

1-1-2012

An Analysis of Institutional Policies and Practices Critical for Effective Leadership in Developmental Education Programs

Carolyn Gaughan Sizemore
csizemore@newriver.edu

Follow this and additional works at: <http://mds.marshall.edu/etd>

 Part of the [Community College Education Administration Commons](#), and the [Community College Leadership Commons](#)

Recommended Citation

Sizemore, Carolyn Gaughan, "An Analysis of Institutional Policies and Practices Critical for Effective Leadership in Developmental Education Programs" (2012). *Theses, Dissertations and Capstones*. Paper 210.

AN ANALYSIS OF INSTITUTIONAL POLICIES AND PRACTICES CRITICAL FOR
EFFECTIVE LEADERSHIP IN DEVELOPMENTAL EDUCATION PROGRAMS

Carolyn Gaughan Sizemore
Marshall University
Graduate School of Education
and Professional Development

Dissertation submitted to the Faculty of the
Graduate College of Marshall University
in partial fulfillment of the
requirements for the degree of

Doctor of Education
In
Educational Leadership

Committee Chair, Dennis M. Anderson, Ed.D.
Frances Simone, Ph.D.
Louis K. Watts, Ed.D.
Shirley M. Davis, Ph.D.

Huntington, West Virginia
2012

Keywords: Developmental Education; Best Practices; Institutional Policies;
Community College Administration, Change Theory

ACKNOWLEDGMENTS

I would like to begin by acknowledging the importance of the Marshall University Graduate College for providing me the opportunity to fulfill my aspirations and dreams of obtaining a doctorate from a first-class university with an outstanding faculty and staff who have provided unconditional support through the challenges of my life, encouragement when I felt like giving up and individual guidance to help me reach the goal line when I had my doubts. My heartfelt appreciation:

To my doctoral committee chair, Dr. Dennis Anderson, who has been the most important individual in my career with his encouragement and support to help me find my way back from the darkest journey of my life. Without his guidance and support, I most certainly would have given up my goal, and that would have been a personal tragedy because I have enjoyed learning so very much throughout this process. My heartfelt gratitude for making me believe in myself again. If I ever win the lottery, I will dedicate a building at Marshall in your honor.

To my Dream Team, Dr. Frances Simone and Dr. Louis Watts; I could never express my gratitude for your help, intellect, advice and constant encouragement. It is with fond heart that I thank you for all that you have done for me and my colleagues in the Leadership Department.

To Dr. Shirley Davis, a committee member and colleague who continues to be my role model in education. Her love and devotion for teaching have provided me with constant support, knowledge and skill. My special colleague, you make learning fun through your humor and intellect. I know how hard you have worked to make my

dissertation better, and your patience with me through this learning experience has been unmatched. I love you, dear friend.

To Dr. Michael Galbraith and Dr. Fred Pauley, I would like to thank you for enriching my learning and thinking skills through the many years. I hope that I have not disappointed you too much with some of my decisions -- although, Dr. Galbraith, it was you who taught me so much about adult learners. Little did I know that I was almost a statistic. I know that you have always provided me with patience and understanding. I will be eternally grateful for the experiences that we have shared.

To Dr. Michael Cunningham, I wish that I could have taken a course from you, my childhood buddy. The graduates of Herbert Hoover High School are proud of your accomplishments as both a principal and later as a professor and college administrator. It was great to see you doing so well.

To Dr. Teresa Eagle, you remain one of the classiest ladies I know. I feel such warmth when I am around you that makes the Marshall Graduate College so special. Thank you for your boundless support and caring.

To my colleagues at New River Community and Technical College who supported me after the loss of my husband when I almost gave up yet celebrated my final victory, you have provided me with endless compassion, friendship, humor and joy. I love each of you for your special talents and for being part of our team – my team. I am glad that you always have my back.

To all of the faculty members at Marshall University's Leadership Studies, I have a wonderful memory from each of my classes. You have prepared me well for the

leadership positions that I have held throughout my career in higher education. Thank you for enriching my life.

And most of all to my children, you have always been my pride and joy. Everything good that has happened to me is because of you. I know that you are as proud of me as I am of you, Jeremy, Jillian and Jenna. I love you for never doubting me. I am so happy that you have become such wonderful students and even better people. Also, I would like to thank my special stepdaughter, Missy, who encouraged me to finish my dissertation after the loss of my husband and mother. Missy, I love you so very much. Your father and I have always been very proud of you.

And finally, my one regret is that my husband and mother, my greatest cheerleader, did not live to see me finish my degree. They would have been so very proud.

TABLE OF CONTENTS

ACKNOWLEDGMENTS.....	ii
LIST OF TABLES.....	x
LIST OF APPENDICES	xi
ABSTRACT.....	xii
CHAPTER ONE: INTRODUCTION.....	1
Statement of the Problem	3
Research Questions	5
Purpose of the Study.....	7
Operational Definitions.....	7
Significance of the Study.....	9
Limitations of the Study.....	10
Delimitations of the Study	10
Theoretical Framework.....	10
Kotter’s Change Model	11
TRPP Model: Theory, Research, Principles and Practice	11
Methods.....	12
Research Design.....	12
Population and Sample	13
West Virginia Community and Technical Colleges.....	13
Metro Area Community and Technical Colleges Adjacent to West Virginia	14
Data Analysis.....	15
Summary	15
CHAPTER TWO: LITERATURE REVIEW	17
Introduction	17
Overview of Developmental Education	17
Theoretical Framework.....	24
Kotter’s Change Model	26
TRPP Model: Theory, Research, Principles and Practice	27
Research Findings	28

Principles.....	31
Best Practices.....	32
Table 1.....	35
Comparison of Best Practices for Developmental Education Programs.....	35
Role of Program Directors and College Presidents.....	37
Summary.....	39
CHAPTER THREE: RESEARCH METHODS AND PROCEDURES	41
Research Questions	41
Methods.....	42
Research Design.....	42
Population and Sample	45
Data Analysis.....	46
CHAPTER FOUR: RESEARCH FINDINGS.....	50
Pilot Study.....	50
Participants	51
Pilot Study Findings.....	52
Table 2.....	55
Results from the Pilot Study of WV Metro Area Developmental Education Instructors.....	55
Descriptive Statistics for Component 1: Organization and Administration.....	55
Table 3.....	56
Results from the WV Metro Area Pilot Study of Developmental Education Instructors.....	56
Descriptive Statistics for Component 2: Program Components	56
Table 4.....	57
Results from the Pilot Study of Developmental Education Instructors.....	57
Descriptive Statistics for Component 3: Instructional Practices.....	57
Table 5.....	58
Results from the Pilot Study of Developmental Education Instructors.....	58
Descriptive Statistics for One-Way ANOVA for 3 Independent Samples.....	58
Data Analysis and Results	59
Research Study.....	59
Population and Sample	59
Participants	59

Data Collection.....	60
Procedures.....	61
Findings.....	62
Findings for Question One.....	62
Table 6.....	63
Survey Results of WV Metro Area Community College Presidents’ and Developmental Education Administrator’s Ratings.....	63
Descriptive Statistics for Component 1: Organization and Administration.....	63
Findings for Question Two.....	64
Table 7.....	65
Survey Results of WV Metro Area Community College Presidents and Developmental Education Administrator’s Ratings.....	65
Descriptive Statistics for Component 2: Program Components.....	65
Findings for Question Three.....	66
Table 8.....	67
Survey Results of WV Metro Area Community College Presidents’ and Developmental Education Administrator’s Ratings.....	67
Descriptive Statistics for Component 3: Instructional Practices.....	67
Findings for Question Four.....	68
Table 9.....	69
Survey Results of WV Metro Area Community College Presidents’ and Developmental Education Administrator’s Ratings.....	69
Results of One-Way ANOVA Between Group Means for Descriptors in Component 1: Organization and Administration.....	69
Table 10.....	71
Survey Results of WV Metro Area Community College Presidents’ and Developmental Education Administrator’s Ratings.....	71
Results of One-Way ANOVA Between Group Means for Descriptors in Component 2: Program Components.....	71
Table 11.....	74
Survey Results of WV Metro Area Community College Presidents’ and Developmental Education Administrator’s Ratings.....	74
Results of One-Way ANOVA Between Group Means for Descriptors in Component 3: Instructional Practices.....	74

Findings for Question Five	76
Table 12.....	77
Survey Results of WV Metro Area Community College Presidents’ and Developmental Education Administrator’s Ratings.....	77
2x3 Factorial ANOVA for Independent Samples Standard Weighted-Means Analysis.....	77
Table 13.....	81
Survey Results of WV Metro Area Community College Presidents’ and Developmental Education Administrator’s Ratings.....	81
Overall Ranking of the Means of the 33 Descriptors.....	81
Summary	83
CHAPTER FIVE: SUMMARY	85
Purpose of the Study.....	85
Population and Sample	86
Survey Instrument.....	87
Method	88
Discussion of Findings	89
For Research Question 1:.....	89
For Research Question 2:.....	90
For Research Question 3:.....	90
For Research Question 4:.....	91
For Research Question 5:.....	92
For Research Question 6:.....	92
Conclusions	93
Limitations of the Study	95
Recommendations for Further Study	96
APPENDIX A: PERMISSION LETTER TO USE SURVEY	100
APPENDIX B: EMAIL CORRESPONDENCE TO USE SURVEY	102
APPENDIX C: SURVEY INSTRUMENT	103
APPENDIX D: ANONYMOUS SURVEY CONSENT (PILOT STUDY).....	105
APPENDIX E: ANONYMOUS SURVEY CONSENT.....	106
APPENDIX F: SELECTED PUBLIC COMMUNITY COLLEGES	107
West Virginia Community and Technical Colleges.....	107

Metro Area Community and Technical Colleges Adjacent to West Virginia	107
REFERENCES.....	108
CURRICULUM VITAE.....	117

LIST OF TABLES

Table 1	<i>Comparison of Best Practices for Developmental Education Programs</i>	Page 47
Table 2	<i>Results from the Pilot Study of WV Metro Area Developmental Education Instructors for Component 1: Organization and Administration</i>	Page 67
Table 3	<i>Results from the Pilot Study of WV Metro Area Developmental Education Instructors for Component 2: Program Components</i>	Page 68
Table 4	<i>Results from the Pilot Study of WV Metro Area Developmental Education Instructors for Component 3: Instructional Practices</i>	Page 69
Table 5	<i>Results from the Pilot Study of WV Metro Area Statistics for One-Way ANOVA</i>	Page 70
Table 6	<i>Survey Results of Community College Presidents' and Developmental Education Administrators' Ratings for Component 1: Organization and Administration</i>	Page 75
Table 7	<i>Survey Results of Community College Presidents' and Developmental Education Administrators' Ratings for Component 2: Program Components</i>	Page 77
Table 8	<i>Survey Results of Community College Presidents' and Developmental Education Administrators' Ratings for Component 3: Instructional Practices</i>	Page 79
Table 9	<i>Results from the One-Way ANOVA Between Group Means for Descriptors in Component 1: Organization And Administration</i>	Page 81
Table 10	<i>Results from the One-Way ANOVA Between Group Means for Descriptors in Component 2: Program Components</i>	Page 83
Table 11	<i>Results from the One-Way ANOVA Between Group Means for Descriptors in Component 3: Instructional Practices</i>	Page 86
Table 12	<i>Results from the 2x3 Factorial ANOVA for Independent Samples Standard Weighted-Means Analysis</i>	Page 89
Table 13	<i>Overall Ranking of the Means of the 33 Descriptors Survey Results of Community College Presidents' and Developmental Education Administrators' Ratings</i>	Page 93

LIST OF APPENDICES

Appendix A	<i>Permission Letter to Use Survey</i>	Page 112
Appendix B	<i>Email Correspondence to Use Survey</i>	Page 114
Appendix C	<i>Survey Instrument</i>	Page 115
Appendix D	<i>Anonymous Survey Consent for Pilot Study</i>	Page 117
Appendix E	<i>Anonymous Survey Consent</i>	Page 118
Appendix F	<i>Selected Public Community Colleges</i>	Page 119

ABSTRACT

An Analysis of Institutional Policies and Practices Critical for Effective Leadership in Developmental Education Programs

Carolyn Gaughan Sizemore

The purpose of this study was to identify the most critical institutional policies and practices deemed essential for the effective development and governance of systemic, effective developmental education programs in community colleges through the perspective of community college administrators. This study ranked community college leaders' ratings of what policies and practices should be implemented to improve developmental education programs. Expert opinion by the participating developmental education administrators and college presidents were compared and ranked to identify priorities for change. The results could serve as guidelines for the improvement of developmental education programs for student success in community colleges. This non-experimental, comparative research study was designed to rate the importance of identified key descriptors in three critical components of an effective developmental education program. The components studied were organization and administration, program components and instructional practices. The instrument used to collect data was the survey designed by Hunter R. Boylan for *What Works: Research-Based Best Practices in Developmental Education* (Boylan, 2002, 107 – 110). The inventory found in Boylan's book (2002) was modified with author's approval to match the educational purpose and target population of this study. A pilot study was first conducted with West Virginia developmental education practitioners to field test the survey. The target population consisted of two categories of community college administrators in the Metro West Virginia geographic area. The first group was identified as developmental education administrators, and the second group was identified as presidents of their respective community colleges. Each participant was given a pre-survey questionnaire which solicited demographic data about job titles, years of experience in higher education administration and a self-rating of interest and knowledge in the field of developmental education before administration of the online survey. After analysis of the data, several conclusions were determined. The most powerful conclusion that was reiterated throughout the results of this study was that the top priority for program improvement in developmental education reached by consensus of both community college presidents and developmental education administrators is in the area of Organization and Administration (Component 1). The next priority was found in the area of Program Components (Component 2). Both community college presidents and developmental education administrators perceived Instructional Practices (Component 3) the least critical category of need. Although there was a significant difference between the ratings of developmental education administrators and college presidents for Component 1 and Component 2, the importance of developmental education reorganization and administration has been determined by the results of this study to be an institutional priority for program improvement.

CHAPTER ONE: INTRODUCTION

Developmental education courses support academic and personal preparedness needs of traditional and nontraditional students identified through low test scores on college placement assessment tests (Saxon, Sullivan, Boylan, & Forrest, 2005). A 2010 policy framework released by the Education Commission of the States (ECS) and the Lumina Foundation makes the case that developmental education should be a key component of state strategies to increase college attainment in community colleges because 42 million adults between the ages of 18 and 64 in our nation do not have the skills necessary to attain a college degree. The seminal study by the National Center for Education Statistics in 2003 reported 42 percent of high school graduates enter college with low placement test scores (National Center for Education Statistics, 2003). According to this study, developmental education should continue to be provided in 100 percent of community colleges and possibly increase from the reported 80 percent of public four-year colleges and 60 percent of private four-year colleges (National Center for Education Statistics, 2003; Boylan, 2002; McCabe, 2003). Later studies by Clery (2008) and Greene (2008) further noted little change in these figures. These studies predicted that the number of students academically underprepared for college will continue to increase in community colleges with greater emphasis on performance standards. According to the ECS study (2010), effective institutional policies remain an important and necessary solution to ensure that students complete developmental education as quickly and effectively as possible.

There is a plethora of evidence over the past 30 years in the professional literature about the important driving mission of serving underprepared students in community colleges. Open access to higher education mandates that community colleges offer developmental courses to provide opportunity for college students to acquire the knowledge and skills needed to successfully complete college-level courses (Gerlaugh, Thompson, Boylan, & Davis, 2007; Perkhounkova, Noble & Sawyer, 2006). Studies by Boylan (2002; 2008) have helped spur recent developmental education initiatives for program reform with more than \$100 million in private funding from both the Lumina Foundation for Education (2008) and the Developmental Education Initiative (2009) funded by Bill and Melinda Gates' foundation. These initiatives have focused on the need for research to identify and develop effective programs that address academic barriers to successful completion of college studies and ultimately degrees.

These studies have characterized the current state of developmental education as ineffective and in need for research to drive change. According to Boylan (2008), developmental education continues to fall short on its mission to provide a critical bridge for underprepared students by systematically ignoring research findings. McDonald and Bernado (2005) cautioned that ineffective developmental education programs could seriously marginalize already disadvantaged students by closing the door on opportunities to enroll in credit-bearing courses. Common ineffective practices cited are overreliance on adjunct instructors, poorly designed curriculum and marginal operational budgets. These findings have been verified by studies conducted by the NCES (Gerlaugh, Thompson, Boylan & Davis, 2007) and ECS (2010).

Recent studies on developmental education have focused on program effectiveness (ECS, 2010; Haithcock, Weinstein, Boylan, & Saxon, 2010). To be considered effective, Saxon and Boylan (2002) specified that developmental programs should enable students to complete the required remedial courses within a reasonable period of time, to successfully pass subsequent college-level courses in the same or similar subject areas and to achieve Grade Point Averages (GPAs) comparable to students who were not required to participate in developmental studies. Hill (2004) contended that administrators need to strategically coordinate curriculum design, instruction, and support services required for developmental education to reflect the uniqueness and culture of the entire institution, and to ensure the appropriateness of the program for both the students and the college.

The national debate over developmental education has shifted over the past decade from the controversy over justification to exist in colleges and universities to whether or not developmental education has been held accountable for the educational benefits it has claimed to provide its participants (Perkhounkova, Noble & Sawyer, 2006). The research evidence available is generally too limited, suffers from design flaws or is based on inadequate samples (White & Harrison, 2007). Until this issue is resolved, developmental education will continue to remain a target of concern for policymakers and stakeholders (Bell & Perez, 2001).

Statement of the Problem

The goal of this study was to evaluate institutional policies and best practices to determine the most critical needs for the improvement of developmental education programs. Existing research findings on developmental education programs has tended to

focus singularly on their overall effectiveness in order to justify their existence in higher education rather than on how to improve current programs (Boylan, 2002; McCabe, 2003). The literature is replete with data supporting the need to identify critical and effective institutional policies and model practices to maximize the systemic effectiveness of developmental education (Lumina Foundation for Education, 2008; Manpower Demonstration Research Corporation, 2011.) Although Boylan (2002), McCabe (2000; 2003) and Roueche and Roueche (1999) have identified the common best practices used by practitioners in selected developmental programs, there remained a void in the professional literature from an administrative perspective for designing or revising institutional policies and best practices in developmental education to improve program effectiveness (Gerlaugh, Thompson, Boylan & Davis, 2007; Haithcock, Weinstein, Boylan & Saxon, 2010).

