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Perceptions of Classroom Social Environment Held by Virginia Community College Students and Instructors in Developmental Courses

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Perceptions of classroom social environment held by Virginia Community College students and instructors in developmental courses

Bartholomay, Ann Cooper, Ed.D.

East Tennessee State University, 1994
PERCEPTIONS OF CLASSROOM SOCIAL ENVIRONMENT
HELD BY VIRGINIA COMMUNITY COLLEGE STUDENTS AND
INSTRUCTORS IN DEVELOPMENTAL COURSES

A Dissertation
Presented to
The Faculty of the Department of
Educational Leadership and Policy Analysis
East Tennessee State University

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

by
Ann Cooper Bartholomay
May, 1994
APPROVAL

This is to certify that the Graduate Committee of

ANN COOPER BARTHOLOMAY

met on the

4th day of April, 1994.

The committee read and examined her dissertation, supervised her defense of it in oral examination, and decided to recommend that her study be submitted to the Graduate Council and the Associate Vice-President for Research and the Dean of the Graduate School, in partial fulfillment of the requirements for the degree of Doctor of Education in Educational Leadership and Policy Analysis.

[Signatures]

Signed on behalf of the Graduate Council

Dean of the Graduate School and Associate Vice-President for Research
ABSTRACT

PERCEPTIONS OF CLASSROOM SOCIAL ENVIRONMENT HELD BY COMMUNITY COLLEGE STUDENTS AND INSTRUCTORS IN DEVELOPMENTAL COURSES

by

Ann Cooper Bartholomay

The purpose of this study was to determine students' classroom social environment needs by identifying characteristics of actual and ideal classroom environments as perceived by students taking developmental math or English courses in Virginia community colleges, characteristics of the actual classroom environments as perceived by their instructors, and characteristics of actual and ideal classroom environments as perceived by subgroups of students. The subgroups were formed by gender, race, age, type of developmental course, size of college, and whether students were first generation college students.

The Adult Classroom Environment Scale was administered to students and instructors in developmental studies classes in Virginia community colleges during the Fall, 1993, semester. The statistical procedures used to analyze the data were t-tests for independent means, t-tests for dependent (correlated) means, analyses of variance, and the Newman-Keuls Post Hoc Multiple Comparison Procedure.

Findings indicated that students and instructors viewed Teacher Support and Organization and Clarity as the two most prevalent dimensions in the classroom environment. Students' preference for an ideal classroom environment indicated a desire for increased attention to Involvement, Affiliation, Personal Goal Attainment, and Student Influence, but not to Task Orientation.

Special ideal classroom environment needs were identified for subgroups. Younger, Asian, and American Indian students expressed a need for emphasis on Personal Goal Attainment and Student Influence. Teacher Support was especially important to women and men; white, Asian, and Hispanic students; younger and older students; both math and English students; first-generation and non-first-generation students; and students in large and small colleges.

Instructors' views of the dimensions in the actual classroom environment were higher than students, except for Personal Goal Attainment and Student Influence.
INSTITUTIONAL REVIEW BOARD APPROVAL

This is to certify that the following study has been filed and approved by the Institutional Review Board of East Tennessee State University.

Title of Grant or Project  Perceptions of Classroom Social Environment Held by Virginia Community College Students and Instructors in Developmental Courses

Principal Investigator  Ann Cooper Bartholomay

Department  Educational Leadership and Policy Analysis

Date Submitted  September 9, 1993.

Institutional Review Board Approval

Chairman  [Signature]
DEDICATION

To my husband, Don, who offered me inspiration and encouragement.

Also, to my mother and father, Mr. and Mrs. Matthew Patrick Cooper, who fostered my desire for education and achievement.
ACKNOWLEDGEMENTS

I wish to thank Dr. Russell West, my committee chairman, for his assistance and continued support. I especially appreciate his patience and encouragement throughout my program of study and during the research and writing of this dissertation.

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I would like to thank all the community college students, instructors, and administrators who participated in the study.

I appreciate the encouragement and support of my supervisor at Southwest Virginia Community College, Dr. Robert Sutherland; the Dean of Instruction, Dr. Donald Smith; and the President, Dr. Charles King. I also appreciate the assistance of the Learning Laboratory staff.

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TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPROVAL</td>
<td>ii</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>iii</td>
</tr>
<tr>
<td>INSTITUTIONAL REVIEW BOARD</td>
<td>iv</td>
</tr>
<tr>
<td>DEDICATION</td>
<td>v</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>vi</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>xi</td>
</tr>
<tr>
<td>1. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Background</td>
<td>1</td>
</tr>
<tr>
<td>Statement of the Problem</td>
<td>6</td>
</tr>
<tr>
<td>Purpose of the Study</td>
<td>7</td>
</tr>
<tr>
<td>Significance of the Study</td>
<td>8</td>
</tr>
<tr>
<td>Limitations</td>
<td>9</td>
</tr>
<tr>
<td>Definition of Terms</td>
<td>10</td>
</tr>
<tr>
<td>2. REVIEW OF THE LITERATURE</td>
<td>14</td>
</tr>
<tr>
<td>Introduction</td>
<td>14</td>
</tr>
<tr>
<td>Influence of Environment on Learning</td>
<td>14</td>
</tr>
<tr>
<td>Environment Theory</td>
<td>14</td>
</tr>
<tr>
<td>Fit Between Individuals and the Environment</td>
<td>16</td>
</tr>
<tr>
<td>Social Environments</td>
<td>20</td>
</tr>
<tr>
<td>Adult Classroom Social Environment</td>
<td>31</td>
</tr>
<tr>
<td>Dimensions of Adult Classroom Social Environment</td>
<td>33</td>
</tr>
<tr>
<td>Involvement</td>
<td>33</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Instrument</td>
<td>87</td>
</tr>
<tr>
<td>Administration of the Instrument</td>
<td>89</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>91</td>
</tr>
<tr>
<td>4. DATA ANALYSIS</td>
<td>94</td>
</tr>
<tr>
<td>Collection of Data</td>
<td>94</td>
</tr>
<tr>
<td>Research Questions and Related Hypotheses</td>
<td>97</td>
</tr>
<tr>
<td>Research Question 1:</td>
<td>97</td>
</tr>
<tr>
<td>Research Question 2</td>
<td>104</td>
</tr>
<tr>
<td>Research Question 3</td>
<td>106</td>
</tr>
<tr>
<td>Research Question 4</td>
<td>113</td>
</tr>
<tr>
<td>Research Question 5</td>
<td>128</td>
</tr>
<tr>
<td>Research Question 6</td>
<td>134</td>
</tr>
<tr>
<td>Research Question 7</td>
<td>139</td>
</tr>
<tr>
<td>Research Question 8</td>
<td>146</td>
</tr>
<tr>
<td>Summary</td>
<td>151</td>
</tr>
<tr>
<td>5. SUMMARY, FINDINGS, RECOMMENDATIONS, AND IMPLICATIONS</td>
<td>154</td>
</tr>
<tr>
<td>Summary</td>
<td>154</td>
</tr>
<tr>
<td>Findings</td>
<td>156</td>
</tr>
<tr>
<td>Views of the Actual Classroom Environment</td>
<td>156</td>
</tr>
<tr>
<td>Views of an Ideal Classroom Environment</td>
<td>158</td>
</tr>
<tr>
<td>Needs for an Ideal Classroom Environment</td>
<td>160</td>
</tr>
<tr>
<td>Special Classroom Environment Needs</td>
<td>163</td>
</tr>
<tr>
<td>Summary</td>
<td>164</td>
</tr>
</tbody>
</table>
Recommendations ............................ 165
Implications ............................... 167
REFERENCES .............................. 169
APPENDICES .............................. 184
VITA ......................................... 212
LIST OF TABLES

Table  Page

1. VCCS Community Colleges, Campuses, Total Enrollment, and Number of Developmental Studies Students ......................... 74

2. VCCS Community College Campuses by Group and Number of Developmental Studies Students (DSS) in Each Group......................... 77

3. Number of Students Planned and Obtained for Sample............................................. 81

4. Descriptive Summary of ACES Subscales............................................. 87

5. Number of Instructors and Students Surveyed at each College................................. 95

6. Demographic Profile of Students in the Sample............................................. 96

7. Instructor and Student Perceptions of the Actual Classroom Environment...................... 100

8. Instructor Perceptions of the Actual Classroom Environment and Student Perceptions of the Ideal Classroom Environment.................... 103

