% (24)	21.6% (21)	34.0% (33)	9.3% (9)	3.07	97
Our administration moves quickly to offer assistance to teachers perceived as needing help with their teaching.	10.3% (10)	38.1% (37)	32.0% (31)	15.5% (15)	4.1% (4)	2.65	97
Individuals whose teaching performances are perceived to be inadequate (by either students and/or peers) are terminated if improvement is not made.	13.4% (13)	38.1% (37)	30.9% (30)	13.4% (13)	4.1% (4)	2.57	97
Tuition reimbursement to full-time faculty members for graduate course work is a valuable faculty development tool.	10.3% (10)	10.3% (10)	7.2% (7)	39.2% (38)	33.0% (32)	3.74	97
Doing research and writing papers for either publication in professional journals or presentations at conferences can be a valuable means of professional growth for faculty members.	2.1% (2)	5.2% (5)	10.3% (10)	53.6% (52)	28.9% (28)	4.02	97
Extrinsic rewards motivate faculty to improve teaching better than intrinsic rewards.	1.0% (1)	19.6% (19)	40.2% (39)	29.9% (29)	9.3% (9)	3.27	97

APPENDIX E (continued)

Good teachers are born not made.	14.3% (14)	46.9% (46)	26.5% (26)	8.2% (8)	4.1% (4)	2.41	98
Good teachers will eventually be recognized by peers and/or administrators and rewarded.	7.2% (7)	33.0% (32)	32.0% (31)	23.7% (23)	4.1% (4)	2.85	97
Most chairpersons care about the quality of teaching within the college.	3.1% (3)	10.2% (10)	13.3% (13)	54.1% (53)	19.4% (19)	3.77	98
My academic dean\VP cares about the quality of teaching within the college.	4.1% (4)	10.3% (10)	13.4% (13)	43.3% (42)	28.9% (28)	3.82	97
My president cares about the quality of teaching within the college.	5.1% (5)	13.3% (13)	20.4% (20)	40.8% (40)	20.4% (20)	3.58	98
The trustees of the college care about the quality of teaching within the college.	5.1% (5)	10.2% (10)	28.6% (28)	41.8% (41)	14.3% (14)	3.50	98
Good teaching is an acquired skill.	1.0% (1)	6.1% (6)	13.3% (13)	54.1% (53)	25.5% (25)	3.97	98
Faculty will improve their teaching if they are paid more money.	4.1% (4)	36.7% (36)	30.6% (30)	18.4% (18)	10.2% (10)	2.94	98
There are educational experts on the faculty who could assist other faculty to improve teaching.	0.0% (0)	6.1% (6)	20.4% (20)	52.0% (51)	21.4% (21)	3.89	98
Faculty who do research, present at conference(s), or publish in professional forums, are less effective in the classroom than those who only teach.	22.4% (22)	45.9% (45)	22.4% (22)	7.1% (7)	2.0% (2)	2.20	98
Good teachers are recognized and held in high esteem here.	5.1% (5)	29.3% (29)	33.3% (33)	27.3% (27)	5.1% (5)	2.98	99
Publications and presentations at professional conferences are valued at my college.	2.0% (2)	19.4% (19)	22.4% (22)	43.9% (43)	12.2% (12)	3.45	98
Professional development activities are recognized and rewarded.	3.1% (3)	24.7% (24)	39.2% (38)	26.8% (26)	6.2% (6)	3.08	97
Most faculty members care about teaching well and periodically	1.0% (1)	8.2% (8)	21.4% (21)	53.1% (52)	16.3% (16)	3.76	98

VITA

Kyle Trevor Miller was born in Pine Bluff, Arkansas on October 8, 1969. He grew up in Helena, Arkansas where he attended Jefferson Elementary School and graduated from Central High School in May 1988. He entered the University of Central Arkansas on a vocal music scholarship, graduating with a Bachelor of Arts in Speech, Theatre, and Journalism in 1992. He went on to Arkansas State University in Jonesboro in 1993 and received his Master of Science degree in Mass Communications Radio-Television in 1995. After working several years in the television news business, Kyle went back to college at Fuller Theological Seminary in 1999 to receive a Master of Arts degree in Intercultural Studies. Through an interesting set of circumstances, in 2002, Kyle found himself back home in Helena teaching at a middle school. From here, he realized he had a passion for education. In 2007, Kyle entered the University of Mississippi and received his Doctorate of Philosophy Degree in Higher Education in August 2011.

Currently, Kyle is employed as the Program Director for the Gaining Early Awareness and Readiness Program at Phillips Community College University of Arkansas in Helena, Arkansas.