Developmental researchers and practitioners at the National Conference on Research in Developmental Education (Duranczyk & Higbee, 2006; Haithcock, Weinstein, Boylan & Saxon, 2010) called for policy analysis research to study the dichotomy between policies and practices operationalized in developmental education. Participants identified seven overall research themes in their proposal for a research agenda to guide scholars to improve the field of developmental education:

The seven themes identified include (1) professional developmental and faculty status, (2) assessment, (3) affective factors and student characteristics, (4) best practices, (5) improved curriculum, (6) technology, and (7) developmental education research (pp. 1-3).

A critical review of the literature identified the lack of empirical studies needed for consensus building of the critical institutional policies and practices that college administrators have concurred as effective in program improvement (Haithcock, Weinstein, Boylan, & Saxon, 2010). Without this consensus of policy decisions, the majority of developmental programs remain at risk of systemic failure and insufficient public accountability for performance.

Research Questions

Although the body of research in developmental education has expanded greatly over the past 30 years, there continues to be a national calling for research-based innovative strategies and policies for school reform in the field of developmental education (Lumina Foundation, 2008; Manpower Demonstration Research Corporation, 2011). Institutional leaders need to work with states to identify and implement model policies and practices to improve student performance (Manpower Demonstration Research Corporation, 2011). For too long, developmental education programs have been offering courses for academically at-risk students with little oversight and accountability for their effectiveness to overcome barriers to learning (Lesley, 2001). Therefore, a critical need has existed for institutional leaders to analyze institutional policies and practices to build consensus to enhance informed decision-making for effective developmental education programs (Lumina Foundation for Education, 2008).

For this research study, developmental education administrators and college presidents were asked to rate 33 descriptors to determine the most critical institutional policies and best practices to improve developmental education programs in community colleges. To determine the priorities for program improvement, community college

developmental education administrators and college presidents from Metro West Virginia community colleges from the states of Kentucky, Ohio, Maryland, Pennsylvania, and Virginia were surveyed and asked to rate identified best policies and practices for developmental education in the component areas of organization and administration, program components and instructional practices. The following central research questions guided this study:

1. What is the relative importance of each of the 9 identified descriptors for the category of organization and administration on the effectiveness of the developmental education program as rated by community college administrators and presidents?
2. What is the relative importance of each of the 12 identified descriptors for the category of program components on the effectiveness of the developmental education program as rated by community college administrators and presidents?
3. What is the relative importance of each of the 12 identified descriptors for the category of instructional practices on the effectiveness of the developmental education program as rated by college administrators and presidents?
4. Is there a significant difference between the ratings assigned by college presidents compared with those assigned by developmental education administrators in the identification of effective institutional policies and best practices?
5. Is there a significant difference between the perceived importance of the three components as measured by the grand mean of the descriptor means in each component group?
6. Is the relative importance of the three components related to the title (group) of the participants doing the rating?

Purpose of the Study

The purpose of this study was to identify the most critical institutional policies and practices deemed essential for the effective development and governance of systemic, effective developmental education programs in community colleges through the perspective of community college administrators. This study ranked community college leaders' ratings of what particular policies and practices should be implemented to improve developmental education programs. Expert opinion by the participating developmental education administrators and college presidents was compared and ranked to identify priorities for change. The results could serve as guidelines for the development of more effective developmental education programs for student success in community colleges.

Operational Definitions

For the purpose of this study, the following operational definitions of terms provide clarity:

Best Practices: Refers to critical organizational, administrative and instructional policies or strategies which are essential to guide effective developmental programs.

Developmental Education: According to the National Association for Developmental Education (2009), developmental education is a comprehensive process which focuses on the intellectual, social, and emotional growth and development of all students.

Developmental education includes, but is not limited to, tutoring, personal and career counseling, academic advising, and coursework.

Developmental Education Administrator: The community college official responsible for the planning, assessment and budgeting of developmental education. To distinguish

between the administrator and the practitioner, the developmental administrators selected as participants should not teach more than 6 hours of developmental courses per semester.

Developmental Education Students: Individuals who are distinguished by academic underpreparedness determined by low college placement scores or low high school GPAs, as well as other affective traits correlated to college success categorized by anxiety, poor study strategies, lack of self-confidence, poor note-taking, not attending class and fear of failure.

Institutional Policies: The set of rules for actions, services and concepts which often require a commitment of money and resources imposed by decision makers at the community colleges made on the basis of objective information, shared values and research evidence used to draw implications for principles and practice.

Metro West Virginia: The reduced fee public community colleges located in counties who border West Virginia and those who border another county that is adjacent to the state of West Virginia as recognized by the West Virginia Higher Education Policy Commission.

Noncompleters: Students who qualify for developmental courses yet fail to successfully complete them.

TRPP Model: The theoretical perspective which holds promise for unifying developmental practitioners. The Casazza and Silverman theory (1996) has been constructed to integrate theory and practice for a new model of practice (TRPP) through the successful merger of one theoretical framework for of the following areas: (a) theory, (b) research (c) practice, and (d) principles.

Significance of the Study

Meeting the needs of a tidal wave of underprepared, nontraditional and underrepresented populations of students continues to be one of the most pressing and unresolved issues in community college administration (Lumina Foundation for Education, 2008; Manpower Demonstration Research Corporation, 2011). Despite a rich history of serving underprepared students, there have been too few empirical studies on effective policies to build a consensus among experts to guide administrators in designing effective developmental education programs (Saxon & Boylan, 2003; Weissman, Silk, & Bulakowski, 1997). In general, there remains a need to better understand the role of administrators in effective developmental education programs (Boylan, 2002). To begin with, administrators have been responsible for justifying the costs of remediation with measures of institutional productivity or “risk losing federal funding” (Roueche & Roueche, 1999, p. 45). In addition, developmental programs have been ineffective when they have been characterized as uncoordinated, nonsystematic units apart from the institutional planning efforts (Boylan, 2002; Hill, 2004). Student potential may become marginalized if institutional policies present barriers to college persistence and success (McDonald & Bernado, 2005; Duranczyk & Higbee, 2006). Because of the important leadership role that community college administrators hold in the field of developmental education, the primary significance of this study has been to build a consensus of the critical institutional policies and best practices needed for administrators to implement for effective developmental education programs in our community colleges.

Limitations of the Study

The implications of this study must be considered in light of the following limitations:

1. The small sample size of the population limits the study's generalizability.
2. Nonprobability samples do not involve random selection and are generally less desirable than probability samples.
3. The findings of this study are limited to public community colleges in the Metro West Virginia geographical service region.
4. Although numerical ratings are provided in the survey, they are only rough estimates.

Delimitations of the Study

The implications of this study must be considered in light of the following delimitations:

1. Many community colleges have institutional policies which allow or require administrators to teach courses in addition to their major job duties. For this study, developmental education administrators may not teach more than six hours of developmental courses per semester to be eligible to participate in this study.
2. Developmental education practitioners who retain the primary classification of instructors or professors and teach more than six semester hours have been excluded from the purposive sample.

Theoretical Framework

This study has addressed theoretical insights of developmental education through the lens of community college leaders' perceptions of program improvement. One crucial question raised by Brothen and Wambach (2004) and Hill (2000) is how the leaders will

integrate theory with practice in order to improve these programs. To address this issue, the research foundation of this study was a combination of two theoretical models.

Kotter's Change Model

One transformational change theory model used by management to provide a theoretical framework of organizational change is Kotter's theory (1995). John Kotter's change model has identified eight critical steps for transformational change. These eight steps are as follows: (a) establish a sense of urgency, (b) form a powerful guiding coalition, (c) create a vision, (d) communicate the change vision, (e) empower others for broad-based action on the vision, (f) plan to create short-term wins, (g) consolidate improvements and produce still more change, and (h) institutionalize new approaches (Cech, 2010; Kotter, 1995). Developmental education reform through a comprehensive, systematic and informed process of program and policy development holds promise for organizational change through informed decision-making (Bailey, 2009). Therefore, community college administrators should reexamine current practices through informed urgency, vision and action in order to build the theoretical framework to guide needed programmatic reform.

TRPP Model: Theory, Research, Principles and Practice

One theoretical framework which holds promise for unifying developmental administrators is Casazza and Silverman's TRPP Model (1996). The model refers to the integration of the four components of theory, research, principles and practice. This framework was constructed to integrate sound principles of theory and research, to maximize desired outcomes and address the challenge for program improvement due to a lack of a unifying theory in the field of developmental education (1996). To guide

effective change, the TRPP model serves as the model to determine how theoretical knowledge can be applied to practice (Owens, 2004). Without this unifying theory, a deficiency has created challenges for informed decision making and action through practice (Hudson, Duke, Haas & Varnell, 2008). TRPP stresses the importance of building consensus of effective practices and policies to foreshadow the need for change and critical reflection in developmental education which is well-grounded in practice (Casazza & Silverman, 1996).

Methods

Research Design

This non-experimental research study has been designed to rate the importance of identified key descriptors in three critical components of an effective developmental education program. The components studied are organization and administration, program components and instructional practices. The instrument to be used to collect data was the survey designed by Hunter R. Boylan for *What Works: Research-Based Best Practices in Developmental Education* (Boylan, 2002, 107 – 110). The inventory found in Boylan's book (2002) has been modified with author's approval to match the educational purpose and target population of community college developmental education administrators and presidents selected for this study. Because the survey instrument used had not been standardized, a pilot study was conducted with West Virginia developmental education practitioners to field test the survey to improve the internal validity of the questionnaire (Van Teijlingen & Hundley, 2001). The data collected yielded ratings to identify the participants' perceptions of what critical

institutional policies and best practices should be implemented to improve the effectiveness of developmental education programs in community colleges.

Population and Sample

The target population consisted of two categories of community college administrators. The first group was identified as developmental education administrators and the second group was identified as presidents of their respective colleges in West Virginia and the Metro West Virginia areas. The demographic population for this study consisted of 10 community and technical colleges in West Virginia and 12 community colleges in the Metro area of the border states of Kentucky, Maryland, Ohio, Pennsylvania and Virginia. Metro colleges have been defined as those that charge reduced fees and border West Virginia or who border another county that is adjacent to the State of West Virginia.

West Virginia Community and Technical Colleges

The following West Virginia community and technical colleges have been invited to participate in this study:

- Blue Ridge Community and Technical College;
- Bridgemont Community and Technical College;
- Eastern West Virginia Community and Technical College;
- Kanawha Valley Community and Technical College;
- Mountwest Community and Technical College;
- New River Community and Technical College;
- Pierpont Community and Technical College;
- Southern Community and Technical College;

West Virginia Northern Community College; and
West Virginia University at Parkersburg

Metro Area Community and Technical Colleges Adjacent to West Virginia

The following public community colleges in the border states of Kentucky, Maryland, Ohio, Pennsylvania and Virginia who met the criteria of Metro colleges by location adjacent to the state of West Virginia were invited to participate in this study:

Ashland Community and Technical College (KY);

Allegheny College of Maryland (MD);

Big Sandy Community and Technical College (KY);

Community College of Allegheny County (PA);

Community College of Beaver County (PA);

Dabney Lancaster Community College (VA);

Eastern Gateway Community College (OH);

Garrett College (MD);

Hagerstown Community College (MD);

Southwest Virginia Community College (VA);

Washington State Community College (OH); and

Wytheville Community College (VA).

Participants were selected using purposive sampling of the population. The sample was comprised of voluntary participants from the target population. Each participant was given a pre-survey brief questionnaire which solicited basic heterogeneous demographic data about job titles, years of experience in higher education administration and a self-rating of interest and knowledge in the field of developmental education.

Data Analysis

Each participant was asked to rate each of the 33 items according to their own perceptions using the Likert Rating Scale (1= not essential; 2= somewhat essential; 3=essential; 4= very essential). The ratings from each descriptor were used to compare the means of individual responses within the categories using a simple ANOVA. A comparison of ratings between the developmental education administrators and the college presidents was analyzed using a factorial ANOVA or factorial design to determine if there was a significant difference between the two groups of community college administrators (Salkind, 2000, 220 - 236).

Summary

The Lumina Foundation (2008) and the Melinda and Bill Gates Foundation for the Developmental Education Initiative (Manpower Demonstration Research Corporation, 2011) have joined with other foundations in the *Achieving the Dream* (Lumina Foundation for Education, 2008) initiative by proposing to reform developmental education programs in community colleges through institutional change, policy change, public engagement and knowledge development. Despite the recent research agenda by the National Association of Developmental Education in the past five years, limited research findings have addressed the role of community college administrators in program improvement of developmental education (Saxon & Boylan, 2003). A better understanding of the role of administrators in developmental education programs needed to be studied (Boylan, 2002; 2008). The research agenda presented by Haithcock, Weinstein, Boylan and Saxon (2010) described the need for new questions about the institutional policies and best practices which are critical for effective programs

and which need to be addressed because of the important leadership role that community college administrators hold in policy decisions in the field of developmental education. A better understanding of the role of administrators in developmental education programs needed to be studied (Boylan, 2002; 2008). This study was designed to investigate what developmental education administrators and college presidents concurred to be the most critical institutional policies and best practices to improve developmental education programs in community colleges.

CHAPTER TWO: LITERATURE REVIEW

Introduction

Chapter Two includes a review of the literature pertaining to the background, development and governance of effective developmental education. Specifically, this chapter has identified the issues surrounding developmental education and the challenges that community colleges need to address for the future effectiveness of these programs. A review of the literature identifies the theoretical framework, research findings, principles and best practices that are recommended to help improve the effectiveness of developmental education and the need for institutional accountability. The chapter also highlights the need for community college administrators to address critical policy change and implementation of the best practices needed for effective developmental education programs. The chapter further emphasizes the need for change that is grounded in theory.

Overview of Developmental Education

Amidst the backdrop of public accountability, the demand for effective developmental educational programs in our nation's community colleges continues to increase steadily. Nationally, 42 percent of first-year community college students are enrolled in at least one developmental education course (Clery, 2008). Because community colleges are the primary pathway for underprepared students, developmental courses are offered at 100 percent of public two-year colleges (Greene, 2008; McCabe, 2003). In the late 1970s, the attitude shifted to provide options to keep these underprepared students from dropping or failing out of college as a result of academic underachievement (McCabe, 2003). Billions of dollars have been invested each year to

ensure the success of developmental education programs which are critical not only for accountability to taxpayers but also for the nearly three million underprepared students annually – particularly students from low-income and minority families (Saxon & Boylan, 2010; Schmidt, 2006).

Inclusion and exclusion decisions determine access to college-level courses (MacDonald & Bernado, 2005). By the year 2000, nearly 90 percent of the public institutions placed some restrictions on the students' participation in regular coursework while they were taking developmental courses (American Association of State Colleges and Universities, 2008). According to the National Center for Education Statistics (NCES), data from three NCES studies in 2000, 2003 and 2008 show consistent levels of restricted courses with little change noted through the years (American Association of State Colleges and Universities, 2008).

The greater concentration of developmental students is found in our nation's community colleges as a result of the open admissions policy and low costs (Parker, Bustillos & Behringer, 2010). More specifically, students that need developmental courses are more likely to enroll and be accepted in community colleges although the percentage of students successfully completing developmental courses in two-year colleges is generally less than baccalaureate institutions (Parker, Bustillos & Behringer, 2010; Zachry & Schneider, 2010). Specifically, these findings suggest that the percentage of students passing developmental courses at two-year colleges is less than four-year colleges in reading (72 percent compared to 82 percent) and writing (79 percent compared to 81 percent); however, pass rates are greater in math (74 percent compared to 71 percent) for two-year schools (Boylan, 2002). Likewise, the National Study of

Developmental Education further showed that the percentages of students passing the highest level developmental course and taking and passing the first subsequent college-credit course in the subjects of math, reading and writing is less at two-year colleges than four-year colleges (Boylan, 2002). According to longitudinal studies reported by Zachry and Schneider (2010) the success rates of developmental education students have even declined regardless of the depth of their remedial needs.

In a descriptive policy analysis by Fulton (2001) that chronicled the politicization of developmental education, it was found that there was agreement among state legislators and higher education executive officers concerning developmental education. The findings imply: (a) the public bears responsibility to provide access to postsecondary education for underprepared and underskilled adults, (b) public 2-year institutions are the most responsive to and should have the primary responsibility of serving them, (c) developmental education has positive economic and social results, (d) higher education leaders should actively seek to improve the quality of developmental education, and (e) developmental education should be funded by the public rather than increased student fees.

Despite lingering questions that remain about the degree of awareness by politicians, state officials, and other policymakers on the mission, role and scope of developmental education and how the lack of awareness affects policymaking (Greene, 2008), there is little in the review of literature that identifies what policies the institutional leaders in the field of developmental education consider as critical for program improvement in the coordination of the successful, systemic implementation of developmental programs (Fike & Fike, 2007). Moreover, questions about the

effectiveness of developmental studies, particularly with respect to student achievement and retention, persist due to lack of evidence of success (Greene, 2008; Education Commission of the States, 2010). Some of the challenges have been attributed to the lack of rigorous research findings that document effective practices and policies (Zachry & Schneider, 2010).

There is a corresponding need to ensure the effectiveness of developmental education. A summary report released by Noel-Levitz (2006) extended the notion that “the question, then, is not whether developmental education is an integral, necessary, or cost-effective part of postsecondary education, but how it can be improved to increase the success levels of students who proceed through this all-important gateway to achievement.” (p. 4). According to Greene (2008), the costs of providing developmental education exceeds \$3.7 billion for underprepared high school graduates and even more if you factor in older college students, yet the costs of not providing effective developmental education programs are incalculable (p.4).

In addition, most researchers agree that it has become more important than ever for administrators to coordinate a variety of support services including tutoring, mentoring and career counseling (Clark-Thayer & Cole, 2009; Greene, 2008). These integrated developmental courses, designed to improve student retention, as well as learning, have generated positive results when based on successful practices (McCabe, 2000). Greene (2008) estimated that another million students obtain remediation through academic support centers or tutoring programs in addition to the 1.6 million students participating in developmental education.

Zachry and Schneider (2010) noted the importance of successfully completing developmental courses as a predictor of college success and student retention. In fact, studies cited by Soliday (2002) have indicated that the completion of developmental writing coupled with success in Composition 101 was the single greatest predictor for college success. Greene (2008) reported that students that enter community college through developmental education are at greater risk of leaving college without obtaining a certificate or degree. According to Fowler and Boylan (2010), researchers have reported that 60 to 70 percent of the students placed into developmental education coursework never complete their developmental education sequence. Another study by the Florida Department of Education (2007) revealed that only 15 percent of developmental students that fail to complete their developmental education coursework remained in college within two years while less than 1 percent earned a certificate or degree within 2 years.