9. Students' Actual and Ideal Perceptions of the Classroom Environment............................. 106

10. Women and Men Students' Perceptions of the Actual Classroom Environment ..................... 107

11. Women and Men Students' Perceptions of the Ideal Classroom Environment .................. 109

12. Women Students' Perceptions of the Actual and Ideal Classroom Environment.............. 110

13. Men Students' Perceptions of the Actual and Ideal Classroom Environment................. 112

14. Student Perceptions of the Actual Classroom Environment by Race................................ 114

15. Student Perceptions of the Ideal Classroom Environment by Race................................ 118
16. White Students' Perceptions of the Actual and Ideal Classroom Environment ...................... 121
17. Black Students' Perceptions of the Actual and Ideal Classroom Environment ..................... 122
18. American Indian Students' Perceptions of the Actual and Ideal Classroom Environment .......... 124
19. Asian Students' Perceptions of the Actual and Ideal Classroom Environment .................... 126
20. Hispanic Students' Perceptions of the Actual and Ideal Classroom Environment ................. 127
21. Students' Perceptions of the Actual Classroom Environment by Age ................................ 129
22. Students' Perceptions of the Ideal Classroom Environment by Age ................................ 130
23. Perceptions of the Actual and Ideal Classroom Environment of Younger Students ............... 132
24. Perceptions of the Actual and Ideal Classroom Environment of Older Students ................. 133
25. Students' Perceptions of the Actual Classroom Environment by Course Type ..................... 135
26. Students' Perceptions of the Ideal Classroom Environment by Course Type ...................... 136
27. Perceptions of the Actual and Ideal Classroom Environment of Students in English Courses .... 138
28. Perceptions of the Actual and Ideal Classroom Environment of Students in Math Courses ....... 140
29. First-Generation and Non-First Generation Students' Perceptions of the Actual Classroom Environment ........................................ 141
30. First-Generation and Non-First Generation Students' Perceptions of the Ideal Classroom Environment ........................................ 143
31. First-Generation Students' Perceptions of the Actual and Ideal Classroom Environment ....... 144
32. Non-First-Generation Students' Perceptions of the Actual and Ideal Classroom Environment ...... 146
33. Perceptions of the Actual Classroom Environment of Students in Large and Small Colleges ........ 148

34. Perceptions of the Ideal Classroom Environment of Students in Large and Small Colleges ........ 149

35. Perceptions of the Actual and Ideal Classroom Environment of Students at Small Colleges ....... 150

36. Perceptions of the Actual and Ideal Classroom Environment of Students in Large Colleges ....... 152
CHAPTER 1

Introduction

Background

The number of college students enrolled in developmental courses has increased considerably over the past decade. There have been several reasons for this increase in the number of developmental courses. Colleges have experienced an overall increase in enrollment. In addition, colleges have utilized more accurate assessment strategies and have changed their placement standards in order to provide appropriate instruction for students who are poorly prepared for college (Abraham, 1991).

The changes in placement standards stem partially from several reports completed in the 1980's which advocated higher college entrance standards. In addition to the much publicized A Nation at Risk, (National Commission on Excellence in Education, April, 1983), the Hudson Institute and the William T. Grant Foundation completed two reports which focused specifically on developmental studies (Abraham, 1991). The Hudson Institute's report, entitled Workforce 2000, (Johnston & Packer, 1987), and the William T. Grant Foundation's (1988), entitled The Forgotten Half: Non-College Youth in America, identified social and demographic factors that created a higher demand for developmental studies (Abraham, 1991).
Another factor that has had an impact on the increase in the demand for developmental courses is employers' higher expectations of their workers; employees need the necessary analytical and math skills necessary for the jobs available (Abraham, 1991). The Southern Regional Education Board (SREB) conducted a study in 1988-1989 which predicted that global competition and advanced technology would necessitate a more highly skilled and knowledgeable workforce (Abraham, 1991).

As part of that study, the SREB collected data on developmental studies in two-year colleges, four-year colleges, and doctoral institutions. The SREB states are Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. The survey revealed that 42% of all students in two-year colleges took at least one developmental course; 32%, in four-year institutions; and 24%, in doctoral institutions (Abraham, 1991). The study projected that in the next ten years, the number of minority students and women would increase. Productive America (National Council for Occupational Education and American Association of Community and Junior Colleges, 1990) estimated that between 1985 and 2000, 63% of the new members of the labor force would be women, while the percentages of Black workers would increase from 9.9% in 1975 to 11.5% in 1995. A study conducted by
Melling (1988) further predicted that there would be a 37% increase in community college students between the ages of 35 and 44. It will be important that colleges meet the developmental needs of these students in order for them to enter the labor force in the increasing numbers predicted (Productive America, 1990).

Researchers from specific institutions have found that even higher percentages of students need developmental instruction than the national and SREB data indicated. For example, in the Fall of 1990, Prince George's Community College in Maryland found that 60% of their entering students needed at least one developmental course. There were few differences in the developmental needs of men and women. However, students over the age of 26 were more likely to require courses than the younger students. Of the over 26 group, 77% needed developmental studies. The College also identified 79% of their Black students who needed at least one developmental course, while 36% of the White students needed one. One-third of the Black students and 7% of the White students needed developmental studies in all three areas (McCoy, 1991).

Generally, the data indicate that many adults who need developmental studies are enrolling in community colleges. In the fall semester, 1992, more than 16% of the students in Virginia community colleges were enrolled in developmental courses (Virginia Community College System, 1992a and
What happens to them after they enroll? How do they perform?

The numerous studies which reveal the increasing numbers of students needing developmental instruction indicate a great need for instruction in basic skills (Abraham, 1991; McCoy, 1991; Belcher, 1989). However, many students fail to complete the courses successfully or to succeed in subsequent courses (McCoy, 1991; Belcher, 1989). The data gathered at Prince George's Community College (McCoy, 1991) showed that only 3% of the developmental math students and 15% of the developmental English students completed developmental work in one semester.

Providing instructional settings that foster success for developmental students is important as states' financial demands increase and education competes with many other agencies for the resources available. Accountability is a necessity in order to assure those who make decisions regarding funding that colleges are effective in their instructional programs. It is necessary to continually seek ways to help students to succeed, both in the developmental courses and in subsequent courses. Additional research is needed to suggest new instructional approaches that might be more effective in meeting the unique learning needs of developmental students.

Conducting a research study designed to increase knowledge about students in developmental studies and their
instructional needs presents a problem for researchers. Do different groups of students have different perspectives of the classroom social environment and, as a result, experience varying instructional needs? Black students studied by Cope (1978), Cope & Hannah (1975), and Tinto (1975) manifested the need for instructional approaches which addressed both their academic and social needs. Also, problems prevalent for older adults taking developmental courses may suggest a need to examine how they differ from younger students (McCoy, 1991).

Age (Totten, 1985; Richardson, 1982) and race (Cope, 1978; Cope & Hannah, 1975; Tinto, 1975) are factors in this equation. Student gender is also a very important factor (Belenky, et al., 1986; Gilligan, 1982; Bardwick, 1971; Friedman, 1980; Knapp, 1981; Lipman-Blumen & Leavitt, 1976; Lott, 1985; Spenner & Featherman, 1978; Williams, 1977; Worrell, 1980). Lott (1985, p. 156) stated that "gender is often a significant characteristic of participants in a situation and that it is a variable with predictable consequences." There is also a need to explore the possibility that men and women perceive the learning environment in different ways and, as a result of the differences, respond differently to it (Beer & Darkenwald, 1989).

Another factor is that of students' perceptions of the classroom social environment in different courses. The
courses in which differences have been identified were English and math (Beer and Darkenwald, 1989).

As community college instructors plan strategies for providing effective instruction, it is important for them to take into consideration students' perceptions of the instructional atmosphere. If students in the class find a fit or degree of harmony with the instructional environment, their chances for success and retention increase. Retention is related to the degree of congruence between the characteristics of the instructional environment and students' needs and interests (Astin, 1975; Beal & Noel, 1980).

**Statement of the Problem**

There are many unanswered questions regarding the reasons that students in developmental studies do not achieve, persist, or graduate at the same level of other students. Research data consistently demonstrate adults' need for developmental instruction; however, many either stop out before finishing or do not finish at all. Research has also revealed the social classroom environment as playing a key role in retention. Do different groups of students in developmental courses have different perceptions of the desired classroom social environment? The goal of the study at Prince George's Community College was to formulate a general description of the student in developmental courses; however, the researcher found that
different types of students expressed different instructional needs. Without additional information about the perceptions of different groups of students, instructors may not meet those needs.

There is a need for a clearer understanding of the desired classroom social environment of students in developmental courses in the community college. In order to provide appropriate instruction for this special group of students, educators need additional information. The information will help community college educators to plan instructional environments which best meet students' needs and increase their persistence in developmental courses.

**Purpose of the Study**

The purpose of this study was to identify characteristics of the actual classroom environments as perceived by students enrolled in developmental courses in Virginia community colleges, to identify characteristics of the actual classroom environments as perceived by the instructors of the students participating in the study, to identify characteristics of the ideal classroom environments as perceived by students enrolled in developmental courses in Virginia community colleges, and to identify needed changes in classroom environments based on a comparison of actual and ideal characteristics as perceived by the students. In addition to identifying needs of developmental studies students as a whole, the researcher examined
subgroups within the total group in order to ascertain unique needs within the subgroups. Subgroup comparisons were based on the following demographic characteristics: gender, race, age, type of developmental course, size of college, and whether students were first generation college students.