One of the most unrelenting challenges facing community colleges is the increasing number of students that are academically underprepared to successfully complete college-level programs of study (Greene, 2008). Before the challenges of open-admission community colleges coupled with the high number of underprepared high school seniors increased the number of students underprepared for college, most colleges did not report the number of students enrolled in developmental education preferring to use loosely organized remediation to address skill deficiencies (Zachry & Schneider, 2010; Parker, Bustillos & Behringer, 2010). Recent data on the number of entering freshman in community colleges report that 42 percent of entering freshman in community colleges must take at least one developmental course (Greene, 2008; Manpower Demonstration Research Corporation, 2011).

Many causes have been identified for the growing number of students placed in developmental education. Brawer and Cohen (1996) identified the following (a) open access to college requiring less selection in the students taking the ACT or SAT - a phenomenon that is unique to community colleges, (b) the increasing number of students identified as learning disabled or ESL, (c) declining socio-economic status of students, (d) a pattern of decline in the standards to which assignments are graded, (e) a decline in the readability of textbooks selected making them more simplistic, (f) and social promotion. According to Brawer and Cohen (1996), social promotion, coupled with the decline in academic requirements and expectations, is the reason most often cited as responsible for the decline because it is the one variable within the power of secondary schools to change directly (247 – 274).

Another explanation for the high percentage of students in developmental courses is the changing profile of college students today. Sweeney (2006) points out that the number of older students enrolling in community colleges has been growing more rapidly than the number of younger students. Moreover, it was noted that many of the adult students are from marginalized populations that have not successfully mastered the basic college skills needed to pass the mandatory placement tests and need refresher courses. At significant risk of never attaining their educational goals are students that are classified triple deficient. Triple deficient students qualify for Developmental Reading, Developmental English and Developmental Math (Greene, 2008).

When discussing developmental education, experts within the field believe that it is important to differentiate developmental programs from remedial programs (Ilich, Hagan & McCallister, 2004; Parker, Bustillos & Behringer, 2010). The term

“developmental education studies” remains the most common label for remediation although researchers note other terms are often used interchangeably (Casazza & Silverman, 1996; Ilich, Hagan & McCallister, 2004; Roueche & Roueche, 1999). Some common terms used interchangeably for remedial education include transitional, foundational, provisional or compensatory education. These terms generally refer to ad hoc remediation found in baccalaureate colleges, not systematic developmental education offered in community colleges (Parker, Bustillos & Behringer, 2010; Soliday, 2002).

Current developmental education goes beyond the boundaries of remedial programs (Ilich, Hagan & McCallister, 2004). Roueche and Roueche (1999) suggest that the distinction between the terms and developmental education is mission-based. Ilich, Hagan & McCallister (2004) assert that developmental education describes the instruction that prepares students for specific college courses or programs of study, whereas remedial education refers to the more complex efforts to address specific skill deficiencies. Ilich, Hagan & McCallister (2004) infer that successful developmental education programs, unlike remedial classes, offer different supportive services through a comprehensive approach unlike remedial classes. Parks (2001) made the distinction that developmental education, unlike remediation, is driven by the demands of collegiate academic requirements. Casazza and Silverman (1996) further described the differences between remedial and developmental education by pointing out that remedial educators focused primarily on the cognitive needs of the learner whereas developmental educators also addressed the emotional and social needs of the learner.

Despite the changing definitions, the traditional core of developmental education remains remediation (Brothen & Wambach, 2004). According to the authors, the lack of a

common broader vision for remediation among developmental educators has led to further division within the field. Until a common voice and value set for developmental education are identified, programs will continue to remain under scrutiny and attack (Brothen & Wambach, 2004).

Developmental education is one of the most important programs offered at the community college (Greene, 2008; Manpower Demonstration Research Corporation, 2011). For those that argue that the cost of developmental education is too high, Boylan (1999) countered with evidence that “good developmental education does not cost more than bad developmental education.” (p. 5). Although in the past the primary challenge for program improvement was considered to be money, recent philanthropic efforts by the Lumina Foundation and the Bill and Melinda Gates Foundation should be commended for their efforts in addressing the need for investment and research toward advancing program improvement (Saxon & Boylan, 2010).

Theoretical Framework

This study addresses theoretical insights of developmental education through the lens of project directors and community college presidents’ perceptions of effective developmental education programs. Researchers agree that developmental educators need to make theory central to their mission of serving the needs of academically underprepared students (Casazza & Silverman, 1996; Chung, 2005; Hudson, Duke, Haas & Varnell, 2008). The lack of a unifying theory in the field of developmental education creates challenges for informed decision making during implementation of evidence-based practices (Hudson, Duke, Haas & Varnell, 2008). In application, theory and

practice are interactive (Cross, 1981). Cross (1981) emphasized that “without theory, practice is considered empty and without practice, theory is blind.” (p. 110).

Currently, there is a paucity of shared theoretical underpinnings in the literature of developmental education. Chung (2005) referred to this as a theory crisis that has been addressed by the importation of theories from outside the field with questionable success. Both Boylan (2002) and Chung (2005) share the belief that this lack of consensual practice-oriented theory has had negative consequences on the success of developmental programs. Moreover, they surmised that this problem has been compounded by the ineffectiveness of the top-down, import model commonly used by administrators in higher education.

The 1st National Conference on Research in Developmental Education (Boylan, Saxon, Bonham, & Parks, 1993) first identified a research agenda for future research for developmental education. One of the continuing areas of concern at this conference was the lack of consensus for what theories of learning are most applicable for developmental education or if it is possible through existing literature to develop a theoretical model (Duranczyk & Higbee, 2006; Haithcock, Weinstein, Boylan & Saxon, 2010). Casazza and Silverman (1996) emphasized the need for group dialogue with college administrators to illuminate, challenge and discuss theoretical perspectives to bring about change. Lacking reflective discourse, Chung (2005) concludes that many of the practitioners in developmental education are largely uninformed of any prevailing approach to theory and struggle to even articulate a common set of theoretical assumptions.

Chung (2005) and Tong (2008) extended the notion that developmental education programs will continue to be vulnerable as long as there is no firm, emerging theoretical framework for developmental education that is the result of a process of consensus building. Apel (2001) noted the inherent problems and challenges associated with a lack of a unifying theory for consensus. Propositions, he contends, reached by ultimate consensus today, even under ideal conditions, creates challenges against attempts in the future. However, there is support through the professional literature for systematic, informed decision making reached through the slow deliberate inquiry of practitioners when supported by research (Tong, 2008). To address this issue, the framework of this study is a combination of two theoretical models, Kotter's Change Model and the TRPP model. The TRPP framework guides the literature review sections on the four components of the TRPP model: theory, research, principles and best practices.

Kotter's Change Model

What separates successful transformation of a program like developmental education is the ability of school leaders to implement change from vision to reality through the least amount of failure (Hinckley, 2009). John P. Kotter's Change Model (1995) provides eight steps beneficial to lead change effectively while avoiding some common errors.

- (1) Not establishing a great enough sense of urgency;
- (2) Not creating a powerful enough guiding coalition;
- (3) Lacking a vision;
- (4) Undercommunicating the vision;
- (5) Not removing obstacles to a new vision;

- (6) Not systematically planning for and creating short-term wins;
- (7) Declaring victory too soon; and
- (8) Not anchoring changes in the organization's culture (pp. 59-67).

Research on organizational change theory confirms the importance of leaders' ability to address each of these common errors (Cech, 2010). The Kotter Change Model provides a foundation for thought, discussion and planning when change is inevitable (Kotter, 1995).

TRPP Model: Theory, Research, Principles and Practice

One theoretical framework which holds promise for unifying developmental administrators is Casazza and Silverman's TRPP Model (1996). The model refers to the integration of the four components of theory, research, principles and practice. This framework was constructed to integrate sound principles of theory and research to maximize desired outcomes and address the challenge for program improvement due to a lack of a unifying theory in the field of developmental education (1996). To guide effective change, the TRPP model serves to determine how theoretical knowledge can be applied in to practice (Owens, 2004). Without this unifying theory, a deficiency creates challenges for informed decision making and action through practice (Hudson, Duke, Haas & Varnell, 2008).

TRPP stresses the importance of building consensus of effective practices and policies to foreshadow the need for change and critical reflection in developmental education which is well-grounded in practice (Casazza & Silverman, 1996). Drawing from the theoretical perspective posited by Casazza and Silverman (1996), the TRPP model enables educators to clearly examine the best of the existing basic theoretical principles to identify best practices for change that is critical for the success of

developmental education. The authors stress the importance of building consensus of research-based effective practices to foreshadow the need for change and critical reflection in developmental education that is well-grounded in practice (Casazza & Silverman, 1996). The TRPP model was constructed to integrate principles of theory and research with policies, principles and practices to maximize program effectiveness.

Research Findings

Within the past 5 years, there has been an increase in doctoral research in developmental education in part due to the emphasis on institutional accountability (White & Harrison, 2007). Several studies identified by White and Harrison (2007) in their review of research in developmental education, Part I and Part II, address policy analysis and program organization. Many of these areas remain largely unexplored (Saxon & Boylan, 2003; White & Harrison, 2007).

Morest and Bailey (2005) identified the genesis of the problem with lack of institutional research in our nation's community colleges that makes it difficult to measure what programs and policies are effective in program improvement. They describe the effort to implement program improvement as a handicap because of the lack of information needed to devise comprehensive solutions due to the poorly funded institutional-research functions at our community colleges. They warn that focused research is not the norm and resources are limited. Other barriers identified by Morest and Bailey (2005) that impede focused research include an inability to conduct longitudinal studies and the lack of commitment of resources and leadership. Boylan (2008) also observed the dilemma that much of this research somehow fails to get translated into practice.

In the first effort ever to bring researchers and practitioners together to identify a research agenda for future studies in developmental education, Boylan, Saxon, Bonham, and Parks (1993) identified fifty ideas that needed to be studied for program improvement. Developmental education faculty issues were, by far, the most cited category. According to Boylan, Saxon, Bonham and Parks (1993) the participants in this focus group agreed that further research should address the need to identify the standards that are critical for effectively teaching developmental courses. Identification of best teaching practices was ranked second by the group. Despite a substantial amount of professional literature, the third concern addressed the assessment and placement of developmental students. Concerns with updated information about the affective factors that contribute to learning and student characteristics of the developmental learners was believed to be beneficial, in addition to, new studies to determine the impact of program organization on developmental education student success particularly with minority, learning disabled students and underprepared student populations. Rounding out the top ten issues for further study were policy analysis of professional standards for developmental educators.

Current research points to the advantages of centralized developmental education programs that are designed to ensure that the delivery and evaluation of the programs meet the criteria for effectiveness (Greene, 2008). Decentralized programs with a high degree of coordination, preferably a campus administrator charged with the responsibility of coordinating all developmental courses critical to the institutional mission, can produce comparable outcomes to centralized programs if based on best practices (Boylan,

2002; Clark-Thayer & Cole, 2009) and well-managed thorough clearly defined explicit mission, goals and outcomes (Boylan, 2002; McCabe, 2003).

Policies, programs and interventions in education have been described as fertile ground for future research (Boylan, Saxon, Bonham & Parks, 1993). Lauer (2003) suggests that the effectiveness of identification and implementation of policies depend on the convergence of a number of factors that may not be replicated. Weissman, Silk and Bulakowski (1997) agree that colleges have a responsibility to implement policies that are not only designed to ensure the effectiveness of each course but also evaluate the effectiveness of current policy for informed decision making and program improvement.

The literature abounds with studies on developmental education programs, yet scant research exists on the effectiveness of policy issues and the best ways to identify data-driven, critical administrative policies to serve as a guide for program development, planning and improvement of developmental education in community colleges (Lumina Foundation for Education, 2008; Weissman, Silk & Bulakowski, 1997). With regard to research, studies in developmental education have been described by Saxon and Boylan (2010) as mostly institutional studies, a few large scale studies without control groups; literature reviews; foundation research reports; meta-analyses; and case studies, ethnographic and other types of qualitative studies.” (p. 36).

According to Brothen and Wambach (2004), critics from both inside and outside the field question why educational institutions are not responding to the challenges. Although a proliferation of institutional studies exists on the effectiveness of developmental education programs, there has been little rigorous research on the policies and procedures that govern these programs (Zachry & Schneider, 2010). At the 1992

First National Conference of Research in Developmental Education, it was determined that further research was critically needed on policy issues in developmental education (Boylan et al., 1993). Weissman, Bulakowski and Jumisko (1997) reiterated that decision making about the effectiveness of developmental education programs and the policies governing the programs should be grounded in research. The authors concurred that "...the policies governing the program must be designed to ensure that the program is appropriate for the students and the college environment." (Weissman, Silk & Bulakowski, 1997, p. 188). McCabe (2003) argued that college presidents must push all stakeholders to influence policy demanding acceptable and appropriate standards to indicate effectiveness.

Principles

Wacek (2003), Muller (2003) and Geller (2004) reported problems when institutions did not adhere to mandatory requirements of assessment and placement, transferability of developmental credits, routine program evaluation and faculty/staff professional development. Certain underlying principles provide the foundational concepts for improvement of developmental educational programs. A study by Brothen and Wambach (2004) reexamined seven critical concepts or principles about developmental education. The seven recommendations include:

- (1). Continue and refine literary skill development courses;
- (2). Vary course placement requirements based on student goals and program of study;
- (3). Develop a range of placement testing procedures;
- (4). Integrate alternative teaching and learning approaches;

- (5). Use theory to inform practice;
- (6). Integrate underprepared students into mainstream curriculum; and
- (7). Adjust program delivery according to institutional type.

More recently, current research has focused primarily on what developmental educators or practitioners should do to become more effective developmental teachers. Smittle's (2003) guide for practitioners serves as a focus for improving the institutional effectiveness of developmental education programs. The six principles outlined in this guide include: commitment by educators to the task of teaching developmental educators, demonstrating proficiency in the subject matter, considering the noncognitive factors, providing appropriate learning environments, holding students to high standards, and evaluating and developing both developmental programs and personal careers (Smittle, 2003).

Best Practices

A set of self-governing standards that establish a degree of excellence is collectively referred to as best practices (Clark-Thayer & Cole, 2009). According to McCabe (2003), best practices are guideposts for continuous program improvement (p. 139). It was recommended that a national guide be instituted to assist community colleges in developing appropriate and effective developmental programs (McCabe, 2003). Studies were commissioned by the Continuous Quality Improvement Network (CQIN), the American Association of Community Colleges and the League for Innovation in the Community Colleges to identify our nation's best developmental programs and study common characteristics referred to as "best practices" (Boylan, 2002; McCabe, 2003; Roueche & Roueche, 1999). As a result of these studies, institutions with effective

developmental programs have been identified based on the following criteria: (a) developmental education program strategy; (b) instructional functions for developmental education; (c) learner support functions; and (d) evaluation methods and outcomes (Boylan, 2002, p. 4). In one of the earliest, benchmarking studies of developmental education, Donovan (1974) reported that establishing guidelines is essential for effectiveness. Guidelines are needed to determine the required program components and best practices that policy makers, administrators and practitioners agree are essential for effective developmental programs.

Ely's (2001) case study identified seven major themes that have contributed to the highly acclaimed developmental education program at the Community College of Denver. The seven themes identified are: (1) a centralized focus, (2) institutional philosophy and attitudes toward developmental education, (3) institutional support and commitment, (4) faculty, (5) quality assessment and advising, (6) program format, and (7) valuing diversity.

Recent studies by the Lumina Foundation (Education Commission of the States, 2010) have identified successful developmental programs and the common characteristics that they share. In general, these findings generated many suggestions for developmental practitioners to incorporate in program improvement on their own campuses. Lacking in this research is an industry standard for evaluating developmental education programs for effectiveness (Boylan & Bonham, 2011). According to Boylan and Bonham, it has been nearly impossible to draw any conclusions about the effectiveness of these programs without established criteria for evaluation. One limitation of the literature has been the lack of input from administrators responsible for the coordination of successful

developmental programs in response to external forces (Greene, 2008). Consequently, without this consensus of critical policies and practices for the successful implementation of developmental education, the majority of developmental programs are at risk of systemic failure. Preliminary evidence suggests that despite limited data about the outcomes of developmental education, there are some effective developmental education programs that all agree have elements of strong programs (Boylan, 2002, pp. 107 – 109; Greene, 2008; McCabe, 2003; Roueche & Roueche, 1999). These common components have been summarized and compared in Table 1.

Table 1**Comparison of Best Practices for Developmental Education Programs**

	Boylan	McCabe	Roueche & Roueche
Organization & Administration			
Centralized	X	X	
Highly coordinated	X	X	
Well-managed expectations	X		
Collaboration with other campus units	X	X	X
Innovative curriculum	X	X	X
Clearly defined mission, goals and objectives	X	X	X
Institutional priority and support	X	X	X
Comprehensive support services	X	X	X
Grant funding	X		
Integration with campus outreach services	X	X	X
Program Components			
Mandatory assessment	X	X	X
Mandatory placement	X	X	X
Systematic plan of evaluation of courses & services	X	X	X
Formative evaluation to refine and improve	X	X	
Support for professional development	X	X	
Tutoring services in all basic skills	X	X	X
Mandatory training for tutors	X	X	
Involvement in professional activities	X	X	
Adjunct faculty treatment as resource	X	X	
Monitor and track student cohort performance	X	X	
Written philosophy statement	X		
Well-integrated labs	X		
Committed, qualified faculty and staff	X	X	X

Limit selection of academic courses taken with developmental courses	X	X
Expanded pre-enrollment activities including required orientation	X	X
Collegewide attendance policies		X
Limited course schedules for working students		X
Comprehensive financial aid programs		X

Sources: Boylan, 2002, pp. 107 – 109; Greene, 2008; McCabe, 2003; Roueche & Roueche, 1999

Role of Program Directors and College Presidents

Boylan (2002) first called for a better understanding of the role of administrators in developmental education programs. Accordingly, one limitation for program improvement has been the lack of input from institutional leaders in the field of developmental studies to accept that change is needed. To understand how to implement the four components of the TRPP Model - theory, research, practices and principles - for program improvement, it is helpful to understand the important role of developmental education administrators to make critical policy and practical decisions that affect the implementation of quality developmental educational programs (Boylan, 2002). There is little disagreement in over 30 years of research that the effectiveness of developmental education programs is compromised when there is a lack of strong leadership and institutional support, coordination, integration and collaboration (Greene, 2008). Roueche and Roueche (1999) assert that an institutionwide commitment is a critical factor in the success of developmental programs. McCabe (2003) asserts that successful programs must begin with strong administrative support that “reaches all the way to the president’s office” (p.174).

For developmental programs to be successful, the entire institutional community needs to support the mission and goals (Greene, 2008). McCabe (2003) continues to emphasize that this is an institutional, not a program responsibility, that needs to be coordinated as part of institutional planning. How well our colleges’ leaders are preparing students for college success through developmental education is a matter of considerable debate. In response to public concerns, a group of community college presidents in 1991 founded the Continuous Quality Improvement Network to sponsor a major national study

of developmental education (Boylan, 2002). This national benchmarking study was commissioned to identify and document best practices defined as general guidelines and practical suggestions for designing the best possible components of an effective developmental education program (Boylan, 2002). Both the CQIN study and the National Study of Community College Remedial Education (McCabe, 2003) were based on the actions, services and concepts that selective, effective programs have in common. The study concluded that there is more than twenty-five years of research that suggests that effective developmental programs share common best practices for practitioners (Boylan, 1999). However, these studies have not cited “many organizational, administrative, service and instructional delivery innovations in developmental education” (Boylan, 2002, p. 6).

There are several additional reasons for studying leadership of developmental education. In general, there is a need to better understand the role of administrators in effective developmental education programs (Boylan, 2002). First, administrators are responsible for justifying the costs of developmental education with measures of institutional productivity or “risk losing federal funding.” (Roueche & Roueche, 1999, p. 45). Second, developmental education programs have been ineffective when they are uncoordinated, nonsystematic units apart from the institutional planning efforts (Boylan, 2002). Furthermore, despite decades of research recommending centralization as the most successful organizational approach for effective developmental programs, more than half of community colleges continue to offer developmental programs through a decentralization model of delivery (Boylan, 2002; Clark-Thayer & Cole, 2009).

Administrators need to consider the general characteristics of developmental students as a priority when planning for effective developmental programs. Hill (2004) found that affective traits are more reliable predictors of developmental student college success and performance than cognitive characteristics. Results of this study supported the hypothesis that past academic performance was less predictive for developmental students than nondevelopmental students. Furthermore, the findings concluded that the combination of affective and cognitive variables predict successful developmental students more reliably than cognitive variables alone. Hill concluded that developmental students commonly hold the belief that their underpreparedness is due more to a lack of effort and motivation than to deficiencies in skill or ability (2004).

Summary

Despite the recent research agenda by the National Association of Developmental Education in the past 5 years, there have been few studies that have addressed the role of community college administrators in program improvement of developmental education (Education of the States, 2010). New questions remain about what institutional policies and best practices are urgently needed for program improvement in developmental education. A review of the research literature suggests the need to identify the critical, effective policies for the successful coordination of developmental studies in U.S. community colleges (Boylan, 2002; Chung, 2005; McCabe, 2003; Roueche & Roueche, 1999; Weissman, Bulakowski & Jumisko, 1997). A consensus of developmental administrators and college presidents is essential for an effective, systemic approach to developmental education currently lacking or mostly ignored despite the increased demand and potential for success (Casazza & Silverman, 1996; Chung, 2005). A better

understanding of the role of administrators in developmental education programs needs to be studied (Boylan, 2002; 2008). This study has been designed to investigate what developmental education administrators and college presidents concur to be the most critical institutional policies and best practices to improve developmental education programs in community colleges for prioritization, planning and budgeting.

CHAPTER THREE: RESEARCH METHODS AND PROCEDURES

The purpose of this study was to ascertain the institutional policies and practices deemed essential by community college administrators for the improvement of developmental education programs. Whereas previous research has identified best practices from the lens of developmental education practitioners (Boylan, 2002; Greene, 2008; McCabe, 2003), this study was the first to rate the perceptions of developmental education program directors and college presidents for the purpose of identification of critical institutional policies and practices. Because of the important governing role that community college administrators hold in the field of developmental education, their feedback is considered essential to identify priorities and implement policies to improve programs.

Research Questions

The following central research questions were answered in this study:

1. What is the relative importance of each of the 9 identified descriptors for the category of organization and administration on the effectiveness of the developmental education program as rated by community college administrators and presidents?
2. What is the relative importance of each of the 12 identified descriptors for the category of program components on the effectiveness of the developmental education program as rated by community college administrators and presidents?
3. What is the relative importance of each of the 12 identified descriptors for the category of instructional practices on the effectiveness of the developmental education program as rated by college administrators and presidents?

4. Is there a significant difference between the ratings assigned by college presidents compared with those assigned by developmental education administrators in the identification of effective institutional policies and best practices?
5. Is there a significant difference between the perceived importance of the three components as measured by the grand mean of the descriptor means in each component group?
6. Is the relative importance of the three components related to the title (group) of the participants doing the rating?

Methods

Research Design

This non-experimental, comparative research study has been designed to rate the importance of identified key descriptors in three critical components of an effective developmental education program through the administration of a survey. According to Groves et al. (2009), surveys are effective instruments for gathering information for the purposes of constructing quantitative descriptors or statistics of the larger population of which the entities are members. The authors stated that “surveys gain their inferential power from the ability to measure groups of persons that form a microcosm of large populations” (p.33).

In the selection and administration of this survey, two inferential steps guided the research design to minimize statistical error and maximize the credibility of survey results. Groves et al. suggested the following conditions be met to address concerns of survey error.

- (1) Answers people give must accurately describe characteristics of the respondents.
- (2) The subset of persons participating in the survey must have characteristics similar to those of a larger population (2009, p. 40).

Three additional components of survey research, credibility, relevance and timeliness, need to be addressed according to Groves et al. (2009, p. 63).

- (1) “Fitness of use” to guide the decision to modify, with author’s approval, the survey instrument and rating scales to strengthen the credibility of the study.
- (2) Modifications as needed to address the notion of relevance to minimize the gap between the construct measured by the original survey and that needed for this study.
- (3) Timeliness of the survey adds fitness and value to the study.

The survey was administered online through *Survey Monkey*, but participants had the option of requesting a paper survey. Participants were asked to complete a brief demographic section before taking the survey. The amount of time needed to complete the survey was estimated to be no more than 30 minutes. Because the survey instrument used had not been standardized, a pilot study was conducted with West Virginia developmental education instructors representing each of the 10 community and technical colleges identified through the state chapter of the National Association of Developmental Educators (NADE). The pilot test’s purpose was twofold. First, the pilot was designed to improve the internal validity of the questionnaire (Van Teijlingen & Hundley, 2001). Second, the pilot was designed to identify any deficiencies in the study that might negatively affect reliability (McMillan & Wergin, 2002). According to

Lancaster, Dodd and Williamson (2004), “A well-conducted pilot study, giving a clear list of aims and objectives within a formal framework will encourage methodological rigor, ensure that the work is scientifically valid and publishable, and will lead to high quality research.” (p.1). However, Van Teijlingen and Hundley (2001) cautioned against the common problem of inclusion of pilot participants in the main study. Accordingly, the participants in this pilot study were not part of the population of this study. The data collected from this pilot study should yield ratings to identify baseline data on the instructors’ perceptions of what critical institutional policies and best practices should be implemented to improve the effectiveness of developmental education.

The three major components of the survey are Organization and Administration, Program Components and Instructional Practice. Designed to harness consensus of opinions by developmental education administrators and college presidents, the 33 item survey allowed participants to rate the importance of each identified essential practice through a 4 point Likert Scale. The instrument used was the survey designed by Hunter R. Boylan for *What Works: Research-Based Best Practices in Developmental Education* (Boylan, 2002, 107 – 110). The inventory found in Boylan’s book (2002) had been modified with author’s approval to match the educational purpose and target population of community college developmental education administrators and community college presidents selected for this study.

According to Trochim (2006), “Numbers in and of themselves can’t be interpreted without understanding the assumptions which underlie them” (p.3). For this study, each score on the rating scale has been described in detail below.

- A rating of “4” (very essential) means that the descriptor item needs immediate attention. Items selected with a rating 4 are the first priority for developmental education administrators to consider in program improvement. Item descriptors with a rating of “4” should be treated with a sense of urgency.
- A rating of “3” (essential) means that the descriptor item is favorable for success in effective programs. The developmental education administrators should try to implement each descriptor item as soon as possible.
- A rating of “2” (somewhat essential) means that each descriptor item should be considered for feasibility by the college administrators. The developmental education administrator should evaluate the need for each descriptor item in long and short range planning and budgeting before implementation.
- A rating of “1” (not essential) means that each descriptor item may not need to be implemented. The developmental education administrator should self-evaluate the developmental education program to see if the descriptor item is even needed for program effectiveness.

Population and Sample

The target population of this study consisted of the entire population or nonrandom sample of two groups of community college administrators. The first group was identified as developmental education administrators and the second group was identified as presidents of their respective colleges in West Virginia and the defined

Metro West Virginia areas. The demographic population was restricted to 10 community and technical colleges in West Virginia and 12 community colleges in the Metro area of the border states of Kentucky, Maryland, Ohio, Pennsylvania and Virginia. Metro colleges have been defined as the counties who border West Virginia and those who border another county that is adjacent to the State of West Virginia that may or may not charge reduced tuition rates to out of state students.

Participants were selected using a nonprobability sampling method type called purposive sampling of the population. Purposive sampling, to reach the targeted population of community college administrators, was used to serve a very specific need or purpose (Trochim, 2006). Trochim suggested that purposive sampling can be very useful when a researcher needs to reach a targeted population. The sample for this study was comprised of voluntary participants from the target population of colleges represented from the West Virginia community and technical college system and the community and technical colleges from the defined Metro West Virginia area. Each participant was given a pre-survey brief questionnaire which solicits basic heterogeneous demographic data about job titles, years of experience in higher education administration and a self-rating of interest and knowledge in the field of developmental education.

Data Analysis

Participants were asked to rate each of the 33 descriptor items according to their own perceptions using the Likert Rating Scale (1= not essential; 2= somewhat essential; 3=essential; 4= very essential).

1. Means were calculated for each descriptor within categories and the means were used to rank the descriptors within categories.

2. Differences between pairs of means (within categories) were tested for significance.
3. Separate means for each descriptor were calculated for Group 1 (College Presidents) and Group 2 (Developmental Education Administrators). A comparison of means between Group 1 and Group 2 and between the three primary components of the survey instrument labeled (1) Organization and Administration, (2) Program Components and (3) Instructional Practices were made using a 2 factor ANOVA.
4. The 2 factor ANOVA contained 6 variable cells. The 2 factors compared were the job position of the participant and the primary components of our survey.
5. A comparison of ratings between the developmental education administrators and college presidents were analyzed using a one-way ANOVA to determine if there was a significant difference between the two groups of community college administrators. A two-way ANOVA, Tukey HSD Test, determined if there were significant differences between the rows (job titles) and columns (components) in addition to determining if the variables interacted.

An ANOVA tests each treatment factor within group means while controlling for all others. ANOVA was more suitable than multiple t-tests because this study tested for more than two groups or sets of data to compare the mean scores. There was less risk of committing at least one type I error in an analysis by performing a one-way ANOVA instead of multiple comparisons using t-tests (Pallant, 2007; Salkind, N. J., 2001; StatSoft, 2011; Stockburger, 1996).

After the data had been analyzed using software named Statistical Package for the Social Sciences (SPSS), the comparison of means were used to determine if the size of the effect showed a relevant significant difference between the 33 item descriptors to determine rank. VassarStats, website for statistical computations, was used to compare means between categories. According to *A Policymaker's Primer on Education Research* (2004), researchers frequently calculate and report measures of practical or relevant significance to justify decisions that are practically important or useful in real life. Since this study had a sample of a smaller size, some differences would not be enough to be statistically significant but have relevant significance in identifying essential policies and practices for effective developmental education programs.

An overall ranking of the means of the 33 descriptors was prepared and the following tables tabulated.

1. Within Category means for all descriptors;
2. Between Groups/Within Groups means for all category descriptors;
3. Within Group/Category means for each of the 6 cells;
4. Overall ranking of the means of the 33 descriptors; and
5. Critical values for the HSD (absolute difference between row means and column means) to see if the variables interact.

After the data were analyzed, a rank order list was used to determine the most critical policies and practices in developmental education using a rating of relative importance for the item descriptors. The purpose of the resulting data was to explore the central research questions of this study that have been designed to investigate what developmental education administrators and college presidents concur to be the most

critical institutional policies and best practices to improve developmental education programs in community colleges.

CHAPTER FOUR: RESEARCH FINDINGS

Chapter Four of this non-experimental, comparative research study of institutional policies and practices critical for effective leadership in developmental education programs presents the data collected and research findings. The survey instrument (See Appendix C) was first administered in the pilot study to determine if the survey met the requirements for internal validity of the questionnaire and to determine if the survey design had any deficiencies that might negatively affect reliability (McMillan & Wergin, 2002). The data collected from this pilot study yielded ratings to identify baseline data on developmental education instructors' perceptions of what critical institutional policies and best practices should be implemented to improve the effectiveness of developmental education programs. After the pilot study was conducted, the same survey instrument was administered to the population of twenty-two community college presidents and twenty-two developmental education administrators in the West Virginia and Metro West Virginia public community college sample. The results identify which institutional policies and practices were rated most critical for effective developmental education organization and governance by community college presidents and developmental education administrators.

Pilot Study

The pilot study used a nonprobability sampling method type called purposive sampling. The population of the pilot study included twenty-nine voluntary developmental education instructors in West Virginia. Demographic data determined that 85.7% of participants taught at least nine credit hours each semester with their primary classification listed as instructor or professor. According to the self-ratings, 71.4% of

participants were very interested in the field of developmental education while 92.9% of participants rated their knowledge in the field of developmental education as knowledgeable or very knowledgeable. Likewise, 71.4% of participants responded that they had attended training in developmental education within the past three years.

Participants

The participants in the pilot study, developmental education instructors, were not included with the administrators in the main study to contrast their ratings. The survey was administered online through Survey Monkey and analyzed using software for the Statistical Package for the Social Sciences (SPSS) and VassarStats, website for statistical computations. After the surveys were sent to the target population, nonrespondents were sent a second or third email invitation to participate in the survey. There was a 45% participation rate in the pilot study with thirteen participants. Participants rated the thirty-three descriptor items according to their own perceptions using the Likert Scale (1= not essential; 2= somewhat essential; 3=essential; 4= very essential). Detailed descriptions for the values for the Likert scale were defined as follows:

- A rating of “4” (very essential) means that the descriptor item needs immediate attention. Items selected with a rating “4” are the first priority for developmental education administrators to consider in program improvement. Item descriptors with a rating of “4” should be treated with a sense of urgency.
- A rating of “3” (essential) means that the descriptor item is favorable for success in effective programs. The developmental education

administrators should try to implement each descriptor item as soon as possible.

- A rating of “2” (somewhat essential) means that the descriptor item should be considered for feasibility. The developmental education administrator should evaluate the need for each descriptor item in long and short range planning and budgeting before implementation.
- A rating of “1” (not essential) means that the descriptor item may not need to be implemented. The developmental education administrator should self-evaluate the developmental education program to see if the descriptor item is even needed for program effectiveness.

Pilot Study Findings

Means were calculated for each descriptor within categories (See Tables 2, 3, 4) and the means were used to determine the rank order of each item in the following: Organization and Administration, Program Components and Instructional Practices. For this study, the terms “category” and “component” are used interchangeably. To compare the relative importance of the three categories, the VassarStats website for statistics computation was used to perform a one-way ANOVA as presented in Table 5. There was no significant difference at the 0.05 level for the three components of the survey tested in the pilot study.

To determine the critical items for each component of this survey, a rating of 4 (very essential) means “needs to be implemented immediately” and a rating of 3 (essential) means “needs to be implemented as soon as possible”. Based on this criterion, the items with a rating equal to or greater than 3.5 are named “critical items.”

For Component 1: Organization and Administration, the four critical items include the following:

- 1) *The institution should provide comprehensive services in support of developmental education.* (Q7, mean 3.77).
- 2) *Developmental education should be an institutional priority.* (Q6, mean: 3.69) tied with
- 3) *A highly coordinated developmental education program is needed.* (Q2, mean: 3.69).
- 4) *Developmental education programs need a clearly defined statement of mission, goals and objectives.* (Q5, mean: 3.54).

For Component 2: Program Components, the four critical items include the following:

- 1) *Assessment should be mandatory for all entering students.* (Q10, mean: 3.77).
- 2) *Tutoring should be provided to developmental students in all basic skills subjects.* (Q15, mean: 3.69).
- 3) *Professional development for developmental educators needs to be consistently supported.* (Q14, mean: 3.62).
- 4) *Placement in courses should be mandatory based on assessment.* (Q11, mean: 3.54).

For Component 3: Instructional Practices, the three critical items include the following:

- 1) *Frequent feedback should be provided on a regular basis in developmental education.* (Q26, mean: 3.77).
- 2) *A wide variety of different instructional methods should be used in developmental education courses.* (Q23, mean: 3.62) tied with

- 3) *Systematic efforts should be made to link the content of developmental education courses to the rest of the curriculum (Q28, mean: 3.62).*

As a result of the pilot study, no significant changes were made to the survey instrument.

Based on the data collected from the pilot study, the method of dissemination of the survey through Survey Monkey was determined to be effective. However, a paper survey alternative was found to be an effective alternative to improve the return rate of nonrespondents.