Significance of the Study

During the 1970s and the 1980s, research involving classroom social environments was very productive. For the most part, this research focused on elementary and secondary school classrooms (Darkenwald, 1987). Several studies followed Darkenwald and Gavin's first study of adult students' classroom social environments (Darkenwald, 1987), (Beer & Darkenwald, 1989) (Langenback & Aagaard, 1990). However, none were devoted entirely to adult students enrolled in developmental courses at the community college. Upon developing the Adult Classroom Environment Scale (ACES), Darkenwald (1987) suggested research designed to correlate classes in different subjects, different class designs, different class sizes, and various student characteristics.

Research on classroom social environment, especially in the community college, may provide information which will help colleges respond to the varied needs of community college students. New knowledge about adult learning environments would be beneficial to educators (Horan, 1991).
In fact, the training of teachers would be influenced, especially if teachers become involved in research in order to further develop their instructional techniques (Rose, 1992). In addition to the importance of techniques, the delivery of content is vital to preparing students for subsequent courses. DeYoung (1977) expressed surprise at the exclusion of research on climate because of the authors who complimented the positive bearing it could have on content proficiency (Knox, 1980), on self-directed learning (Brookfield, 1986), and andragogical theory (Knowles, 1980).

After Darkenwald and Gavin (1987) finished their study using Moos' Classroom Environment Scale (CES), they stated that their study provided support for social environment theory and its usefulness for instructional improvement. Moos' (1979) CES was the first of its kind to be used in classroom environment research. His research led him to assert,

> Educational settings can and do make a difference in students' lives. This difference can be for better or worse. Students and [educators] are correct in assuming that their choices and policies matter and that the educational settings they select and create have varied impacts (Moos, 1979, p. 273).

**Limitations**

1. This study was limited to nine community colleges
in Virginia.

2. The developmental classes chosen for the survey were limited to Math 02 (Basic Arithmetic), Math 03 (Basic Algebra), English 01 (Verbal Studies), and English 04 (Developmental Reading).

3. The students surveyed were limited to those enrolled in developmental studies courses during Fall, 1993, and present during the administration of the instrument.

Definitions of Terms

Social environment of the classroom

According to Darkenwald (1989b), the social environment of the classroom consists of the characteristics and interactions between students and students and between students and the teacher. Characteristics of the classroom environment include students' active involvement in class activities, interactions between students and the teacher, encouragement and support of the teacher, completing tasks related to the class, students' achievement of personal goals in relation to the class, class structure and clarity of delivery of the subject matter, and student participation in planning course topics. Moos (1979) defined it as the personality of the classroom.

Interaction

Interaction within the classroom social environment consists of the teacher's communication with the entire class, groups of students in the class, or individual
students. Interactions may occur between students in small group activities, in pairs, or between students and the entire class in class discussions. It provides opportunities for students to learn from each other, as well as to have opportunities to disagree on topics of discussion (Darkenwald, 1989b).

David Berlo (1960) developed a model for communication called the S-M-C-R Model. It includes the source of the message being delivered, the message itself, the channel through which the message is received, and the receiver. The source, or person delivering the message, delivers the information according to his or her skills in communicating, attitudes toward the topic or the receiver, knowledge of the topic of the message, and his or her social-cultural circumstances. The channel of communication may be one or more of the senses. The receiver is affected by aspects of the message, just as the source was when the message was delivered. The understanding of the message depends on the receiver's listening, reading, and thinking skills. It also depends of the receiver's attitudes regarding the topic and the speaker, the receiver's knowledge of the subject of the message, and his or her social-cultural orientation.

Classroom

The classroom is an organized group learning situation in which a number of variables have an effect on learning. The variables include the social climate; students' prior
knowledge, experience, and ability; institutional restraints; support services; and facilities (Darkenwald, 1989b).

**Educational climate**

Educational climate is another manner of referring to the social environment. It has "social and cultural variables which contribute to the overall educational environment" (Ennis, 1989). Lewin (1975) was an innovator in defining climate as one's "field" (p. xi) or "life space" (p. xi). He defined it as that which contains the "person and the psychological environment as it exists for him" (p. xi).

**Andragogy**

Andragogy, a term first used by European adult educators, was used to refer to the body of knowledge and technology that embodied adult learning. Defined as "the art and science of helping adults learn" (p. 6), it was used instead of pedagogy in order to differentiate the teaching of adults and children (Knowles, 1984).

**Adult learner**

Definitions of the adult learner are varied. In 1965, Johnstone and Rivera (1965) at the National Opinion Research Center in Chicago defined an adult as "anyone either twenty-one or over, married, or the head of a household" (p. 31). The definition changed in 1969. The National Center for Educational Statistics (1974) defined adults in terms
of aged 17 or over. Penland (1979) used aged 18 as indicative of an adult learner. Vermilye (1974) defines the adult learner as one who differs in age, appearance, motivation, and needs from students who are the traditional ages of college students (Vermilye, 1974). In the community college, students over 18 are eligible to attend college. For this study, adult learners will be those 18 or older.

Students in Developmental Courses

The students in this study were enrolled in the following developmental courses: Math 02, Basic Arithmetic; Math 03, Basic Algebra; English 01, Preparing for College Writing; or English 04, Reading Improvement.

Actual Classroom Environment

Darkenwald (1989b) defines the actual classroom environment as the way students view their current classes.

Ideal Classroom Environment

Darkenwald (1989b) defines the ideal classroom environment as the way students imagine an ideal class to be.

Fit

Beal and Noel (1980) define fit as the degree of congruence a student has with the educational environment.
CHAPTER 2
Review of Literature

Introduction

The review of the literature focused on three broad categories—the theoretical framework for the study, the instrument selected for the study, and developmental students. In the segment on the theoretical framework, social environment theory was defined and research of advocates was described. The description of the Adult Classroom Environment Scale includes its relationship to prior scales. Each dimension and related research is described. The segment on developmental students includes a description of the students, the need for developmental instruction, and performance of developmental students. Developmental students' tendency toward dropping out and their methods of thought processing are described. Finally, literature related to each subgroup in the study is cited in the areas of ethnicity, gender, age, and the environments of different developmental courses.

Influence of Environment on Learning

Environment Theory

Lewin (1935), in his development of field theory, was a forerunner of the social environment/climate theory. He referred to the environment as the field or "life space" (Lewin, 1975, p. xi) and defined it as that which contains
the "person and the psychological environment as it exists for him" (p. xi). Both past and present experiences are components of the psychological environment. Feelings, such as wishes and fears, often represent the future perspective while guilt often occurs as an individual reflects on the past. The field also includes the learner's character, motivation, cognitive structure, and ways of perceiving. Lewin (1975) believed that persons' behavior was influenced by these various elements within the environment.

Murray (1938) also focused on the influence of the environment on individuals' reactions. He referred to the influence of the environment as the environmental press, or "external demands and influences of a social setting" (p. 127). He found that environmental press either advances or hampers the satisfaction of needs for learners.

Bronfenbrenner (1979) acknowledged the interconnectedness of individuals and the environment in his definition of ecological environment theory. He theorized that the environment includes the individual, as well as other persons and their interactions. The development process prepares the person to become creative in "refashioning the environment so that it is more compatible with his abilities, needs, and desires" (p. 10). He stated that one's ability to impact the environment is considered the highest expression of development by those advocating ecological environment theory. In order to assess a
person's development, researchers make inferences from both verbal and non-verbal behavior in persons' activities, roles, and relationships with others (Bronfenbrenner, 1979).

Fit between Individuals and the Environment

The Interactionist theory, as defined by Astin (1975) and Beal and Noel (1980), describes the fit, or degree of congruence, a student has with the educational environment. As students interact within the setting, they develop relationships. When those relationships succeed in meeting students' developmental needs and interests, students experience congruence (Astin, 1975; Beal & Noel, 1980). Astin (1975) and Beal and Noel (1980) concur that these fits closely relate to retention of students.

Stern (1964) concurred with Astin and Beal and Noel in his statement that the interaction of persons with their environment influences behavior. When persons feel compatible with their environment, congruence occurs. The feeling of success provides an incentive for the individuals to persist in the setting. When dissonance, a poor fit between persons and their environment, occurs, the participants either exit the setting or stop growing.

Other aspects of students' environments also affect their retention. Tinto (1975) conducted research with interactional theories, already defined as suppositions that a fit between the student and the environment is associated with students' persistence. His Social System Schema,
designed to identify components affecting college dropout, lists family background, individual attributes, and pre-college schooling as influences of students' commitment. However, he placed considerable importance on students' interaction with each other and with the teacher. The model showed a direct relationship between these interactions and academic performance.