Table 2
Results from the Pilot Study of WV Metro Area Developmental Education
Instructors

Descriptive Statistics for Component 1: Organization and Administration

	N	Minimum	Maximum	Mean	Std. Deviation
1. Developmental education needs a centralized developmental education program.	13	1.00	4.00	3.1538	.89872
2. A highly coordinated developmental education program is needed.	13	2.00	4.00	3.5385	.66023
3. Expectations for developmental education should be well-managed.	13	3.00	4.00	3.4615	.51887
4. Collaboration is needed between developmental education and other campus units.	13	2.00	4.00	3.4615	.77625
5. Developmental education programs need a clearly defined statement of mission, goals and objectives.	13	3.00	4.00	3.5385	.51887
6. Developmental education should be an institutional priority.	13	3.00	4.00	3.6923	.48038
7. The institution should provide comprehensive services in support of developmental education.	13	3.00	4.00	3.7692	.43853
8. Grant funds are needed to support innovation in developmental education.	13	2.00	4.00	3.3077	.63043
9. Developmental education should be integrated with campus outreach services.	13	1.00	4.00	2.9231	1.03775
Valid N (listwise)	13			Grand Mean 3.4273	

Table 3
Results from the WV Metro Area Pilot Study of Developmental Education
Instructors

Descriptive Statistics for Component 2: Program Components

	N	Minimum	Maximum	Mean	Std. Deviation
10. Assessment should be mandatory for all entering students.	13	3.00	4.00	3.7692	.43853
11. Placement in courses should be mandatory based on assessment.	13	2.00	4.00	3.5385	.66023
12. A systematic plan needs to be in place for the evaluation of developmental education courses and services.	13	1.00	4.00	3.2308	.83205
13. Formative evaluation should be used by developmental educators to refine and improve courses and services.	13	1.00	4.00	2.9231	.86232
14. Professional development for developmental educators needs to be consistently supported.	13	3.00	4.00	3.6154	.50637
15. Tutoring should be provided to developmental students in all basic skills subjects.	13	2.00	4.00	3.6923	.63043
16. Tutors working with developmental students should be required to participate in training activities.	13	2.00	4.00	3.3846	.65044
17. Developmental educators need to be regularly involved in their professional associations.	13	2.00	4.00	3.0769	.49355
18. Adjunct faculty should be treated as an important resource for developmental education.	13	1.00	4.00	3.3077	.85485
19. Student performance should be systematically monitored by faculty and advisors.	13	2.00	4.00	3.4615	.66023
20. A written philosophy statement should guide the provision of developmental education.	13	1.00	4.00	2.6923	.94733
21. Classrooms and laboratories should be well integrated.	13	3.00	4.00	3.4615	.51887
Valid N (listwise)	13			Grand Mean 3.3462	

Table 4

Results from the Pilot Study of Developmental Education Instructors

Descriptive Statistics for Component 3: Instructional Practices

	N	Minimum	Maximum	Mean	Std. Deviation
22. Learning communities should be provided for developmental students.	13	1.00	4.00	2.5385	.87706
23. A wide variety of different instructional methods should be used in developmental courses.	13	2.00	4.00	3.6154	.65044
24. Students should be tested at least 10 times a semester in developmental courses.	13	1.00	4.00	1.9231	.95407
25. Technology should be used primarily as a supplement for instruction in developmental courses.	13	1.00	4.00	2.9231	1.11516
26. Frequent feedback should be provided on a regular basis in developmental courses.	13	3.00	4.00	3.7692	.43853
27. Mastery learning should be a common characteristic of developmental courses.	13	2.00	4.00	3.3846	.65044
28. Systematic efforts should be made to link the content of developmental courses to the rest of the curriculum.	13	2.00	4.00	3.6154	.65044
29. Instructional strategies should be regularly shared among developmental instructors in some systematic way.	13	2.00	4.00	3.1538	.80064
30. Critical thinking should be taught in all developmental courses.	13	2.00	4.00	3.2308	.83205
31. Learning strategies should be embedded in developmental courses or taught as a separate course.	13	2.00	4.00	3.0769	.86232
32. All developmental instructors should regularly use active learning techniques in their courses.	13	2.00	4.00	3.3077	.85485
33. All developmental instructors should regularly utilize Classroom Assessment Techniques in their courses.	13	2.00	4.00	3.1538	.68874
Valid N (listwise)	13			Grand Mean 3.1410	

Table 5

Results from the Pilot Study of Developmental Education Instructors

Descriptive Statistics for One-Way ANOVA for 3 Independent Samples

Sample 1	Sample 2	Sample 3
3.1538	3.7692	2.5385
3.5385	3.5385	3.6154
3.4615	3.2308	1.9231
3.4615	2.9231	2.9231
3.5385	3.6154	3.7692
3.6923	3.6923	3.3846
3.7692	3.3846	3.6154
3.3077	3.0769	3.1538
2.9231	3.3077	3.2308
	3.4615	3.0769
	2.6923	3.3077
	3.4615	3.1538

Data Summary

	Samples				ANOVA Summary					
	1	2	3	Total	Source	SS	df	MS	F	P
N	9	12	12	33	Treatment [between groups]	0.4735	2	0.2367	1.57	0.224663
$\sum X$	30.8461	40.1538	37.6923	108.6922	Error	4.5258	30	0.1509		
Mean	3.4273	3.3462	3.141	3.2937	Total	4.9993	32			
$\sum X^2$	106.2777	135.4908	121.2306	362.9991						
Variance	0.0697	0.1027	0.258	0.1562						
Std.Dev.	0.264	0.3205	0.5079	0.3953						
Std.Err.	0.088	0.0925	0.1466	0.0688						

Data Analysis and Results

Research Study

Population and Sample

The target population of this study consisted of the entire population of two groups of community college administrators. The first group was identified as developmental education administrators and the second group was identified as presidents of their respective colleges in West Virginia and the defined Metro West Virginia areas. The demographic population was restricted to ten community and technical colleges in West Virginia and twelve community colleges in the Metro West Virginia area of the border states of Kentucky, Maryland, Ohio, Pennsylvania and Virginia. Metro West Virginia colleges have been defined as the colleges located in the counties who border West Virginia and those who border another county adjacent to the State of West Virginia that may or may not charge reduced tuition rates to out of state students.

Participants

Participants were selected using a nonprobability sampling method type called purposive sampling of the population. The research study sampled twenty-two community college presidents in West Virginia and the Metro states surrounding West Virginia in addition to twenty-two developmental education administrators in the target community and technical colleges (See Appendix F). To facilitate the highest number of completed surveys, the assessment was developed to administer electronically and anonymously through Survey Monkey. Because of a low initial return rate, a paper

survey was mailed to nonrespondents. Altogether, three email invitations and one paper survey were sent to the nonrespondents.

Data Collection

Of the forty-four surveys, twenty-eight were returned completed or almost completed with only six surveys returned with an item missing for a response rate of 64%. Fourteen of the surveys returned were coded as community college presidents and fourteen surveys were coded as developmental education administrators. After analyzing the demographic data, results from three developmental education administrators were excluded because the participants disclosed that they taught more than six hours of developmental courses per semester and did not meet the delimitations to participate in this study. The results of twenty-five respondents, fourteen community college presidents and eleven developmental education administrators, were included in this study for a participation rate of 57%.

The demographic data for the participants revealed that 44.8% of participants have supervised developmental education programs for less than 5 years; 6.9% have supervised between 5 and 10 years; 20.7% have supervised between 10 and 20 years while 27.6% have supervised more than 20 years. The primary job classification was administration for 89.7% of the respondents. All respondents had at least a master's degree with 62.1% of the respondents holding doctorate degrees. When asked to self-rate their interest in the field of developmental education, 89.7% of participants rated themselves as "very interested" and the remainder selected the rating of "interested". Self-ratings for how knowledgeable the respondents considered themselves in the field of developmental education revealed that 37.9% considered themselves "very

knowledgeable,” 48.3% rated themselves as “knowledgeable” and 13.8% selected the rating “somewhat knowledgeable.” In response to the survey question, “Have you attended any training in the field of developmental education within the past three years?” 65.5% responded “yes” whereas the other 34.5% responded “no.”

A common data problem occurred when six respondents skipped one item each in the survey. Only one descriptor item had more than one missing value. This item, Question number 25 (in Component III), was skipped in two of the surveys. The other four skipped items varied by group and category. The researcher was not able to determine if these items were skipped on purpose or by mistake. Question number 25 stated that:

Technology should be used primarily as a supplement for instruction in developmental courses. (Q25, mean: 2.464).

For random missing data, the “replace with mean” option was used rather than exclusion because of the small sample size. When only a few (<5%) data are missing at random, and the missing data is unrelated to the value of the other variables, then the “replace with mean” option is manageable (Howell, 2009; McDermeit, Funk & Dennis, 1999). By assigning the mean value for the missing completely at random data (MCAR), the results were not distorted and the rest of the data was analyzed.

Procedures

The results of each survey were carefully analyzed using descriptive statistics from the IBM SPSS Statistics 20 software package or the VassarStats website for statistics computation. Each of the respondents was coded using “1” for college presidents and “2” for developmental education administrators. The demographic data

were used to exclude any respondents who did not meet the limitations and delimitations of the study.

Findings

Findings for Question One. *What is the relative importance of each of the 9 identified descriptors for the category of organization and administration on the effectiveness of the developmental education program as rated by community college administrators and presidents?*

Within category means for all descriptors. For Component 1, the category of Organization and Administration, the means ranged from 3.08 to 3.76 and the standard deviations ranged from 0.43589 to 1.03763. Descriptives for each survey item in Component 1 are presented in Table 6.

Table 6
Survey Results of WV Metro Area Community College Presidents' and
Developmental Education Administrator's Ratings

Descriptive Statistics for Component 1: Organization and Administration

	N	Minimum	Maximum	Mean	Std. Deviation
1. Developmental education needs a centralized developmental education program.	25	1.00	4.00	3.0800	1.03763
2. A highly coordinated developmental education program is needed.	25	2.00	4.00	3.6000	.64550
3. Expectations for developmental education should be well-managed.	25	2.00	4.00	3.4800	.77028
4. Collaboration is needed between developmental education and other campus units.	25	3.00	4.00	3.7600	.43589
5. Developmental education programs need a clearly defined statement of mission, goals and objectives.	25	2.00	4.00	3.5432	.64420
6. Developmental education should be an institutional priority.	25	2.00	4.00	3.6800	.62716
7. The institution should provide comprehensive services in support of developmental education.	25	2.00	4.00	3.6800	.55678
8. Grant funds are needed to support innovation in developmental education.	25	2.00	4.00	3.1200	.83267
9. Developmental education should be integrated with campus outreach services.	25	1.00	4.00	3.0800	.95394
Valid N (listwise)	25			Grand Mean 3.4470	

Using the benchmark defined as a mean of 3.5 or higher (with 3=essential and 4=very essential in the Likert Scale), the five critical items that need to be implemented immediately or as soon as possible for this component as evaluated by community college presidents and developmental education administrators according to rank include the following:

1. *Collaboration is needed between developmental education and other campus units.* (Q4, mean: 3.76).
2. *Developmental education should be an institutional priority* (Q6, mean: 3.68) *tied with*
3. *The institution should provide comprehensive services in support of developmental education* (Q7, mean: 3.68).
4. *A highly coordinated developmental education program is needed* ((Q2, mean: 3.60).
5. *Developmental education programs need a clearly defined statement of mission, goals and objectives.* (Q5, mean: 3.54).

Findings for Question Two. What is the relative importance of each of the 12 identified descriptors for the category of program components on the effectiveness of the developmental education program as rated by community college administrators and presidents?

Within category means for all descriptors. For Component 2, the category of Program Components, the means ranged from 2.92 to 3.64 and the standard deviations from 0.57 to 0.91. The descriptives for each survey item in Component 2 are presented in Table 7.

Table 7

**Survey Results of WV Metro Area Community College Presidents and
Developmental Education Administrator's Ratings**

Descriptive Statistics for Component 2: Program Components

	N	Minimum	Maximum	Mean	Std. Deviation
10. Assessment should be mandatory for all entering students.	25	2.00	4.00	3.6000	.64550
11. Placement in courses should be mandatory based on assessment.	25	1.00	4.00	3.4984	.81654
12. A systematic plan needs to be in place for the evaluation of developmental education courses and services.	25	2.00	4.00	3.6400	.56862
13. Formative evaluation should be used by developmental educators to refine and improve courses and services.	25	2.00	4.00	3.5416	.64415
14. Professional development for developmental educators needs to be consistently supported.	25	2.00	4.00	3.5200	.58595
15. Tutoring should be provided to developmental students in all basic skills subjects.	25	2.00	4.00	3.5200	.58595
16. Tutors working with developmental students should be required to participate in training activities.	25	2.00	4.00	3.4400	.71181
17. Developmental educators need to be regularly involved in their professional associations.	25	2.00	4.00	3.0400	.73485
18. Adjunct faculty should be treated as an important resource for developmental education.	25	1.00	4.00	3.4000	.91287
19. Student performance should be systematically monitored by faculty and advisors.	25	2.00	4.00	3.6000	.57735
20. A written philosophy statement should guide the provision of developmental education.	25	2.00	4.00	2.9200	.75939
21. Classrooms and laboratories should be well integrated.	25	2.00	4.00	3.3752	.63328
Valid N (listwise)	25			Grand Mean 3.1313	

Using relative importance as a benchmark defined as a mean of 3.5 or higher (with 3=essential and 4=very essential in the Likert Scale), the six critical items that need to be implemented immediately or as soon as possible for this component as evaluated by community college presidents and developmental education administrators according to rank include the following:

1. *A systematic plan needs to be in place for the evaluation of developmental education courses* (Q12, mean: 3.64).
2. *Assessment should be mandatory for all entering students* (Q10, mean: 3.60) tied with
3. *Student performance should be systematically monitored by faculty and advisors* (Q19, mean: 3.60).
4. *Formative evaluation should be used by developmental educators to refine and improve courses and services* (Q13, mean: 3.54).
5. *Professional development for developmental educators needs to be consistently supported* (Q14, mean: 3.52) tied with
6. *Tutoring should be provided to developmental students in all basic skills subjects* (Q15, mean: 3.52).

Findings for Question Three. *What is the relative importance of each of the 12 identified descriptors for the category of instructional practices on the effectiveness of the developmental education program as rated by college administrators and presidents?*

Within category means for all descriptors. For Component 3, the category of Instructional Practices, the means ranged from 2.04 to 3.60 and the standard deviations from 0.58 to 0.93. The descriptives for each survey item in Component 3 are presented in Table 8.

Table 8**Survey Results of WV Metro Area Community College Presidents' and Developmental Education Administrator's Ratings***Descriptive Statistics for Component 3: Instructional Practices*

	N	Minimum	Maximum	Mean	Std. Deviation
22. Learning communities should be provided for developmental students.	25	1.00	4.00	2.2400	.87939
23. A wide variety of different instructional methods should be used in developmental courses.	25	1.00	4.00	3.4000	.81650
24. Students should be tested at least 10 times a semester in developmental courses.	25	1.00	3.00	2.0400	.73485
25. Technology should be used primarily as a supplement for instruction in developmental courses.	25	1.00	4.00	2.4640	.86549
26. Frequent feedback should be provided on a regular basis in developmental courses.	25	2.00	4.00	3.5600	.58310
27. Mastery learning should be a common characteristic of developmental courses.	25	2.00	4.00	3.2000	.70711
28. Systematic efforts should be made to link the content of developmental courses to the rest of the curriculum.	25	2.00	4.00	3.6000	.57735
29. Instructional strategies should be regularly shared among developmental instructors in some systematic way.	25	2.00	4.00	3.3200	.62716
30. Critical thinking should be taught in all developmental courses.	25	2.00	4.00	3.0400	.67577
31. Learning strategies should be embedded in developmental courses or taught as a separate course.	25	1.00	4.00	3.0400	.93452
32. All developmental instructors should regularly use active learning techniques in their courses.	25	1.00	4.00	3.2000	.81650
33. All developmental instructors should regularly utilize Classroom Assessment Techniques in their courses.	25	2.00	4.00	3.2524	.72179
Valid N (listwise)	25			Grand Mean 3.0297	

Using relative importance as a benchmark defined as a mean of 3.5 or higher (with 3=essential and 4=very essential in the Likert Scale), the two critical items that need to be implemented immediately or as soon as possible for this component as evaluated by community college presidents and developmental education administrators according to rank include the following:

1. *Systematic efforts should be made to link the content of developmental courses to the rest of the curriculum* (Q28, mean: 3.60).
2. *Frequent feedback should be provided on a regular basis in developmental courses* (Q26, mean: 3.56).

Findings for Question Four. *Is there a significant difference between the ratings assigned by college presidents compared with those assigned by developmental education administrators in the identification of effective institutional policies and best practices?*

Between Group means for all category descriptors. The One-Way ANOVA test at the 0.05 level was performed to compare the means of the responses between the groups based on job titles (community college presidents and developmental education administrators) and the three different components (Organization and Administration; Program Components and Instructional Practices) surveyed.

The results for the ANOVA for Component 1 presented in Table 9 revealed that there was evidence at the 0.05 level of significant difference between groups for the first question in the survey (Q1). The first question stated that:

Developmental education needs a centralized developmental education program (Q1, Mean: 3.08; SD: 1.03763; p-value= 0.014).

Table 9

Survey Results of WV Metro Area Community College Presidents' and Developmental Education Administrator's Ratings

Results of One-Way ANOVA Between Group Means for Descriptors in Component 1: Organization and Administration

		Sum of Squares	df	Mean Square	F	Sig.
1. Developmental education needs a centralized developmental education program.	Between Groups	6.080	1	6.080	7.077	.014
	Within Groups	19.760	23	.859		
	Total	25.840	24			
2. A highly coordinated developmental education program is needed.	Between Groups	.935	1	.935	2.372	.137
	Within Groups	9.065	23	.394		
	Total	10.000	24			
3. Expectations for developmental education should be well-managed.	Between Groups	.480	1	.480	.803	.380
	Within Groups	13.760	23	.598		
	Total	14.240	24			
4. Collaboration is needed between developmental education and other campus units.	Between Groups	.066	1	.066	.340	.565
	Within Groups	4.494	23	.195		
	Total	4.560	24			
5. Developmental education programs need a clearly defined statement of mission, goals and objectives.	Between Groups	1.485	1	1.485	4.031	.057
	Within Groups	8.474	23	.368		
	Total	9.960	24			
6. Developmental education should be an institutional priority.	Between Groups	1.031	1	1.031	2.820	.107
	Within Groups	8.409	23	.366		
	Total	9.440	24			
7. The institution should provide comprehensive services in support of developmental education.	Between Groups	.375	1	.375	1.221	.281
	Within Groups	7.065	23	.307		
	Total	7.440	24			
8. Grant funds are needed to support innovation in developmental education.	Between Groups	1.166	1	1.166	1.733	.201
	Within Groups	15.474	23	.673		
	Total	16.640	24			
9. Developmental education should be integrated with campus outreach services.	Between Groups	.204	1	.204	.216	.646
	Within Groups	21.636	23	.941		
	Total	21.840	24			

The results of the ANOVA for Component 2 presented in Table 10 revealed that there was evidence of significant difference at the 0.05 level between groups for three descriptors in this component.

Table 10

Survey Results of WV Metro Area Community College Presidents' and Developmental Education Administrator's Ratings

Results of One-Way ANOVA Between Group Means for Descriptors in Component 2: Program Components

		Sum of Squares	df	Mean Square	F	Sig.
10. Assessment should be mandatory for all entering students.	Between Groups	.318	1	.318	.756	.394
	Within Groups	9.682	23	.421		
	Total	10.000	24			
11. Placement in courses should be mandatory based on assessment.	Between Groups	3.313	1	3.313	6.006	.022
	Within Groups	12.688	23	.552		
	Total	16.002	24			
12. A systematic plan needs to be in place for the evaluation of developmental education courses and services.	Between Groups	.150	1	.150	.452	.508
	Within Groups	7.610	23	.331		
	Total	7.760	24			
13. Formative evaluation should be used by developmental educators to refine and improve courses and services.	Between Groups	.677	1	.677	1.678	.208
	Within Groups	9.281	23	.404		
	Total	9.958	24			
14. Professional development for developmental educators needs to be consistently supported.	Between Groups	.844	1	.844	2.624	.119
	Within Groups	7.396	23	.322		
	Total	8.240	24			
15. Tutoring should be provided to developmental students in all basic skills subjects.	Between Groups	.013	1	.013	.036	.852
	Within Groups	8.227	23	.358		
	Total	8.240	24			
16. Tutors working with developmental students should be required to participate in training activities.	Between Groups	.218	1	.218	.421	.523
	Within Groups	11.942	23	.519		
	Total	12.160	24			
17. Developmental educators need to be regularly involved in their professional associations.	Between Groups	.395	1	.395	.723	.404
	Within Groups	12.565	23	.546		
	Total	12.960	24			
18. Adjunct faculty should be treated as an important resource for developmental education.	Between Groups	5.091	1	5.091	7.854	.010
	Within Groups	14.909	23	.648		
	Total	20.000	24			
19. Student performance should be systematically monitored by faculty and advisors.	Between Groups	.318	1	.318	.953	.339
	Within Groups	7.682	23	.334		
	Total	8.000	24			
20. A written philosophy statement should guide	Between Groups	3.866	1	3.866	8.915	.007
	Within Groups	9.974	23	.434		

the provision of developmental education. 21. Classrooms and laboratories should be well integrated.	Total	13.840	24			
	Between Groups	.569	1	.569	1.446	.241
	Within Groups	9.056	23	.394		
	Total	9.625	24			

The three items with significant differences are the following:

1. *Placement in courses should be mandatory based on assessment* (Q11, mean: 3.08; SD: 1.03763; p= 0.022).
2. *Adjunct faculty should be treated as an important resource for developmental education* (Q18, mean: 3.40; SD: .91287; p= 0.010).
3. *A written philosophy statement should guide the provision of developmental education* (Q20, mean: 2.92; SD: .75939; p= 0.07).

The results of the ANOVA for Component 3 presented in Table 11 revealed that there was no evidence of significant differences at the 0.05 level between groups for the descriptors in this component.

Table 11

Survey Results of WV Metro Area Community College Presidents' and Developmental Education Administrator's Ratings

Results of One-Way ANOVA Between Group Means for Descriptors in Component 3: Instructional Practices

		Sum of Squares	df	Mean Square	F	Sig.
22. Learning communities should be provided for developmental students.	Between Groups	.300	1	.300	.378	.545
	Within Groups	18.260	23	.794		
	Total	18.560	24			
23. A wide variety of different instructional methods should be used in developmental courses.	Between Groups	.058	1	.058	.084	.774
	Within Groups	15.942	23	.693		
	Total	16.000	24			
24. Students should be tested at least 10 times a semester in developmental courses.	Between Groups	.031	1	.031	.056	.815
	Within Groups	12.929	23	.562		
	Total	12.960	24			
25. Technology should be used primarily as a supplement for instruction in developmental courses.	Between Groups	.584	1	.584	.772	.389
	Within Groups	17.394	23	.756		
	Total	17.978	24			
26. Frequent feedback should be provided on a regular basis in developmental courses.	Between Groups	.550	1	.550	1.661	.210
	Within Groups	7.610	23	.331		
	Total	8.160	24			
27. Mastery learning should be a common characteristic of developmental courses.	Between Groups	.104	1	.104	.201	.658
	Within Groups	11.896	23	.517		
	Total	12.000	24			
28. Systematic efforts should be made to link the content of developmental courses to the rest of the curriculum.	Between Groups	.026	1	.026	.075	.787
	Within Groups	7.974	23	.347		
	Total	8.000	24			
29. Instructional strategies should be regularly shared among developmental instructors in some systematic way.	Between Groups	.044	1	.044	.107	.746
	Within Groups	9.396	23	.409		

	Total	9.440	24			
	Between	.051	1	.051	.107	.746
	Groups					
30. Critical thinking should be taught in all	Within	10.909	23	.474		
developmental courses.	Groups					
	Total	10.960	24			
	Between	2.057	1	2.057	2.503	.127
	Groups					
31. Learning strategies should be embedded in	Within	18.903	23	.822		
developmental courses or taught as a separate	Groups					
course.	Total	20.960	24			
	Between	.526	1	.526	.782	.386
	Groups					
32. All developmental instructors should regularly	Within	15.474	23	.673		
use active learning techniques in their courses.	Groups					
	Total	16.000	24			
	Between	.008	1	.008	.015	.904
	Groups					
33. All developmental instructors should regularly	Within	12.495	23	.543		
utilize Classroom Assessment Techniques in their	Groups					
courses.	Total	12.503	24			

Findings for Question Five. *Is there a significant difference between the perceived importance of the three components as measured by the grand mean of the descriptor means in each component group?*

Findings for Question Six. *Is the relative importance of the three components related to the title (group) of the participants doing the rating?*

Between Groups/Within Category Comparison. Questions Five and Six were answered with the Two Way ANOVA summarized in Table 12.

Table 12

Survey Results of WV Metro Area Community College Presidents' and Developmental Education Administrator's Ratings

<i>2x3 Factorial ANOVA for Independent Samples Standard Weighted-Means Analysis</i>			
	Col 1	Col 2	Col 3
Row 1	2.64	3.5	2.1
	3.43	3.18	3.4
	3.36	3.57	2.1
	3.71	3.4	2.3
	3.33	3.36	3.4
	3.5	3.5	3.1
	3.57	3.36	3.6
	2.93	2.93	3.4
	3.00	3.00	3.00
		3.5	2.8
		2.57	3.1
		3.24	3.2
	Row 2	3.64	3.73
3.82		3.91	3.5
3.64		3.73	2
3.82		3.73	2.6
3.82		3.73	3.7
3.91		3.55	3.3
3.82		3.55	3.6
3.36		3.18	3.3
3.182		3.91	3.1
		3.73	3.4
		3.36	3.4
		3.55	3.3

Summary Data				
Within each box: Item 1 = N Item 2 = $\sum X$ Item 3 = Mean Item 4 = $\sum X^2$ Item 5 = Variance Item 6 = Std. Dev. Item 7 = Std. Err.				
	C1	C2	C3	Tot.
R1	9	12	12	33
	29.47	39.11	35.5	104.08
	3.2744	3.2592	2.9583	3.1539
	97.4569	128.4339	108.05000000000001	333.9408
	0.12	0.09	0.28	0.18
	0.35	0.3	0.52	0.42
	0.12	0.09	0.15	0.07
R2	9	12	12	33
	33.012	43.66	37.6	114.272

	3.668 121.57162399999999 0.06 0.25 0.08	3.6383 159.3502 0.05 0.21 0.06	3.1333 120.82000000000001 0.27 0.52 0.15	3.4628 401.7418 0.19 0.43 0.08
Tot.	18 62.482 3.4712 219.0285 0.13 0.35 0.08	24 82.77 3.4488 287.7841 0.1 0.32 0.06	24 73.1 3.0458 228.87 0.27 0.52 0.11	66 218.352 3.3084 735.6826 0.2 0.45 0.06

ANOVA Summary					
Source	SS	df	MS	F	p
Rows (Groups)	1.57	1	1.57	10.53	0.0019
Columns (Components)	2.6	2	1.3	8.72	0.0005
r x c	0.17	2	0.09	0.57	0.5686
Error	8.95	60	0.15		
Total	13.29	65			

Critical Values for the Tukey HSD Test			
	HSD[.05]	HSD[.01]	
Rows [2]	0.19	0.25	The Row Mean difference (3.46-3.15>0.19) confirms the significance of the difference between Groups. The Column Mean differences (3.47-3.045>0.28) and (3.45-3.045>0.28) confirm that the means of Component 1 and Component 2 are significantly higher than the mean of Component 3.
Columns [3]	0.28	0.36	
Cells [6]	0.49	0.59	

ANOVA results show a significant main effect difference between Rows ($p=.0019$) and a significant main effect difference between Columns ($p=.0005$). There was no evidence of significant interaction effect at the 0.05 level.

The results of a comparison of the Grand Means of the three components rated by both community college presidents and developmental education administrators determined that Component 1: Organization and Administration (mean: 3.4470) had the highest ranking for both groups. Fifty percent of the descriptors ranked in the top ten are from Component 1. The Grand Mean for Component 2: Program Components was 3.4246. Thirty percent of the descriptors ranked in the top ten are from Component 2. The Grand Mean for Component 3: Instructional Practices was 3.0297. A comparison of the grand means for Component 3 determined that both groups of administrators rated this category lowest.

The top ten rated critical needs for immediate attention include (See Table 13):

1. Component 1: *Collaboration is needed between developmental education and other campus units* (Q4, mean 3.7600).
2. Component 1: *Developmental education should be an institutional priority* (Q6, mean 3.6800) tied with
3. Component 1: *The institution should provide comprehensive services in support of developmental education* (Q7, mean 3.6800).
4. Component 2: *A systematic plan needs to be in place for the evaluation of developmental education courses and services* (Q12, mean 3.6400).
5. Component 2: *Assessment should be mandatory for all entering students* (Q10, mean 3.6000) tied with
6. Component 2: *Student performance should be systematically monitored by faculty and advisors* (Q19, mean 3.6000) tied with
7. Component 3: *Systematic efforts should be made to link the content of developmental courses to the rest of the curriculum* (Q28, mean 3.6000).

8. Component 3: *Frequent feedback should be provided on a regular basis in developmental courses* (Q26, mean 3.5600).
9. Component 1: *Developmental education programs need a clearly defined statement of mission, goals and objectives* (Q5, mean 3.5432).
10. Component 2: *Formative evaluation should be used by developmental educators to refine and improve courses and services* (Q13, mean 3.5416).

Table 13**Survey Results of WV Metro Area Community College Presidents' and Developmental Education Administrator's Ratings***Overall Ranking of the Means of the 33 Descriptors*

Rank	Q#	Item Descriptors	Mean
1.	Q4	Collaboration is needed between developmental education and other campus units.	3.7600
2.	Q6	Developmental education should be an institutional priority.	3.6800
(tie)	Q7	The institution should provide comprehensive services in support of developmental education.	3.6800
4.	Q12	A systematic plan needs to be in place for the evaluation of developmental education courses and services.	3.6400
5.	Q10	Assessment should be mandatory for all entering students.	3.6000
(tie)	Q2	A highly coordinated developmental education program is needed.	3.6000
(tie)	Q28	Systematic efforts should be made to link the content of developmental courses to the rest of the curriculum.	3.6000
(tie)	Q19	Student performance should be systematically monitored by faculty and advisors.	3.6000
9.	Q26	Frequent feedback should be provided on a regular basis in developmental courses.	3.5600
10.	Q5	Developmental education programs need a clearly defined statement of mission, goals and objectives.	3.5432
11.	Q13	Formative evaluation should be used by developmental educators to refine and improve courses and services.	3.5416
12.	Q14	Professional development for developmental educators needs to be consistently supported.	3.5200
(tie)	Q15	Tutoring should be provided to developmental students in all basic skills subjects.	3.5200
14.	Q11	Placement in courses should be mandatory based on assessment	3.4984
15.	Q3	Expectations for developmental education should be well-managed.	3.4800
16.	Q16	Tutors working with developmental students should be required to participate in training activities	3.4400
17.	Q23	A wide variety of different instructional methods should be used in developmental courses.	3.4000
(tie)	Q18	Adjunct faculty should be treated as an important resource for developmental education.	3.4000
19.	Q21	Classrooms and laboratories should be well integrated.	3.3752
20.	Q29	Instructional strategies should be regularly shared among developmental instructors in some systematic way.	3.3200
21.	Q33	All developmental instructors should regularly utilize Classroom Assessment Techniques in their courses.	3.2524
22.	Q32	All developmental instructors should regularly use active learning techniques in their courses.	3.2000
(tie)	Q27	Mastery learning should be a common characteristic of developmental courses.	3.2000
24.	Q8	Grant funds are needed to support innovation in developmental education.	3.1200
25.	Q1	Developmental education needs a centralized developmental education program.	3.0800
(tie)	Q9	Developmental education should be integrated with campus outreach services.	3.0800
27.	Q30	Critical thinking should be taught in all developmental courses.	3.0400
(tie)	Q31	Learning strategies should be embedded in developmental courses or taught as a separate course.	3.0400
(tie)	Q17	Developmental educators need to be regularly involved in their professional associations.	3.0400
30.	Q20	A written philosophy statement should guide the provision of developmental education.	2.9200
31.	Q25	Technology should be used primarily as a supplement for instruction in developmental courses.	2.4640

32.	Q22	Learning communities should be provided for developmental students.	2.2400
33.	Q24	Students should be tested at least 10 times a semester in developmental courses.	2.0400

Summary

In response to the central research questions in this study, the comparison of the independent means of thirty-three item descriptors in the survey designed by Hunter R. Boylan revealed that out of the three components studied in the survey, both community college presidents and developmental education administrators ranked the first component, Organization and Administration, as the most important category needed to improve developmental education effectiveness as soon as possible. Fifty percent of the top ten critical items were listed under Component 1. An anecdotal finding that has implications in addressing Component 1 is that the demographic information revealed that several community and technical colleges in the sample do not yet have a developmental education administrator to coordinate the modifications recommended by this study for Component 1.

Other important findings reveal that the results of the ANOVA for Component 1, Organization and Administration, and Component 2, Program Components, show significant differences between the groups for some of the key item descriptors from the survey. The results of the ANOVA for Component 3, Instructional Practices, revealed no significant differences between the groups for descriptors in Component 3. Two-factor ANOVA and Tukey test results show a significant main effect difference between Job Titles (rows) and a significant main effect difference between Components (columns) and confirm that the means of Component 1 and Component 2 are significantly higher than the mean of Component 3. There is no evidence of significant interaction effect at the 0.05 level.

This study has determined specific items that developmental education administrators and college presidents concur to be the most critical institutional policies and practices to improve developmental education programs in community colleges for prioritization, planning and budgeting. The findings of this study could be used as guidelines to improve the development and governance of effective, developmental education programs.

CHAPTER FIVE: SUMMARY

Chapter Five includes a review of the purpose and the methods of the study. The findings have been summarized and synthesized with the theoretical framework of the study. Additionally, the implications and limitations of the study are discussed with recommendations for further study.

Purpose of the Study

The purpose of this study was to evaluate institutional policies and best practices to determine the most critical needs deemed essential for the development and governance of systemic, effective developmental education programs in community colleges through the perspective of community college presidents and developmental education administrators. The intended objective of the study was to compare the rankings of thirty-three key descriptors in three critical components of an effective developmental education program between groups of community college administrators. Whereas previous research has identified best practices from the lens of developmental education practitioners, this study is among the first to rate the perceptions of developmental education program administrators and community college presidents for the purpose of identification of the most essential institutional policies and practices. Because of the important governing role that community college administrators hold in the field of developmental education, their feedback is considered essential to identify priorities to implement change for program improvement in long and short range planning and budgeting. This study has been designed to assess what developmental education administrators and college presidents concur to be the most critical institutional policies and best practices to improve developmental education programs in community

colleges. While the study was not designed to test the relationship of Kotter's Change Model, this model provides a theoretical framework for thought, discussion and planning when change is inevitable.

Population and Sample

Pilot Study Participants. The participants were selected using a nonprobability sampling method type called purposive sampling of the targeted population. Because the survey instrument was not standardized, a pilot study was administered first. The population of the pilot study included twenty-nine developmental education instructors in all ten West Virginia Community and Technical Colleges. The sample included thirteen voluntary participants for a response rate of 45%. Demographic data determined that 85.7% of participants taught at least nine credit hours each semester with their primary classification listed as instructor or professor. According to the self-ratings, 71.4% of participants were very interested in the field of developmental education. Further demographics taken on the sample concluded that 92.9% of participants rated their knowledge in the field of developmental education as knowledgeable or very knowledgeable. Likewise, 71.4% of participants responded that they had attended training in developmental education within the past three years. The participants and results of the pilot study were not included in this study to contrast the ratings of developmental education instructors from those of community college administrators.

Research Study Participants. The target population of this study consisted of the entire population from the purposive, nonrandom sample of two groups of community college administrators in West Virginia and the Metro West Virginia geographical area adjacent to the state of West Virginia. There were two groups of twenty-two community

college presidents and twenty-two developmental education administrators for a total population of forty-four individuals included in this study. The groups were coded according to job descriptions. The first group was identified as community college presidents and was coded as “1” for job title, and the second group was identified as developmental education administrators and was coded as “2” for job title. The demographic population was restricted to 10 community and technical colleges in West Virginia and 12 community colleges in the Metro area of the border states of Kentucky, Maryland, Ohio, Pennsylvania and Virginia. Metro colleges have been defined as the counties who border West Virginia and those who border another county that is adjacent to the State of West Virginia that may or may not charge reduced tuition rates to out of state students. Since this study had a small sample size, some differences were not enough to be statistically significant but had relevant importance in identifying essential policies and practices for effective developmental education programs.

Survey Instrument

The instrument used in this study was the survey designed by Hunter R. Boylan for *What Works: Research-Based Best Practices in Developmental Education*. The inventory found in Boylan’s book (2002) had been modified with author’s approval to match the educational purpose and target population of community college developmental education administrators and community college presidents selected for this study (See Appendix C).

Participants were given an informed consent form to sign before given the thirty-three item survey. Pilot study participants were given a different Anonymous Survey Consent Form than the participants in the research study (See Appendices D and E). The

survey was administered online through *Survey Monkey*, but participants had the option of requesting a paper survey. Participants completed a brief demographic section before taking the survey. The amount of time needed to complete the survey was less than 20 minutes. Each participant was given a pre-survey brief questionnaire which solicited basic heterogeneous demographic data about job titles, years of experience in higher education administration and a self-rating of interest and knowledge in the field of developmental education.

The three critical components of the survey were identified as Organization and Administration, Program Components and Instructional Practices. Designed to harness consensus of opinions by developmental education administrators and college presidents, the thirty-three item survey allowed the participants to rate the importance of each identified survey statement through a four point Likert Scale to rate the relevant importance of each survey item.

Method

To investigate the importance of each of the critical components for developmental education, each participant was initially administered the survey online through Survey Monkey and analyzed using IBM SPSS 20 and VassarStats website for statistics computation. Nonparticipants were sent a second or third email invitation to participate in the survey. Additionally, a paper survey was mailed to each nonparticipant. After each of the thirty-three descriptor items were rated according to the participant's perceptions using the Likert Rating Scale (1= not essential; 2= somewhat essential; 3=essential; 4= very essential), the following analyses were determined:

1. The means for thirty-three descriptor item within categories.
2. The Grand Mean for each of the three key components.
3. The results of a One Way ANOVA used to compare the means of Group 1 (College Presidents) and Group 2 (Developmental Education Administrators) for thirty-three descriptor items.
4. The results of a two factor ANOVA that was used to determine any significant differences between Rows (Job Titles) and Columns (Components) along with the determination of the interaction effect between Rows and Columns.
5. The results of the overall ranking of the means of the 33 descriptors.

Discussion of Findings

This study provided evidence that addresses the central research questions that have guided this study.