Tinto's theoretical model of attrition was the subject of a study conducted by Pascarella and Terenzini (1977). The study focused on student-faculty interaction beyond the classroom on intellectual or course related topics. The researchers investigated Tinto's perception that students' personal characteristics interact with the college environment, leading to increased integration with the institution and a higher level of persistence. The researchers questioned if students who persisted had different characteristics from those who dropped out and if those characteristics were more responsible for their persistence or dropout behavior than the elements within Tinto's model. The instrument for the study measured the frequency of student interaction with faculty beyond the classroom in six categories:

1. To get basic information about my academic program
2. Discussion of career concerns
3. Help in resolving a disturbing personal
4. Discussion of intellectual or course-related matters

5. Discussion of a campus issue of problem

6. To socialize informally (p. 549).

After conducting a multivariate analysis to determine if there were systematic differences between the "voluntary leavers" (p. 545) and the persisters, the researchers identified two categories most often selected by students as reasons for their interaction with instructors beyond the classroom:

1. Discussion of career concerns

2. Discussion of intellectual or course-related matters (p. 549).

They determined that student characteristics alone do not totally explain the differences in student-faculty interaction between the "voluntary leavers" (p. 545) and the persisters (Pascarella & Terenzini, 1977).

Other researchers continue to find evidence of the importance of the classroom social environment. The National Council of Instructional Administrators issued a position statement in 1990 which listed classroom strategies for student success. They were drawn from the 1984 National Institute of Higher Education Report, *Involvement in Learning: Realizing the Potential of American Higher Education* and the 1987 *Faculty Inventory*;
7 Principles for Good Practice in Undergraduate Education, published by Art Chickering and Zelda Gamson (1987) under the sponsorship of the American Association for Higher Education, the Education Commission of the States, and the Johnson Foundation. The classroom strategies listed are as follows:

- Encourage student-faculty contact.
- Encourage cooperation among students.
- Encourage active learning.
- Give prompt feedback.
- Emphasize time on task.
- Communicate high expectations.
- Respect diverse talents and ways of learning.
- Make full use of advanced technology for both classroom teaching and classroom management.
- Relate subject matter to students' experiences and interests.
- Emphasize understanding rather than coverage of course material.
- Share with students the desired learning outcomes for the course.
- Incorporate reading, writing, speaking, and critical thinking activities - regardless of subject matter.
- Demonstrate the interconnectedness of the individual course with courses in other disciplines and with
general education.
Focus on formative assessment rather than summative testing.
Use classroom research strategies to monitor and improve teaching and learning.
Relate subject matter to current issues - local, national, international.
The strategies listed include many points identified by social environment researchers as important for persistence of students.

The three "universal conditions of excellence" identified by the National Institute of Higher Education (1984) were

1. Student involvement in the learning process.
2. High expectations by the institution.
3. Regular assessment and feedback for evaluative purposes.

Social Environments

The classroom social environment, or climate, is an integral part of andragogy. The term, andragogy, was first used by European adult educators to refer to the "art and science of helping adults learn" (Knowles, 1984, p. 6).

Anderson and Lindeman (1927) found the andragogical teaching method when they translated German writings which described the folk high school system. They described it as "the true method of adult learning" (p. 3). In a later
writing, Lindeman (1961) described education as a dynamic venture in which students are affected by the educational environment. His statement that

education is peculiarly a kind of behavior through which organisms attempt to adjust themselves to external and internal factors which, having set up frictions, call for new adjustment (p. 93),

generates an important question for educators. How can we plan learning environments in which students can make such adjustments and continuously experience growth? McKenzie (1977) and Hartree (1984) further supported the association of andragogy with instruction in their references to it as a philosophical construct that defines teaching practices which are considered suitable. Jarvis (1984) described it as a theory which lacked sufficient grounding in research. Hartree (1984) and McKenzie (1977) saw it as a philosophical construct which prescribes suitable teaching practices. Pratt (1984) agreed with Hartree and McKenzie that it is philosophically based. He labeled it prescriptive because it designates appropriate learner roles and instructional characteristics.

Malcolm Knowles (1980) saw andragogy as a set of assumptions about teaching practices. He identified four assumptions that undergirded andragogy:

1. Adults both desire and enact a tendency toward self-directedness as they mature, though
they may be dependent in certain situations.

2. Adults' experiences are a rich source for learning. Adults learn more effectively through experiential techniques of education, such as discussion or problem solving.

3. Adults are aware of specific learning needs generated by real life tasks or problems. Adult education programs, therefore, should be organized around 'life application' categories and sequenced according to learners' readiness to learn.

4. Adults are competency based learners in that they wish to apply newly acquired skills or knowledge to their immediate circumstances. Adults are, therefore, 'performance centered' in their orientation to learning (Knowles, 1980, pp. 43-44).

Knowles and Associates (1984) described the classroom social environment as the physical and psychological climate which encourages learning, closely tying the principles of andragogy with Moos' dimensions of classroom social environments. The ingredients they named as important in the environment are collaboration among group members, shared control, relevant activities, and reflection on class activities. Mutual respect and involvement of the learner in planning undergird their description of andragogy.

Knowles' (1984) elements of the andragogical process
closely resemble two components of Tagiuri's (1968) taxonomy of environmental climate. Tagiuri conceptualized a broad view of social ecology, including in his construct the following:

1. Ecology
   - building characteristics

2. Milieu
   - teacher and student characteristics and morale

3. Social System
   - relationship among key participants
   - rapport/communication
   - shared decision making
   - opportunity for participation

4. Culture
   - values and belief systems which hold meaning for participants
   - teacher commitment
   - cooperative emphasis
   - academic emphasis
   - expectations
   - consistency/clarity of goals (Tagiuri, 1968).

The components of Knowles' (1984) andragogical model which focus on the psychological environment and involvement of the learners are similar to Tagiuri's social system and culture components. Knowles' (1984) elements are the following:
1. Climate setting
   a. Physical Environment
      -classroom arrangement and decor
   b. Psychological Environment
      -mutual respect
      -collaborativeness
      -mutual trust
      -supportiveness
      -openness and authenticity
      -pleasure
      -humanness

2. Involving learners in mutual planning

3. Involving participants in diagnosing their own needs

4. Involving learners in formulating learning objectives

5. Involving learners in designing learning plans

6. Helping learners carry out learning plans

7. Involving learners in evaluating their learning
   (pp. 14-18)

Within the classroom social environment, adult students are "social beings, products of history and culture" (Nottingham Andragogy Group, 1983, p. 100). Their learning in group and individual settings is marked by creative and critical thinking in both "affective and cognitive dimensions" (p. 100). The Nottingham Andragogy Group (1983)
listed key qualities needed in the learning setting as the following:

- a nonprescriptive attitude
- issue-centered curriculum
- problem posing
- praxis
- continuous negotiation
- shared responsibility for learning
- valuing process
- dialogue
- equality
- openness
- mutual respect
- integrated thinking and learning (p. 100).

This group described procedures for evaluating learning from the standpoint of praxis. Evaluations of instruction should include careful scrutiny of verbal exchanges within the instructional setting in order to identify changing relationships among students and the teacher. Evaluations should also include determining the extent to which power and responsibility are shared within the setting. Students' reflections on the control they develop over their own learning, as well as their reflections on the changes within the class, are also important in this type of formative and collaborative evaluation procedure.

There are two areas of agreement among these
researchers. One is that collaboration among students is important. The other is that the process of teaching and learning is transactional. Both are components of the classroom social environment.

Moos' (1979) research was concentrated on factors of classroom social environment and their effect on the behavior of students in secondary education. He found evidence to encourage his study of social environments in several categories. The literature indicated that personal traits of individuals only partially explained differing responses to environments. The same persons responded differently in diverse instructional settings (Levinson, 1978; Tars & Appleby, 1973).

As a result, Moos (1979) perceived value in studying the effects environments had on students' behaviors and attitudes. He also found evidence that long-term settings, such as supportive adoptive homes for formerly institutionalized children, had a strong impact on the development of their intellectual functioning, their occupational achievement, and their marital and family status (Scarr & Weinberg, 1976; Skeels, 1966). He found in Kozol's (1967) *Death at an Early Age* a description of the negative effect of the environments in the Boston public schools on Black children. What Moos found in the literature led him to assert that

Conclusions about the influence of different
environments vary, but all authors agree that the social-ecological setting in which students function can affect their attitudes and moods, their behavior and performance, and their self-concept and general sense of well-being (p. 3).

Moos (1979) defined the social environment as the "personality" (p. vii) of the classroom. He (1980) developed the Classroom Environment Scale (CES) in order to study the psycho-social environment of junior high and high school classes. He envisioned the classroom climate to consist of the teacher's behavior, interaction between the teacher and the students, and interactions among the students. The results of the CES provided him with knowledge of students' perceptions of other classroom participants.