***For Research Question 1:** What is the relative importance of each of the 9 identified descriptors for the category of organization and administration on the effectiveness of the developmental education program as rated by community college administrators and presidents?*

As shown in Table 6, out of the 9 identified descriptors for the category of Component 1, fifty-six percent of the calculated means met the criteria of 3.5 or higher on the Likert Scale that identify these items as critical and need to be implemented as soon as possible. These items addressed the need for collaboration and coordination, institutional priority, comprehensive services and clearly defined mission, goals and objectives.

For Research Question 2: What is the relative importance of each of the 12 identified descriptors for the category of program components on the effectiveness of the developmental education program as rated by community college administrators and presidents?

As shown in Table 7, out of the 12 identified descriptors for the category of Component 2, fifty percent of the calculated means met the criteria of 3.5 or higher on the Likert Scale that identify these items as critical and need to be implemented as soon as possible. These items addressed the need for a systematic plan, mandatory assessment, monitoring of student performance, formative evaluation, professional development and student tutoring.

For Research Question 3: What is the relative importance of each of the 12 identified descriptors for the category of instructional practices on the effectiveness of the developmental education program as rated by community college administrators and presidents?

As shown in Table 8, out of the 12 identified descriptors for the category of Component 3, seventeen percent of the calculated means met the criteria of 3.5 or higher on the Likert Scale that identify these items as critical and need to be implemented as soon as possible. These two items addressed the need for the linkage of content of developmental education courses to the rest of the curriculum along with frequent student feedback.

For Research Question 4: Is there a significant difference between the ratings assigned by college presidents compared with those assigned by developmental education administrators in the identification of effective institutional policies and best practices?

Based on data collected by the One-Way ANOVA in Tables 9, 10 and 11 of this study, significant differences were found between the groups according to job descriptions for items in both Components 1 and 2. The findings suggest that Developmental Education Administrators rated the following survey item significantly higher than Community College Presidents for Component 1.

Survey Item: Developmental education needs a centralized developmental education program.

For Component 2, the findings reveal that Developmental Education Administrators rated three items higher than Community College Presidents. According to the data collected, there was a significant difference between the means of these two groups for the following three statements:

- 1. Survey Item: Placement in courses should be mandatory based on assessment.*
- 2. Survey Item: Adjunct faculty should be treated as an important resource for developmental education.*
- 3. Survey Item: A written philosophy statement should guide the provision of developmental education.*

The results of the ANOVA for Component 3 revealed that there were no significant differences between Community College Presidents and Developmental Education Administrators for this component's descriptors.

For Research Question 5: Is there a significant difference between the perceived importance of the three components as measured by the grand mean of the descriptor items in each component group?

Research data in Tables 12 and 13 indicated that Component 1: Organization and Administration was the highest ranked of the three categories. The results revealed that the Grand Mean of Component 1 eclipsed the Grand Means of both Components 2 and 3. Moreover, fifty percent of the survey item descriptors ranked in the top ten are from Component 1. A comparison of the Grand Mean for Components 2 and 3 indicates that Component 2 was rated higher than Component 3. Thirty percent of the descriptors ranked in the top ten were from Component 2. Only twenty percent of the descriptors ranked in the top ten were from Component 3. An analysis of the data also determined that both groups of administrators rated Component 3 the lowest. A list of the top ten critical needs for immediate attention is presented in Table 13.

For Research Question 6: Is the relative importance of the three components related to the title (group) of the participants doing the rating?

Questions 5 and 6 are addressed in the results of the two factor ANOVA and the Tukey follow-up test (See Table 12). There is no evidence at the 0.05 level for significant interaction effect indicating that the relative importance of the three components is not related to the job title of the persons doing the ratings.

Conclusions

This study investigated what developmental education administrators and community college presidents concur to be the most critical institutional policies and best practices to improve developmental education programs. From the analysis of the data, the following conclusions can be drawn. The most powerful theme that was reiterated throughout the results of this study was that the top priority for program improvement in developmental education reached by consensus of both community college presidents and developmental education administrators is in the area of Organization and Administration (Component 1). The next priority was found in the area of Program Components (Component 2). Both community college presidents and developmental education administrators perceived Instructional Practices (Component 3) the least critical category of need. Reflection of the results of this study confirms the importance of developmental education reorganization and administration as an institutional priority for program improvement that is consistent with the literature review of previous studies.

There was a significant difference between the ratings assigned by college presidents compared with those assigned by developmental education administrators in the identification of effective institutional policies and best practices. Twenty-nine of the thirty-three item descriptors rated in the developmental education survey received mean scores greater than 3.00. It can be concluded from this survey that 88% of the thirty-three survey items rated are essential or very essential for effective developmental education programs and, therefore, could serve as guidelines for the development of more effective developmental education programs in community and technical colleges.

Since the findings of this study reiterated the critical need to have a position whose primary responsibility is to organize and manage developmental education programs, this should be considered an institutional priority for developmental education programs. The fact that several of the community colleges surveyed did not have an individual whose primary role was to coordinate developmental education programs would likely affect an institution's ability to implement the rank order list of suggested priorities. This dichotomy of priorities presents colleges with a dilemma in the implementation of critical institutional policies and best practices for reform of developmental education. As a result, the top priority for community colleges should be to employ developmental education administrators with limited instructional duties to facilitate the organization and management of developmental education.

Another recurring theme in the literature review concerns the lack of a unifying theory in the field of developmental education. Practice without theory results in challenges for implementation. The review of the literature in this study found that this deficiency affects decision-making for short-term and long-term plans. This study reinforces the lack of a guiding theoretical framework for program modifications in developmental education that has implications for addressing this study's findings. The items identified that resulted in a significant difference between community college presidents and developmental education administrators reflect a need for a shared vision grounded in theory. These four statements have been presented below:

- (1) *Developmental education needs a centralized developmental education program.*
- (2) *Placement in courses should be mandatory based on assessment.*

(3) *Adjunct faculty should be treated as an important resource for developmental education.*

(4) *A written philosophy statement should guide the provision of developmental education.*

Moreover, this study has implications for understanding the priorities for change through the lens of community college administrators. Community college administrators have a unique role in addressing the needs for program improvement in developmental education. The results of this study confirm that both community college presidents and developmental education administrators concur that the component of Instructional Practices is less of an institutional priority than the component of Organization and Administration followed by Program Components. The results of this study present evidence that strong leadership, institutional support and coordination are needed to address the three key components of an effective developmental education program.

Limitations of the Study

Overall, this study supports the findings of other studies reviewed in Chapter 2; however, this study is not without limitations. The implications of this study should be considered in light of the following limitations:

- (1) This study was limited by the small sample size of the population. The small sample size might preclude the generalizability of this study. The target population of this study consisted of only twenty-two community college presidents and twenty-two developmental education administrators.
- (2) The small rate of return is a limitation of this study because the sample population was small yet purposive. The rate of return was 64% initially, but,

with three developmental education administrators' results excluded because they did not meet the delimitations of the study, the participation rate declined to 57%.

- (3) The findings of this study are limited to public community colleges in the Metro West Virginia geographical service region. Metro West Virginia community colleges have been defined as public community colleges located in the counties adjacent to West Virginia from the states of Kentucky, Ohio, Maryland, Pennsylvania, and Virginia. Most of the colleges selected to participate in this study were small, rural community colleges that may have affected the results.
- (4) Several of the community and technical colleges surveyed did not have an individual that met the delimitations of this study for the definition of a developmental education administrator. Three survey respondents coded as developmental education administrators were exempted from this study because they taught more than six hours of developmental education courses per semester. To be eligible for participation in this study, developmental education practitioners who retain the primary classification of instructors or professors and teach more than six semester hours were excluded.

Recommendations for Further Study

Ultimately, this study will be of value to the administration of developmental education in community colleges, particularly in rural geographical areas. The results will assist them in improving the effectiveness of their programs for student success.

However, further research should concentrate on larger sample sizes of developmental

education administrators and community college presidents in an expanded geographical area of the nation. Also, a mixed study is recommended to gather important qualitative data to support the ratings assigned on the Likert Scale. By allowing the participants an opportunity to clarify their responses through interviews, nominal group discussions or comment spaces, greater specificity could enhance our understanding of the needs to be addressed for developmental education reform.

Because both community college presidents and developmental education administrators have rated Component 1, Organization and Administration, as the most critical component for program improvement, any reform efforts should begin with evaluating how well the developmental education programs are organized. There was a significant difference between the ratings of community college presidents and developmental education administrators concerning the urgency of having a centralized developmental education program versus a decentralized program with developmental education administrators rating this item higher than college presidents. However, the review of literature presents ample evidence from other studies that concur that the most effective developmental education programs are centralized. Further research is needed to evaluate the success of both centralized developmental education programs and decentralized programs to determine a consensus. Also, further studies should evaluate the effectiveness of developmental education programs that have a developmental education administrator whose primary role is to supervise developmental education curriculum, program components, instructional practices and program assessment.

Some community colleges do not have an institutional research department to assist with the program evaluation of developmental education. Further research should

be conducted to determine how developmental education programs are currently being evaluated by the institutions. Does the developmental education administrator have this primary responsibility? If so, how effective is the institutional and program assessment of developmental education in community colleges?

A review of the literature supported by this study indicated that there is no unifying theoretical framework in the field of developmental education. Without this central theory to guide practice and change, developmental programs face challenges in restructuring their programs. Further research is recommended to identify effective, developmental education programs to participate in a study to develop a unifying theory. One promising model by Casazza and Silverman (1996), integrates the four components of theory, research, principles and practice (TRPP). This TRPP model should be studied to determine how effective these four components of theory, research, principles and practice are in guiding effective change. Research on a unifying theory should be tested to rate the importance of each of these four components.

This study has identified the critical institutional policies and best practices needed to develop an effective developmental education program. The findings of this study are useful for colleges that are ready to begin these recommendations as soon as possible. For successful transformation of a program as comprehensive as developmental education, a change model is recommended to maximize success with little risk of failure. This study did not test the effectiveness of the John P. Kotter's Change Model (1995), but further research is recommended to determine its effectiveness in program reform. Further research on organizational change theory can outline an action plan to establish a sense of urgency when change is inevitable. This study confirms the urgency

to improve the effectiveness of developmental education. The results of this study should serve as guidelines for community college administrators to make the recommended changes.

APPENDIX A: PERMISSION LETTER TO USE SURVEY

Barbara Calderwood
Assistant Director for Publications
National Center for Developmental Education
Appalachian State University
ASU Box 32098
Boone NC 28608
Tel: 828-262-3057
Email:calderwoodbj@appstate.edu

February 7, 2011

Dear Dr. Calderwood,

I am an Ed.D. candidate at Marshall University Graduate School of Professional Development under the direction of Dr. Dennis Anderson in the Educational Leadership program. I am writing to request permission to use your survey for my doctoral dissertation on the identification of critical institutional policies and practices for effective developmental education programs from Dr. Hunter Boylan's *What Works: Research-Based Best Practices in Developmental Education* book. The survey can be found in Chapter 4, pages 107-110. I propose to modify the instructions for this inventory to match the educational purpose and target population of community college developmental education administrators and community college presidents selected for this study.

Sample Instructions: *This inventory is designed to identify the essential institutional policies and practices in developmental education. Community college developmental education administrators and community college Presidents or Provosts from Metro West Virginia will be asked to rate each of the 33 items according to their own perceptions using the 4 point Likert Rating Scale (1=not essential; 2=somewhat essential 3=essential; 4=very essential). A group rating will be determined to identify and rank the most critical needs. The goal of this survey is to reach consensus of the group on the extent to which developmental education institutional policies and practices should be a priority.*

I have selected this instrument to use because it is an effective, comprehensive questionnaire of research-based best practices that can be used to determine priorities for developmental education program improvements in the three critical areas of organization and administration, program components, and instructional practices. This survey meets the fitness of use standards for the purpose of this study. By rating each item, administrators can reach group consensus on what they regard as the most critical institutional policies and practices for developmental education programs in the target demographic of Metro West Virginia's Community and Technical Colleges. In addition

to rating each of the items surveyed, I propose to compare and correlate the responses for the developmental education administrators with the community college presidents to see if there are any significant differences in their perceptions of critical institutional policies and practices.

This study will be used for educational purposes only. All research findings will be shared with Dr. Hunter Boylan and the National Center for Developmental Education at Appalachian State University. I agree to pay the proposed \$100. usage fee. Should you have any questions concerning this study, you may reach me at the Beckley Campus address below. I wish to thank you for your participation and assistance.

Professionally yours,

Carolyn Sizemore, Ed.S.
Dean, Raleigh County Campus
Title III Director
New River Community and Technical College
167 Dye Drive
Beckley WV 25801
304.256.0262
csizemore@newriver.edu

APPENDIX B: EMAIL CORRESPONDENCE TO USE SURVEY

Dear Carolyn,

I apologize for the delay in responding; it is a very busy time for us at the NCDE. Permission for a one-time use of the survey in Chapter 4 of *What Works: Research-Based Best Practices in Developmental Education*, by Dr. Hunter Boylan, with modified instructions as outlined in your letter of February 7th is granted. In addition to the specifics outlined in your letter (see below), the original source for the survey--including publisher information--should be cited and this identification placed on a clearly visible location on the front page of the survey.

We appreciate your offer to provide a \$100 usage fee (make payable to National Center for Developmental Education and indicate what the payment is for on the check) and also to share the research results with the NCDE.

Thank you,

Barbara Calderwood
Assistant Director for Publications
National Center for Developmental Education
Appalachian State University
Boone, NC 28608
V: 828-262-6101
E: calderwoodbj@appstate.edu

APPENDIX C: SURVEY INSTRUMENT

Essential Policies and Practices in Quality Developmental Education Programs

This inventory is designed to identify the essential institutional policies and practices in developmental education. Community college developmental education administrators and community college Presidents from Metro West Virginia will be asked to rate each of the 33 items according to their own perceptions using the 4 point Likert Rating Scale (1=not essential; 2=somewhat essential; 3=essential; 4=very essential). A group rating will be determined to identify and rank the most critical needs. The goal of this survey is to reach consensus of the group on the extent to which developmental education institutional policies and practices should be a priority.

Rating Scale

1=not essential 2=somewhat essential 3=essential 4=very essential

Organization and administration

- _____ 1. Developmental education needs a centralized developmental education program.
- _____ 2. A highly coordinated developmental education program is needed.
- _____ 3. Expectations for developmental education should be well-managed.
- _____ 4. Collaboration is needed between developmental education and other campus units.
- _____ 5. Developmental education programs need a clearly defined statement of mission, goals and objectives.
- _____ 6. Developmental education should be an institutional priority.
- _____ 7. The institution should provide comprehensive services in support of developmental education.
- _____ 8. Grant funds are needed to support innovation in developmental education.
- _____ 9. Developmental education should be integrated with campus outreach services.

Organization and administration: Maximum possible score = 36

High score = 27

Average score = 18

Low score = 9

Program components

- _____ 10. Assessment should be mandatory for all entering students.
- _____ 11. Placement in courses should be mandatory based on assessment.
- _____ 12. A systematic plan needs to be in place for the evaluation of developmental education courses and services.
- _____ 13. Formative evaluation should be used by developmental educators to refine and improve courses and services.
- _____ 14. Professional development for developmental educators needs to be consistently supported.
- _____ 15. Tutoring should be provided to developmental students in all basic skills subjects.
- _____ 16. Tutors working with developmental students should be required to participate in training activities.

- _____ 17. Developmental educators need to be regularly involved in their professional associations.
- _____ 18. Adjunct faculty should be treated as an important resource for developmental education.
- _____ 19. Student performance should be systematically monitored by faculty and advisors.
- _____ 20. A written philosophy statement should guide the provision of developmental education courses and services.
- _____ 21. Classrooms and laboratories should be well integrated.

<u>Program Components: Maximum possible score = 48</u>		
High score = 36	Average score = 24	Low score = 12

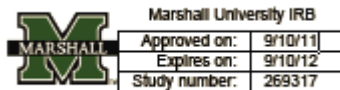
Instructional practices

- _____ 22. Learning communities should be provided for developmental students.
- _____ 23. A wide variety of different instructional methods should be used in developmental courses.
- _____ 24. Students should be tested at least 10 times a semester in developmental courses.
- _____ 25. Technology should be used primarily as a supplement for instruction in developmental courses.
- _____ 26. Frequent feedback should be provided on a regular basis in developmental courses.
- _____ 27. Mastery learning should be a common characteristic of developmental courses.
- _____ 28. Systematic efforts should be made to link the content of developmental courses to the rest of the curriculum.
- _____ 29. Instructional strategies should be regularly shared among developmental instructors in some systematic way.
- _____ 30. Critical thinking should be taught in all developmental courses.
- _____ 31. Learning strategies should either be embedded in developmental courses or taught as a separate course.
- _____ 32. All developmental instructors should regularly use active learning techniques in their courses.
- _____ 33. All developmental instructors should regularly utilize Classroom Assessment Techniques in their courses.

<u>Instructional practice: Maximum possible score = 48</u>		
High score = 36	Average score = 24	Low score = 12

Source: Boylan, H. R.(2002). *What works: Research-based best practices in developmental education*. Boone, NC: Continuous Quality Improvement Network with the National Center for Developmental Education at Appalachian State University, 107 – 110. This rating scale has not yet been standardized. Although numerical ratings are provided, these are rough estimates. Retrieved and modified with permission of the author from <http://www.ncde.appstate.edu/publications/what-works>

APPENDIX D: ANONYMOUS SURVEY CONSENT (PILOT STUDY)



Anonymous Survey Consent (Pilot Study)

You are invited to participate in a research project entitled “An Analysis of Institutional Policies and Practices Critical for Effective Leadership in Developmental Education Programs” designed to identify the most critical institutional policies and practices deemed essential for the effective development and governance of systemic, effective developmental education programs in community colleges through the perspective of community college practitioners. The study is being conducted by Dr. Dennis M. Anderson and Carolyn G. Sizemore from Marshall University. This research is being conducted as part of the doctoral requirements for Carolyn Sizemore.

This survey is comprised of a brief pre-survey demographic questionnaire followed by a 33 item survey about best practices identified in three critical components of an effective developmental education program. The components studied are organization and administration, program components and instructional practices. The instrument to be used to collect data is the survey designed by Hunter R. Boylan for *What Works: Research-Based Best Practices in Developmental Education*. The inventory found in Boylan’s book has been modified with author’s approval to match the educational purpose of this study and target population of community college developmental education administrators and presidents in Metro West Virginia. The pilot study focuses on the perceptions of developmental education instructors.