Moos (1979) identified three theoretical dimensions in the classroom. The first was the Relationship Domain; its focus is students' involvement in the learning setting, their support of each another, and the freedom with which they express themselves. The second dimension, the Personal Growth or Goal Orientation Domain, represents students' personal development. The third is the System Maintenance and Change Domain. It focuses on the order and organization within the classroom. The subconcepts are defined as follows:
Relationship Dimensions

1. Involvement the extent to which students are attentive and interested in class activities and participate in discussion.

2. Affiliation student friendship and the extent to which students help each other and enjoy working together.

3. Teacher Support the help, interest, trust and friendship the teacher shows toward students.

Personal Growth or Goal Orientation Dimensions

4. Task Orientation the importance of completing planned activities and sticking to the subject matter.

5. Competition the emphasis placed on student’s competing with each other for grades and recognition, and the difficulty of achieving good grades.

System Maintenance and Change Dimensions

6. Order and the emphasis on students Organization behaving in an orderly manner and on the organization of assignments and class activities.

7. Rule Clarity the emphasis on establishing and following a clear set of rules, and on
students knowing what the consequences will be if they do not follow them.

8. Teacher Control how strict the teacher is in enforcing the rules, and the severity of punishment of rule infractions.

9. Innovation how much students contribute to planning class activities, and the number of unusual and varying activities planned by the teacher (Moos, 1980).

Moos (1980) concluded from his research that the environment which results in the most effective student behavior consists of warm (Brown, 1991; Hirst & Bailey, 1983; Halpin, 1990), supportive (Hirst & Bailey, 1983; Texas, 1991) relationships and high expectations (Texas Higher Education Coordinating Board, 1991). It is organized and emphasizes definite academic tasks and clear directions (Hirst & Bailey, 1983).

Research of classroom social environments in schools has consistently revealed that the CES and comparable scales explain much of the variance in the effects of the environments on student behavior (Walburg & Moos, 1980). Studies of classroom social environments in higher education are scarce; however, they support the findings from research in elementary and secondary schools. Fraser and Treagust (1986) conducted a study of classes in Australian universities and found that a more agreeable classroom
social environment was favored by both the students and the instructors. The study also indicated that instructors had a more positive view of the classroom social environment than their students.

Moos' work on environment theory was the basis of the study of dropout and classroom social environment done by Darkenwald and Gavin (1987). The researchers, influenced by Lewin's early work on field theory and Murray's study of needs-press, stated that "behavior is a joint product of individuals and their environment. In other words, individuals and social environments reciprocally influence each other" (p. 152).

In this study, they used Moos' CES (Moos & Trickett, 1974) because of its "integrated conceptual framework of interactions between individuals and their environments" (Darkenwald & Gavin, 1987, p. 153). However, the results found only one of the nine CES subscales significantly related to dropout. As a result, Darkenwald and Gavin questioned the validity of the CES for social environmental research for adults in an educational setting. The researchers found that the CES focused on elements of elementary and secondary classroom environments that were not appropriate for adults, such as areas of discipline.

As a result, Darkenwald (1987) set out to develop a scale to appraise adult classes' social climate. As a basis for the scale, he used social environment/climate theory,
social ecology, and person-environment fit. Lewin's (1935) field theory and Murray's work on environmental press (1938) influenced Darkenwald in the planning of the scale. He also drew from Moos' (1979) social climate paradigm which found teacher behavior, teacher-student interaction, and student-student interaction important.

**Adult Classroom Social Environment**

The adult classroom social environment is composed of the students' and teacher's characteristics and interactions (Darkenwald, 1989b). Darkenwald (1989b) found in his research on social environments that the student-environment fit emerges when the teacher and the students share the responsibility to create a setting in which learning occurs. Their interactions serve as the basis of the social environment, or climate of the classroom. The patterns of communication consist of the teacher's communication with the entire class, with small groups, and with individual students. Interactions among students also contribute to the fabric of the environment. He used these concepts in the formulation of the Adult Classroom Environment Scale (ACES).

The scale consists of two forms. One form is referred to as actual; responses on it reveal students' perceptions of the environment as they see it. Darkenwald (1989b) referred to the actual as the students' perceptions of the "real" (p. 69) environment. The second form, the ideal,
reveals the students' preferred classroom environment.

Darkenwald (1989b) obtained data from 308 adults taking credit classes in a community college located in a depressed area, 156 adults participating in an evening M.B.A. program in a large Pennsylvania university, and 266 students in a large adult school located in a middle-class community. Data were also collected from the teachers.

The results of the investigation indicated that the learning environment preferred by students included the following characteristics: involvement, teacher support, task orientation, and organization and clarity. Students' perceptions of the actual environment and the ideal environment were significantly different beyond the .05 level.

Students' perceptions and those of the teachers also differed on most dimensions. The only two which were not significantly different were task orientation and student influence. Generally, the teachers viewed the classroom environment as more positive and supportive of student growth than the students did.

Darkenwald (1989b) concluded that a majority of teachers are not aware of their students' views of the classroom environment; as a result, teachers may not provide the best climate for learning. He stated that teachers' increased awareness of their students' learning environment preferences and the differences in students' and teachers'
views of classroom social environments could result in improved quality of instructional climates.

Dimensions of Adult Classroom Social Environment

Involvement. Darkenwald's support of the seven dimensions of the ACES is further strengthened by other researchers' findings. The first dimension, Involvement, was described by Darkenwald (1989b) as the "extent to which students are satisfied with class and participate actively and attentively in activities" (p. 72).

Student involvement was among the topics in Fideler's (1991) compilation of the papers presented at the Second Annual Colloquium of Undergraduate Teaching and Learning on April 5, 1991. The focus of the colloquium was classroom research. Patricia Hutchings (1991), the Director of the American Association of Higher Education (AAHE) Teaching Initiative, presented a paper entitled, "Opening the Classroom Door." She stressed the importance of students' and teachers' sharing responsibility for learning. In order to initiate student participation in the process, she suggested that teachers ask students questions about their learning. As students become familiar with the process, they begin to ask themselves questions about their learning, thus becoming involved in the process.

Adults who participated in a study by Check (1984) at the University of Wisconsin-Oshkosh expressed preferences
for involvement in the classroom. They identified discussion and class activities, along with lecture as their favored modes of learning. The value of special class activities for non-traditional community college remedial students reinforces the importance of involvement for students (Griffith, Jacobs, Wilson, and Dashiell, 1988). Students in the basic skills program, called Project Bridge, participated in such projects as proposing hypotheses about laboratory observations and proceeding to formulate experiments to test their hypotheses. The evaluative statistics for the program provided evidence of its success; the students in the program were twice as likely to remain in school as those enrolled in conventional remedial classes. They also exceeded the other students in units completed and grade point averages.

In 1984, a federal study group prepared a report on excellence in colleges entitled, "Involvement in Learning: Realizing the Potential of American Higher Education" (Totten, 1985). The report identified three "Conditions of Excellence" (p. 2): student involvement, high expectations, and assessment and feedback. Student involvement, defined as "how much time, energy, and effort students devote to the learning process" (p. 2), held top priority in the report. The study group reported that research had confirmed the positive relationship between students' effort and their achievement. The report advocated that colleges "control
the conditions of active learning by expecting students to be participants in, rather than spectators of, the learning process" (p. 3). Its recommendations included focusing on passive students to encourage them to become more involved in their own learning.

The importance of attention to passive students is supported by a study conducted by Altmann and Arambasich (1982). One finding of the study was that students who have an external locus of control drop out of school more readily than those with an internal locus of control. Locus of control, a construct from Social Learning Theory, may be internal or external (Rotter, 1962). Persons who exhibit an internal locus of control believe they have control over their own actions, whereas persons with external locus of control believe that their life events are beyond their control (Rotter, Seeman, & Liverant, 1962). Their achievement depends on reinforcement from external sources.

The Altmann and Arambasich (1982) investigation of adults in the basic skills program uncovered differing results relative to men and women. Men who operated with an internal locus of control tended to achieve higher scores than men with an external locus of control. Women who had an external locus of control achieved significantly higher scores than men with external locus of control. The results indicate that even though external students have a higher dropout rate, some students may operate successfully with
external locus of control.

Affiliation. The second dimension in Darkenwald's scale, Affiliation, is defined as the "extent to which students like and interact positively with each other" (p. 72). Darkenwald (1989b) included communication in each item of the dimension. Lindeman (1961) regarded it as the primary mechanism of education. As students interact with each other, they acquire new meanings. A student learns by considering a fellow students' responses to instructional concepts. As the student voices new insights, he or she offers revelations for consideration by other students in their search for meaning (Lindeman, 1961). This interactive process helps students to make sense of class instructional activities (Blumer, 1969; Cicourel et al, 1974; Mehan, 1978).

Knowles (1980) cited discussion as an important technique for adult learning in his second assumption about andragogy. Brookfield (1986) agreed with Knowles that collaboration serves as a meaningful way for adults to learn. Furthermore, the Nottingham Andragogy Group (1983) described "adults as social beings, products of history and culture" (p. 100). Their creative and critical thinking results from "affective and cognitive dimensions of learning in group and individual settings" (p. 100). Dialogue was listed as one of the essential features in the learning process. The group also recommended evaluating
instructional practice by examining the style and content of verbal exchanges and the changing relationships among group members.

As a means for promoting dialogue, Streeter (1992) proposed that educators visualize classrooms as communities of learners, rather than individuals competing with each other. He used the characters in the movie, *Fried Green Tomatoes*, as examples of persons in a setting in which there was a "conspiracy of concern and affection" (p. 9). This concept was supported by evaluation results of Project Bridge, a basic skills program for non-traditional, often minority, community college remedial students. The educators in the program sought to build community among the students by planning activities to help students understand content, as well as to interact socially. As support groups and friendships formed, students attended class regularly and successfully achieved instructional goals (Griffith, Jacobs, Wilson, and Dashiell, 1988).

A project at Northern Virginia Community College was planned with collaboration as a primary focus. Within the developmental English classes, teachers and counselors provided opportunities for students to become better acquainted with their classmates. Their attempts to link affective and cognitive learning reaped positive results. Students reported that getting to know their classmates helped to relieve their apprehension about the writing
class. The "team" or "group" (p. 53) feeling helped them (Project Intertwine, 1981).

Several resources focused on affiliation and its connection to drop-out. Irish (1978), in a study of the classroom social environment, found that dropout most often resulted from negative reinforcers. Using the CES in an analysis of dropout in adult basic education, Garrison (1985) identified affiliation as a statistically significant predictor of dropout. He found that students who exhibited in the scale that they were low on affiliation were more likely to drop out. Findings of an earlier study of dropout and persistence in GED classes indicated that the dropouts in the study were less affiliative than the persisters (Wilson, 1980).

Dunston, Richmond, and House (1983), in their review of the literature on retention of Black students in higher education institutions, listed the major factors which influence the retention of Black students in predominantly white institutions. One factor listed was the effect of environmental characteristics. Another was alienation and group identification. Of the six characteristics listed, environment and affiliation were reported as significant. One conclusion of the literature review was the importance of instructors' relating to the students. Another was the need for an instructional design which provides both academic and social activities (Cope, 1978; Cope & Hannah,
Furthermore, the researchers listed faculty accessibility to Black students as very meaningful for retention (Harrower, et. al, 1980; Pascarella & Terenzini, 1977; Spady, 1971; Walton, 1979).

Tagiuri's (1968) taxonomy further supports the importance of communication in the classroom social environment. He identified four major components of the environment: ecology - building or classroom characteristics, milieu - individual characteristics, social system - relationships among individuals, and culture - values. Communication is an important element of both the social system and the culture (Ennis, Mueller, Hettrick, Chepyator-Thomson, Zhang, Rudd, Zhu, Ruhm, & Bebetson, 1989).

An ethnographic study was designed to determine which components of climate theory affected university adults' learning experience (Ennis, et al., 1989). The team of researchers collected data on the instructors' perceptions of their efforts to provide a participatory learning setting and the students' reactions to the setting, students' perceptions of their interactions with the instructor and with their fellow students, and observations of the researchers. The results supported the social system component of Tagiuri's taxonomy as instrumental in defining the climate of adult learning environments. The most significant elements identified in the study were shared
decision-making and communication. Communication of the teacher with the entire class, small groups, and individual students was reported as significant. Interaction among students in the class was mentioned; however, students reported that their positive interactions with their instructors helped them to increase their understanding of the course content and to relate it to their lives (Ennis, et al., 1989).

**Teacher Support.** Teacher support, Darkenwald’s (1989b) third dimension of ACES, assesses students’ perceptions of their interactions with teachers. Darkenwald (1989b) defined it as the "extent of help, encouragement, concern, and friendship that teacher directs toward students" (p. 72). Moos (1980) concluded from his research that students benefit from a combination of sensitive, encouraging relationships; an emphasis on definite tasks; and structure. He also advocated that the teacher have high expectations of students.

Citations in the literature point to teacher-student interactions as very important. A research report entitled "Assessing Minority Opportunities in Vocational Education," (Texas Higher Education Coordinating Board, 1991) indicated that instructors’ attitudes toward their students were a predominant determinant of student persistence. In 1979, Alciatore reported that students preferred instructors who were interested in them, had good personalities, were
interested in the subject matter, and had the ability to communicate with them. Similar qualities were selected when Coor, Shack, and Walsh (1992) distributed a survey designed to assess the characteristics of excellent teachers. Included in the top five characteristics was "Is approachable, open, and responsive to students" (p. 2).

Providing students' needed recognition was among the motivational practices suggested by O'Heron (1992). He also advised giving verbal and nonverbal praise when students achieve, as well as non-threatening comments to point out their mistakes. The attitude of the instructor was one of the factors found to influence minority students' educational improvement in a study done by the Commission on Higher Education of Minorities (Astin, 1982). Instructors' attitudes emerged as a major factor in another study involving student persistence (Halpin, 1990). Halpin (1990) stated that instructors' emphasis on teaching and student development was a predictor of student persistence. Particular behaviors suggested for increasing student persistence were faculty interaction via small, interactive classes, numerous office hours, advisement, and small group activities. Generally, faculty who were accessible and involved with their students contributed to the students' retention (Halpin, 1990). An instructor's respect for students forms the basis for this dimension (Streeter, 1992), (Hirst & Bailey, 1983).
Task Orientation. Respect is also important in the fourth dimension, Task Orientation (McDonald & Cotrone, 1981). Task Orientation assesses the "Extent to which students and teacher maintain focus on task and value achievement" (Darkenwald, 1989b, p. 72). An experimental study of organizational climate and motivation generated useful findings for the classroom. The findings showed that the achievement motivated leader who needs success and sets high standards is a major force in students' achievement (McDonald & Cotrone, 1981). The concluding statement that the instructor who fosters mutual respect between himself and the student through setting clearly defined objectives, encouraging innovation, rewarding excellence, stressing cooperation, creating pride in accomplishment, and offering challenge, is likely to nurture achievement-oriented students (p. 42)

emphasizes the importance of attention to task orientation. Moos (1980) also paired this dimension with teacher support as a necessary ingredient to a positive classroom environment. Hutchings (1991) added the importance of attention to content. Rosenshine (1978) also included content in his statement that high student performance often occurred in informal classes in which much time was spent on content. Adults in a study at the University of Wisconsin-Oshkosh expressed preferences for an instructor who would
help them to gain understanding of the content of the course (Check, 1984). Another study was designed to identify effective teaching proficiencies. The strategies, suggested by community college faculties, include a need for the instructor to have an interest in the subject and to communicate its importance to the students. These faculty members also placed course content as very important in teaching (Hirst & Bailey, 1983). Grades, when associated with achievement, were cited by O’Heron (1992) as a positive motivator. The results of a study conducted by Roueche, Baker, and Roueche (1987) indicated that teachers should plan instructional content that would give students the skills they need for their subsequent courses and programs. The literature provides a firm base for the need for a balance of teacher interaction with students and attention to the instructional tasks.

**Personal Goal Attainment.** The instructional tasks are an integral part of the fifth dimension, Personal Goal Attainment. It is the "extent to which teacher is flexible, providing opportunities for students to pursue their individual interests" (Darkenwald, 1989b, p. 72). Students need opportunities to learn skills they need and want in order to function in their world. According to Beder (1990), learning which has relevance for the student fulfills one of the central principles in adult education. John Rachal (1990) supported students' personal interests in
"The Social Context of Adult and Continuing Education" with the following statement:

Knowledge is indeed power...and education is a potent force for either distributing or perpetuating power. Knowledge can be used to promote, to enfranchise, even to liberate the individual through furthering individual self-interests - whether by improving job opportunities or by enhancing one’s voice in matters of local or national policy" (p. 13).

This desire on the part of students for meaning and value in learning was further supported by the results of The Students’ Evaluation of Educational Quality (SEEQ). Nine dimensions were found to be important to students, one of which was learning/value (Marsh, 1984). In a study in 1991, Marsh and Bailey’s (1993) factor analysis results revealed the following elements in the dimension he called learning/value:

Course challenging & stimulating
Learned something valuable
Increase subject interest
Learned & understood subject matter

Students who participated in Project Intertwine (1981) at Northern Virginia Community College found relevance in their writing skills instruction. Not only did their skills improve, but they also had a very positive impression of
their instructional program.

Knowles (1980) included elements of personal goal attainment in one of his assumptions about andragogy. He advocated that instruction include topics which provide students with skills to help them with real-life tasks and problems. When students have the opportunity to pursue their own interests, they may become "originators of their own thinking and feeling" (Nottingham Andragogy Group, 1983, p. 100).