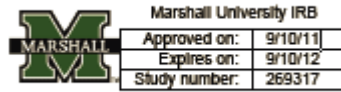
Your replies will be anonymous, so do not put your name anywhere on the survey. There are no known risks involved with this study. Participation is completely voluntary and there will be no penalty or loss of benefits if you choose to not participate in this research study or to withdraw. If you choose not to participate, you may either select this option on the online survey or simply not participate. You may choose to not answer any question by simply leaving it blank. If you have any questions about the study you may contact Dr. Dennis M. Anderson at (304)746-8989, or Carolyn G. Sizemore at (304) 256-0262.

If you have any questions concerning your rights as a research participant you may contact the Marshall University Office of Research Integrity at (304) 696-4303.

By completing this survey and returning it you are also confirming that you are **18** years of age or older.

Please keep this page for your records.

APPENDIX E: ANONYMOUS SURVEY CONSENT



Anonymous Survey Consent

You are invited to participate in a research project entitled “An Analysis of Institutional Policies and Practices Critical for Effective Leadership in Developmental Education Programs” designed to identify the most critical institutional policies and practices deemed essential for the effective development and governance of systemic, effective developmental education programs in community colleges through the perspective of community college presidents and developmental education administrators. The study is being conducted by Dr. Dennis M. Anderson and Carolyn G. Sizemore from Marshall University. This research is being conducted as part of the doctoral requirements for Carolyn Sizemore.

This survey is comprised of a brief pre-survey demographic questionnaire followed by a 33 item survey about best practices identified in three critical components of an effective developmental education program. The components studied are organization and administration, program components and instructional practices. The instrument to be used to collect data is the survey designed by Hunter R. Boylan for *What Works: Research-Based Best Practices in Developmental Education*. The inventory found in Boylan’s book has been modified with author’s approval to match the educational purpose of this study and target population of community college developmental education administrators and presidents in Metro West Virginia.

Your replies will be anonymous, so do not put your name anywhere on the survey. There are no known risks involved with this study. Participation is completely voluntary and there will be no penalty or loss of benefits if you choose to not participate in this research study or to withdraw. If you choose not to participate, you may either select this option on the online survey or simply not participate. You may choose to not answer any question by simply leaving it blank. If you have any questions about the study you may contact Dr. Dennis M. Anderson at (304)746-8989, or Carolyn G. Sizemore at (304) 256-0262.

If you have any questions concerning your rights as a research participant you may contact the Marshall University Office of Research Integrity at (304) 696-4303.

By completing this survey and returning it you are also confirming that you are **18** years of age or older.

Please keep this page for your records.

APPENDIX F: SELECTED PUBLIC COMMUNITY COLLEGES

West Virginia Community and Technical Colleges

Blue Ridge Community and Technical College;
Bridgemont Community and Technical College;
Eastern West Virginia Community and Technical College;
Kanawha Valley Community and Technical College;
Mountwest Community and Technical College;
New River Community and Technical College;
Pierpont Community and Technical College;
Southern Community and Technical College;
West Virginia Northern Community College; and
West Virginia University at Parkersburg

Metro Area Community and Technical Colleges Adjacent to West Virginia

Ashland Community and Technical College (KY);
Allegany College of Maryland (MD);
Big Sandy Community and Technical College (KY);
Community College of Allegheny County (PA);
Community College of Beaver County (PA);
Dabney Lancaster Community College (VA);
Eastern Gateway Community College (OH);
Garrett College (MD);
Hagerstown Community College (MD);
Southwest Virginia Community College (VA);
Washington State Community College (OH); and
Wytheville Community College (VA).

REFERENCES

- American Association of State Colleges and Universities. (2008, August). *Enhancing college student success through developmental education: A higher education policy brief*. Retrieved from <http://www.aascu.org/media/pm/pdf/pmaug08.pdf>
- Apel, K. (2001, Fall). Pragmatism as sense-critical realism based on a regulative idea of truth: In defense of a Peircean theory of reality and truth. *Transactions of the Charles S. Peirce Society*, XXXVII(4).
- Bailey, T. (2009, Spring). *Challenge and opportunity: Rethinking the role and function of developmental education in community college*. Retrieved from <http://www.interscience.wiley.com>
- Bell, M., & Perez, S. (2001). *Brooklyn College CUNY developmental education program (DEP): Making the core a reality for disadvantaged students*. Retrieved from <http://www.league.org/leaguetc/express/inn0111.htm>
- Boylan, H. R. (2008). How research contributes to access and opportunity around the world. *Journal of Developmental Education*, 32(1), 2.
- Boylan, H. R. (2002). *What works: Research-based best practices in developmental education*. Boone, NC: Continuous Quality Improvement Network with the National Center for Developmental Education at Appalachian State University.
- Boylan, H. R. & Bonham, B. S. (2011). *Criteria for program evaluation*. Retrieved from <http://www.ncde.appstate.edu/resources/evaluation/>
- Boylan, H. R., Saxon, D. P., Bonham, B. S., and Parks, H. E. (1993). A research agenda for developmental education: 50 ideas for future research. *Research in Developmental Education*, 10(3).

- Brawer, F. B. & Cohen, A. M. (1996). *The American community college* (3rd ed.), 247 - 274. San Francisco: Jossey-Bass, Inc.
- Brothen, T. & Wambach, C. A. (2004). Refocusing developmental education. *Journal of Developmental Education*, 28(2), 16 –22.
- Casazza, M. E., & Silverman, S.L. (1996). *Learning assistance and developmental education*. San Francisco: Jossey-Bass.
- Cech, J. (2010). A phenomenological study of leader experiences and reactions to transformational change in a multicampus system. Ph.D. dissertation, Walden University, United States -- Minnesota. Retrieved from Dissertations & Theses: Full Text. doi: AAT 3426181
- Chung, C. J. (2005). Theory, practice and the future of developmental education. *Journal of Developmental Education*, 28(3), 2-10.
- Clark-Thayer, S. & Cole, L. P. (Eds.). (2009). *NADE Self-evaluation guides: Best practice in academic support programs* (2nd ed.). Clearwater, FL.: H & H Publishing Company.
- Clery, S. (July/August, 2008). *Data notes*. Retrieved from <http://achievingthedream.org>
- Cross, K. P. (1981). *Adults as learners: Increasing participation and facilitating learning*. San Francisco: Jossey-Bass.
- DesJardins, S. L., Kim, D., & Rzonca, C. S. (2003). A nested analysis of factors affecting bachelor's degree completion. *Journal of College Student Retention: Research, Theory & Practice*, 4(4), 407-435.
- Donovan, R. (1974). *National Project II: Alternatives to the revolving door*. Bronx, N. Y.: Bronx Community College.

- Duranczyk, I. M., & Higbee, J. L. (2006). Developmental mathematics in 4-Year institutions: Denying access. *Journal of Developmental Education*, 30(1), 22-30.
- Education Commission of the States. (2010). *ECS challenges states to step up in remedial education*. Retrieved from http://www.luminafoundation.org/newsroom/news_releases/2010-06-16.html
- Ely, E. E. (2001). Developmental education in the learning college. *Dissertation Abstracts International*, 61(08), doi: 3035A/UMI No. 9983200
- Fike, D. S. & Fike, R. (2007). Does faculty employment status impact developmental mathematics outcomes? *Journal of Developmental Education*, 31(1), 2 - 10.
- Florida Department of Education, Office of Program Policy Analysis and Government Accountability. (2007, May). *Half of college students needing remediation drop out; Remediation completers do almost as well as other students*. Doi: 07-31. Retrieved from the Florida Department of Education Web site: <http://www.oppaga.state.fl.us/reports/pdf/0731rpt.pdf>
- Fowler, P. R. & Boylan, H. R. (2010). Increasing student success and retention: A multidimensional approach. *Journal of Developmental Education*, 34(2), 2-10.
- Fulton, R. W. (2001). Postsecondary developmental and remedial education: Perspectives of state legislature education chairpersons and state higher education executive officers. *Dissertation Abstracts International*, 61(11). doi: 4305A/UMI No. 9992793
- Geller, L. K. (2004). A description, comparison, and contrast of postsecondary developmental mathematics programs in North Dakota. *Dissertation Abstracts International*, 65(03). doi:849A/UMI No. 3127715

- Gerlaugh, K.; Thompson, L.; Boylan, H.; & Davis, H. (2007). National study of developmental education II: Baseline data for community colleges. *Research in Developmental Education*, 20(4), 1-4.
- Greene. T. G. (2008, June). *Developmental education toolkit*. Retrieved from <http://www.communitycollegecentral.org>
- Groves, R.M., Fowler, F. J., Couper, M. P., Leprowski, J. M., Singer, E., & Tourangeau, R. (2009). *Survey methodology*. (2nd ed.). Hoboken, N. J.: John Wiley & Sons, Inc.
- Haithcock, W. I., Weinstein, C. E., Boylan, H. R., & Saxon, D. P. (2010). The future is now: A research agenda for developmental education in the 21st century. *Research in Developmental Education*, 23(4), 1-4.
- Hill, A.B. (2004). Affective correlates of developmental student performance: A literature review. *Research in Developmental Education*, 18(4), 1-4.
- Hill, L. (2000). What does it take to change minds? *Journal of Teacher Education*, 51(1), 50 – 62.
- Hinckley, P. (2009, March). Making change work. *American School Board Journal*, 196(3), 27-28.
- Howell, D.C. (2009, March). *Treatment of missing data*. Retrieved from http://www.uvm.edu/~dhowell/StatPages/More_Stuff/Missing_Data/Missing.html
- Hudson, K.; Duke, G.; Haas, B.; & Varnell, G. (2008, May). Navigating the evidence-based practice maze. *Journal of Nursing Management*, 16(4), 409-416.

- Ilich, P. A., Hagan, C. & McCallister, L. (2004). Performance in college-level courses among students concurrently enrolled in remedial courses: Policy implications. *Community College Journal of Research and Practice*, (28), 435 – 453.
- Kotter, J. P. (1995, March – April). Leading change: Why transformation efforts fail. *Harvard Business Review*, 59 – 65. doi: 95204
- Lancaster, G. A., Dodd, S., & Williamson, P.R. (2004). *Design and analysis of pilot studies: Recommendations for good practice*. Retrieved from <http://www.childrens-mercy.org/stats/weblog2004/PilotStudy.asp>
- Lauer, P. A. (2003). *A policymaker's primer on education research: How to understand, evaluate and use it*. Retrieved from the Education Commission of the States (ECS) Web site: <http://www.ecs.org/html/educationIssues/teachingquality/tpreport/report>
- Lesley, M. (2001). Exploring the links between critical literacy and developmental reading. *Journal of Adolescent & Adult Literacy*, 45(3), 180-189.
- Lumina Foundation for Education. (2008). *Lumina Foundation Focus*. Retrieved from the Lumina Foundation Organization Web site: www.luminafoundation.org
- McCabe, R. H. (2000). *No one to waste: A report to public decision-makers and community college leaders*. Washington, DC: Community College Press.
- McCabe, R. H. (2003). *Yes we can!*. Phoenix: League for Innovation in the Community College and American Association of Community Colleges. *Community College Journal of Research and Practice*, (28), 435 – 453.
- McDermeit, M., Funk, R. & Dennis, M. (1999, June). *Data cleaning and replacement of missing values*. Retrieved from www.chestnut.org

- McDonald, R.B., & Bernado, M.C. (2005). Reconceptualizing diversity in higher education: Borderlands research program. *Journal of Developmental Education*, 29,(1), 2-8; 43.
- McMillan, J. H., & Wergin, J. F. (2002). *Understanding and evaluating educational research* (2nd ed.). Upper Saddle River, N. J: Pearson Education, Inc.
- Manpower Demonstration Research Corporation. (2011). *Developmental Education*. Retrieved from the MDRC Organization Web site:
www.mdrc.org/project_31_100.html
- Mid-continent Research for Education and Learning & Education Commission of the States. (2004, February). *A policymaker's primer on education research: How to understand, evaluate and use it*. Retrieved from
<http://www.ecs.prg/html/educationissues/research/primer/understandingtutorial.asp>
- Morest, V.S. & Bailey, T. (2005, October). *Institutional research: Both practical and vital*. Retrieved from <http://chronicle.com/article/Institutional-Research-Both/4424>
- Muller, T. A. (2003). Developmental mathematics education policies at Kansas' community colleges. *Dissertation Abstracts International*, 63(09). doi: 3101A/3064170
- National Association for Developmental Education (2009). *NADE: 2009 Fact Sheet*. Retrieved from <http://www.ncde.appstate.edu>
- National Center for Education Statistics. (2003, November). *Remedial education at degree-granting postsecondary institutions, Fall, 2000: Statistical analysis report*.

- Washington, DC: U.S. Department of Education, Institute of Education Sciences, NCES 2004-010.
- Noel-Levitz, Inc. (2006). *Student success in developmental math: Strategies to overcome a primary barrier to retention*, 4.
- Owens, R. G. (2004). *Organizing behavior in education: Adaptive leadership and school reform*. Boston, MA: Pearson Education.
- Pallant, J. (2007). *SPSS survival manual*. (3rd ed.). New York, N.Y.: Open University Press.
- Parker, T. L., Bustillos, L. T. & Behringer, L. B. (2010, August). *Remedial and developmental education policy at a crossroads*. Retrieved from <http://www.gettingpastgo.org/docs/Literature-Review-GDG.pdf>
- Parks, N. (2001, February). *West Virginia Association for Developmental Education* (Fifth Annual Report). Charleston, WV: WVADE.
- Perkhounkova, Y., Noble, J. & Sawyer, R. (2006). A method of modeling the effectiveness of developmental instruction. *Research in Developmental Education*, 20(2), 2006.
- Roueche, J.E., & Roueche, S.D. (1999). *High stakes, high performance: Making remedial education work*. Washington, DC: Community College Press.
- Salkind, N. J. (2000). *Statistics for people who think they hate statistics*. Thousand Oaks: Sage Publications.
- Saxon, D. P., & Boylan, H. R. (2003). Where do we go from here? An agenda for developmental education research, Part II. *Research in Developmental Education*, 18(1), 1-4.

- Saxon, D. P., & Boylan, H. R. (2010, Winter). What are we going to do about it? *Journal of Developmental Education*, 34(2), 36 -37.
- Saxon, D. P., Sullivan, M. P., Boylan, H. R., & Forrest, F. D. (2005). Developmental education facts, figures and resources. *Research in Developmental Education*, 19(4).
- Schmidt, P. (Ed). (2006, March 10). School and college. *Chronicle of Higher Education*, LIIB (27), B3 – B39.
- Smittle, P. (2003). Principles for effective teaching in developmental education. *Journal of Developmental Education*, 26(3), 10- 12, 14, 16.
- Soliday, M. (2002). *The politics of remediation*. Pittsburgh: University of Pittsburgh Press.
- StatSoft, Inc. (2011). *Electronics statistics textbook*. Retrieved March 25, 2011, from <http://www.statsoft.com/textbook/>
- Stockburger, D. W. (1996). *Introductory statistics: Concepts, models and applications*. Retrieved March 25, 2011, from <http://www.psycstat.missouristate.edu/intobook/sbk27m.htm>
- Sweeney, L. (2006, Spring). Ideas in practice: Theoretical bases for using movies in developmental coursework. *Journal of Developmental Education*, 29(3).
- Tong, R. (2008). Practice precedes theory: Doing Bioethics “naturally” is there an Ethicist in the house?: On the cutting edge of Bioethics. *Journal of Medical Humanities*, 29(2), 133 – 135.
- Trochim, W. M. K. (2006). *Research methods knowledge base*. Retrieved March 28, 2011, from <http://www.socialresearchmethods.net/kb/samprnon.php>

- Van Teijlengen, E. & Hundley, V. (2001). *The importance of pilot studies*. Retrieved March 26, 2011, from <http://sru.soc.surrey.ac.uk/SRU35.html>
- Wacek, V.C. (2003). A case study of policies and practices in developmental mathematics in Missouri's public four-year institutions of higher education. *Dissertations Abstracts International*, 63(12). doi: 4255A/3074449
- Weissman, J., Silk, E., & Bulakowski, C. (1997). Assessing developmental education policies. *Research in Higher Education*, 38(2), 187-200.
- White, W.G. & Harrison, A.B. (2007). Recent doctoral research in developmental education: Part I. *Research in Developmental Education*. 21(2), 1-4.
- White, W.G. & Harrison, A.B. (2007). Recent doctoral research in developmental education: Part II. *Research in Developmental Education*. 21(3) 1-4.
- Zachry, E. M. & Schneider, E. (2010). *Building foundations for student readiness: A review of rigorous research and promising trends in developmental education*. Paper presented at the September NCPR Developmental Education Conference, Teachers College, Columbia University, N.Y.

CURRICULUM VITAE

EDUCATION/ACADEMIC DEGREES:

Marshall University Graduate School of Education
In Progress Ed.D., Educational Leadership Studies, Higher Education Administration
Anticipated Date of Defense: March 2012 (Anticipated Graduation Date: May 2012)
Minor Cognate in College Teaching, 2005

Marshall University Graduate School of Education
ED.S. in Leadership Studies, Higher Education, 2005

Marshall University Graduate School of Education
MA certificate in Learning Disabilities (K-12), 1988
MA in Reading Education (K-12), 1980

University of Charleston (Morris Harvey College)
BA in Early Childhood/Multi-Subject Education (K-8), 1974

AREA(s) OF SPECIALIZATION:

College Teaching, Leadership Studies, Reading Specialist, Learning Disabilities Specialist

PROFESSIONAL EXPERIENCE:

11 years in Higher Education Administration (New River Community and Technical College; Glenville State Community and Technical College)

24 years of classroom teaching experience in West Virginia's Public Schools (K-9) in the following WV counties: Kanawha, Mercer, Braxton, Nicholas, and Fayette

RECENT ADMINISTRATIVE DUTIES:

Dean of Beckley Campus; December 2006 – Present

Major responsibilities: Provide effective leadership and management of the academic, human, financial and physical resources of the campus. Also responsible for all day to day campus activities and operations, supervise and evaluate faculty and staff, and foster community partnerships. Relocation of Beckley Campus to the Public Higher Education Center and the new headquarters building under construction.

Title III Project Director; August 2008 – Present

Major responsibilities: Wrote grant; fiduciary responsibilities; coordinate activities; evaluate project; submit annual reports.

MAJOR GRANTS AWARDED:

- Title III Grant (*Developing a Distance Learning System for Rural Appalachia*), Part A Strengthening Institutions Program; 2008 – 2013
- Family Literacy Act FY'2001 for Work 4 WV Career Center

RECENT MAJOR AWARDS:

Outstanding Contributions to Community College Education Award; New River Community and Technical College (2010); and Outstanding Contributions to Community and Technical College Education Award; Glenville State Community and Technical College; (2002); WV Department of Education Cadre Service Award (2003).