**Organization and Clarity.** The sixth dimension, Organization and Clarity, embodies an element of the classroom social environment which measures the "extent to which class activities are clear and well organized" (Darkenwald, 1989b, p. 72). Smith and Cranton (1992) conducted a study intended to examine students' perceptions of teaching skills. They found from the results of their study that students associated interest and atmosphere with effective teaching. The students in lower level courses selected organization and clarity as factors they perceived as related to effectiveness. Check's (1984) study of adults at the University of Wisconsin - Oshkosh provides support for Smith and Cranton's study. The adults designated structure as very important to them in the learning setting.

Instructors' perceptions of organization and clarity were included in the results of a study done by Hirst and Bailey (1983). The researchers, upon becoming aware that
evaluation forms did not identify teaching skills or classroom behaviors that contributed to teaching competence, designed a study to identify classroom teaching competencies needed for effectiveness. Community college faculty members in Kansas identified sixteen competencies as "highly important" (p. 3). They asserted that students needed to be told what the teachers would expect of them at the beginning of the semester. They also listed verbal skills - such as pitch, projection, tone, pauses, emphasis, and vocabulary - as related to clearly communicating with students. Several course content teaching competencies were rated as "highly important" (p. 4) also. The items on tests should reflect the course content taught. Students should be told how they would be evaluated. Textbooks and other reading materials should be readable and understandable. The course material should be organized so that material follows a logical order. Teachers should help students to organize material, also. They should write instructional objectives with the students' achievement level in mind.

Hirst and Bailey's (1983) analysis of the study led them to conclude that it is very important for teachers to plan and inform students of the content of the course and the criteria for evaluation of students' success in the course. In addition, it is significant that teachers plan and practice their classroom techniques, such as eye contact and questioning techniques. In an article entitled,
"Community Colleges and Communication Education," Wolvin and Engleberg (1989) emphasized the need for instructors to know their content and to possess effective communication skills. The findings of Hirst and Bailey's (1983) study and Wolvin and Engleberg's (1989) advice further support the need for organization and clarity as a vital element of the classroom social environment.

Planning is an element emphasized by Roueche, Baker, and Roueche (1987) in an article entitled, "Open Door or Revolving Door? Open Access and the Community College." In order to provide the instructional quality necessary for student success in developmental programs, teachers need to plan instruction that will contribute to student success in needed skills. According to Roueche, Baker, and Roueche (1987), if students are allowed access without careful planning and organization of instruction, they will not be able to succeed.

Marsh and Bailey (1993) found organization and clarity to be a significant factor in their Students' Evaluation of Educational Quality (SEEQ). The items included in this dimension of their instrument are the following:

1. Lecturer explanations clear
2. Materials well explained & prepared
3. Course objectives stated & pursued
4. Lectures facilitated taking notes" (p. 14).
Other scales within the SEEQ are Assignments/Readings and Workload/Difficulty. These dimensions support Hirst and Bailey's (1983) emphasis on readable texts and attention to students' achievement levels.

Student Influence. Darkenwald's (1989b) last dimension of ACES is Student Influence. He defines it as the "extent to which teacher is learner-centered and allows students to participate in course planning decisions (p. 72). Lindeman (1961) emphasized the importance of this dimension when he advised educators to continuously scrutinize students' interests and make adjustments that would channel students toward meeting their needs. He offered a four-step approach for this process. It involves seeking the answers to the following questions:

1. What situation have we here?
2. What sort of problem does it show?
3. What new information does it involve?
4. What action will set us on towards a solution? (P. 122).

This creative discussion technique advocated by Lindeman (1961) reveals his promotion of student influence in planning course content. Patricia Hutchings (1991) expressed agreement with questioning as a way of empowering students. She recommended that teachers ask questions about what students are learning in their courses and how the learning is connecting with the students' other courses. As
a result, Hutchings believes students will learn to ask their own questions about their courses. This approach to empowering students coincides with the educational model of the Nottingham Andragogy Group (1983). It regards andragogy as an effort to help students think for themselves. Knowles (1984) also proposed including students in the planning of instructional content, as well as methods.

Empowerment and locus of control share a common element in the persons with an internal locus of control (Altmann & Arambasich, 1982). In a reference to locus of control, Rotter (1966) stated that persons with internal locus of control were more prone to work toward achievement than those who felt that they had little control over their environment. O’Heron (1992), in his suggestions for providing motivation for students, stated that students respond positively to being included in the decisions regarding their learning.

Students in Developmental Studies

According to Boylan (1993), the classification of students as developmental usually depends upon the criteria set by each institution. The criteria may be high school performance, standardized college achievement tests, placement tests, faculty recommendation, or a combination of these. Currently, there are approximately 2,000,000 students in the nation who are enrolled in developmental instruction (Boylan, 1986). They include men, women, Black
students, white students, students under 25, students 25 or older, and students who enter college at different skill levels.

The National Center for Developmental Education at Appalachian State University in Boone, North Carolina, completed a national study of developmental education in 1991 (Boylan, 1993). It was a three-year study of students in developmental studies programs in both two-year and four-year colleges. Findings from the study provided the following categories of developmental students:

1. 62.5% of developmental students were white
2. 26.6% were African/Americans
3. 46.6% were males
4. 53.1% were females (Boylan & Bonham, 1992)
5. The average age of developmental students is 21 years with a range between 16 and 65 years of age.
6. The majority of developmental students at two-year and four-year colleges are degree-seeking students.
7. Sixty-eight percent of the developmental students at two-year colleges were full-time students.
8. Six out of ten of the developmental students were admitted under regular admission standards (Boylan, 1993).

Need for Developmental Instruction

Data from studies of developmental instruction
demonstrate the extensive need for remediation in community colleges. In a study of institutional effectiveness in 1989, Miami-Dade Community College (MDCC) found that 67.9% of their entering students exhibited the need for instruction to improve their basic skills (Belcher, 1989). Similar findings were identified in Dillon's (1990) study of 1,912 students who graduated with associate degrees in the Los Angeles Community College District (LACCD). In the graduating class, 69% had taken at least one remedial course; 25% had taken more than eight units; and 10% had taken more than 12.

The Florida Postsecondary Educational Commission (1990) found in a study of remedial students that the number of students enrolled in developmental courses was low compared to the number whose entry tests indicated the need for remedial instruction. Of the 1140 tested in one institution, 953 scored low enough on math to enroll in a developmental course; however, only 297 actually enrolled. By contrast, Fine & Lehnertz (1990), in a study of community college students in Minnesota, reported just over 15% of all the students who were taking remedial courses during the year.

Currently, Virginia's two-year public colleges have 36.6% of their students taking developmental math courses. Since 1990, the community colleges have followed the mandatory placement policy established by the Task Force on
Remediation. The guidelines set by the Task Force require that all incoming students be tested for deficiencies and placed in appropriate remedial courses. This policy has had an impact on the number of community college students who take developmental studies courses.

Southwest Virginia Community College exemplifies the increase in developmental students since the new policy. From Fall Semester of 1988 to Fall of 1991, the number of students in developmental English practically doubled. The number in developmental math increased but not in such great proportions (Boyce, 1991). The placement policy has had an impact on enrollment of developmental students at New River Community College (1992), also. Eighty percent (80%) of the recent high school graduates who enrolled at New River Community College were placed in at least one developmental course (New River Community College, 1992).

The State Council of Higher Education (SCHEV) (1992) identified characteristics of students enrolled in developmental courses in Virginia in the Survey of Remedial Education. Virginia community colleges comprised 41% of the higher education institutions represented in the survey. Among the characteristics reported were age, sex, and race. Students between the ages or 17 and 22 constituted 75% of the remedial students; those between 23 and 34 made up 16.8%; and students over 34, 8.2%. Virginia Community College System (VCCS) data collected in 1991 indicated lower
percentages for the younger students and higher percentages for the older. About 62% of the developmental students were between the ages of 17 and 24, while 38% were 25 or older (Roesler, 1992). Roesler (1992) reported further that the number of students in the 18-24 age group had increased considerably since 1988.

SCHEV (1992) and the VCCS (Roesler, 1992) reported similar data for the sex of students enrolled in developmental courses. There were 54.6% females and 45.4% males enrolled in all higher education institutions (SCHEV, 1992). In community colleges, females comprised 57.7% and males, 42.3% of those enrolled in developmental studies (Roesler, 1992). From 1988 to 1991, the number of females grew by 24%; the number of males, by 30% (Roesler, 1992).

The ratio of Black and White students in the two reports varied somewhat. In all higher education institutions, there were 46% Black students and 43% White (SCHEV, 1992). In the community college system, there were 21% Black students and 72% White (Roesler, 1992). In the Assessment Report to SCHEV made by Germanna Community College (1992), the college reported that Black students comprised 8% of their student body; however, approximately 27% of their Black students were enrolled in developmental courses. Between 1988 and 1991, the number of Black students enrolled in developmental courses in Virginia community colleges increased by 70%, whereas the number of
white students increased by 17% (Roesler, 1992).

Performance of Developmental Students

In addition to the reports of the increasing number of developmental students, the reports of their performance are numerous, also. A follow-up study of students enrolled in Prince George's Community College in 1990 revealed that only 3% of the students who took developmental math completed the course in one semester (McCoy, 1991). The study showed that 25% of the Associate Degree graduates in 1988 who had enrolled in 1980 had taken at least one developmental course. The developmental students from that group were less likely to graduate, especially if they took more than one developmental course. Of the group who took no developmental courses, 13% graduated; 12% of the students who took one developmental course graduated. However, only 7% of the students who had taken two developmental courses and 8% of the ones who took three or more graduated.

Miami-Dade Community College's 1989 study revealed similar data to that of Prince George's. Fewer than 50% of the students completed the remedial courses prescribed for them. Furthermore, only 15% of the students who entered with skill deficiencies graduated after three years, compared to 40% of students who had not shown a need for remedial work upon entering the college (Belcher, 1989).

Graduation results were also the focus of the study of the Los Angeles Community College District. Since 69% of
the total number of students in the study needed remedial instruction, the portion of the study directed at all students provided information relevant to remedial students. The findings related to graduation indicated that women took slightly longer to graduate than men; also, students between the ages of 25 and 34 were slower reaching graduation than those who enrolled before age 20 and after age 35. White students generally graduated later than the Asian students, while the Black students were the slowest reaching graduation. The researcher attributed the differences in length of time to graduate to considerable part-time attendance by these two groups. Most of the students in LACCD attended part-time. Also, many students stopped attending and returned several times before graduation. The two groups who tended to stop temporarily were the students between age 25 and 34 and Black students. These two groups' stops and starts were four to six semesters more than the total group. A possible explanation for the slow progress of the Black students was extreme poverty; for the 25-34 age group, it was child rearing responsibilities. One conclusion of the study was that the community college is not a two-year college (Dillon, 1990).

Many developmental students do not graduate (Belcher, 1989; McCoy, 1991; Riggs, 1990) or may have to stop out many times before graduating (Dillon, 1990). Dillon's (1990) study found stopping out especially necessary for women,
Black students, and adults between the ages of 25 and 34.

A study of the impact of Tennessee's developmental studies program on the academic progress of minority students focused on determining the effects of the statewide mandatory testing and placement on both retention and academic progress of minority students in the community colleges. The results indicated that most Black students need remedial work before taking college level courses and that most of them drop out before completing three quarters (Riggs, 1990).

Persistence of first-time students enrolled in developmental courses in Virginia community colleges was reported by Roesler (1992) in a report made to the Virginia Association of Developmental Education (VADE). Of the students who began their courses in 1988, 17% were still enrolled in 1991. Seven percent had graduated by then. Among the community colleges in Virginia, persistence including graduation rates, ranged from 11.5% to 40%. Graduation rates ranged from 1% to 24% (Roesler, 1992).

In Spring, 1990, New River Community College collected data to compare the academic achievement of developmental students in subsequent courses to students who had not taken developmental courses. The results showed that students who succeeded in the first developmental math course did almost as well in the second developmental math course as students who had not taken the first one. However, students who
passed the developmental math course did not perform so well in the non-developmental subsequent course as those students who had not taken a developmental course (Lyons, 1990).

Tracking data in Northern Virginia Community College's Assessment Report to the State Council of Higher Education (SCHEV) during 1992 showed that passing grades in developmental courses predicted success for students in subsequent courses. Also included in the report were percentages of students who did not pass the developmental courses: writing - 25%, reading - 23%, and math - 57% (Northern Virginia Community College, 1992). Paul D. Camp Community College (1992) found that students who completed developmental courses performed equally or more successfully in subsequent English and math courses. The retention rate of their developmental students was the same as that of the entire institution - 59%. They also reported that 33% of their graduating class had completed at least one developmental course during college (Paul D. Camp Community College, 1992).

Several community colleges expressed concern about the performance of developmental students in their assessment reports. Virginia Western Community College (1992) reported concern that the pass rate for their developmental math students was between 45% and 50%. J. Sargeant Reynolds Community College (1992) also perceived their success rates lower than desired and attrition rates higher. As a result,
they instituted Project BASE (Basic Academic Strengths Enrichment). The results of the project demonstrated a need to address affective skills that contribute to academic success. Subsequently, the college formed faculty-counselor teams, which planned counseling activities and instructional strategies to respond to students' learning styles, provide attention to students' affective needs, and help students develop the skills needed to succeed in college courses.

Patrick Henry Community College (1992) and Rappahannock Community College (1992) reported concern for the number of their developmental students who did not complete developmental courses. Patrick Henry's response was an assessment project designed to determine what students' original goals were when they enrolled and if the students achieved their goals, why they were no longer enrolled, and why they did not return to college (Patrick Henry Community College, 1992). Rappahannock began a re-structuring process for their program to include "more emphasis on tutoring/mentoring/shepherding in the classroom" (Rappahannock Community College, 1992, p. 10).

Academic performance of developmental students was a focus of the national study of developmental education completed in 1991 by the National Center for Developmental Education at Appalachian State University in Boone, North Carolina (Boylan, 1993). Among the highlights of the findings on students' academic success were two that
contribute to a description of students in developmental studies. The data from the study indicated that 81% of developmental students persisted in their studies at least one year and that 71% of those who withdrew were in good standing at the time of withdrawal. In terms of performance, developmental students in community colleges earned the same GPAs during their first semesters in college as they had in high school. However, as they continued in school, their cumulative GPAs declined, as did developmental students' at other types of institution (Boylan & Bonham, 1992). In terms of completion of programs, developmental students in community colleges compared favorably with the national average (Boylan & Bonham, 1992). Tinto (1987) reported that 27% of the developmental students in two-year colleges will finish programs in the institutions where they begin their college work. The National Center for Developmental Education found in their study that after four years, 24% of the students who had begun in developmental studies had graduated or were still enrolled. The data also showed that students in developmental programs persisted at about the same rate as those who had not entered developmental programs (Boylan & Bonham, 1992).

**Tendency toward Dropping out**

A characteristic of developmental students identified in the literature is the tendency of high risk students to drop out of school before completing their programs (Jones &
Watson, 1990). Results of a national study which included statistics from community colleges revealed that 291 of the 970 (30.1%) White students in the study were retained, while only 25 of the 248 (10%) African/American students were.

Two descriptive terms used by researchers and educators to refer to students needing remediation are high-risk and non-traditional. Pinkston (1987) defined high-risk students as those who are unprepared for college academic offerings. In Jones and Watson's (1990) "High risk" students in higher education, they referred to the "high risk" (p. 3) student as "any student whose probability of attrition is above average" (p. 3). They categorize females, minorities, the disabled, and economically disadvantaged as high risk.

These same groups are considered non-traditional. Arfken (1981) defined non-traditional students as adults, students who have low socio-economic standings, ethnic minorities, and women. Cohen and Brauser (1982) included these groups in their definition, also. A broader definition offered by Radcliff and Baxter (1984) included all groups except white, middle-income male students with higher than average academic records from high school.

Older college students often need developmental studies, also. The results of a study of students who were over the age of 25 revealed a correlation between older students with non-traditional and high-risk students (Roderich & Bell, 1981).
Demographic characteristics of high risk students are varied. The characteristics include a low grade point average, lack of success in courses, alienation from campus, and financial difficulties (Holahan, et al., 1983). Particular populations of students considered high risk are African-Americans, Hispanics, and Native Americans. Both men and women have been identified in different studies as high risk. Holahan (1983) reported studies in which females were found to have a tendency to drop out of school; however, men had higher drop-out rates than women in another study (Illinois Community College Board, 1987).

In addition to demographic characteristics, researchers report characteristics which are related to elements in the academic setting. One factor is that of academic background (Shade, 1984). Astin (1982) identified academic preparation as a major predictor of college achievement for both Black and White students. Another characteristic of high-risk students is the tendency to be concrete thinkers (Shade, 1984). Concrete thinkers may not have learned to use analytic skills needed for college-level courses (Klausmeier & Associates, 1979; Wagner, 1977).

**Thought Processing**

Developmental students tend to be field dependent and impulsive, giving the first response they think of, rather than reflecting on alternatives before deciding on an answer to a question (Fennema & Behr, 1980). Without visual and
oral instruction in math problem solving, they may have difficulty performing in math class (Witkin, et al., 1977). Findings of studies of African-American students indicated that they often use their kinetic and tactile senses to organize and process information (Shade, 1984). They are also more oriented to people than things (Prom, 1982; Shade, 1984). Researchers have also found that women tend to focus on people, also (Johnson & Prom, 1984).

Ethnicity

Black students' orientation to people was supported by a study of minorities done by the Commission on Higher Education (Astin, 1982). The analysis of factors which influenced their performance included faculty attitudes as very important. One portion of the study concentrated on the college environmental factors which affect students' performance. Minority educators were asked to relate the factors that had helped them to progress educationally and those that had hindered. They identified encouragement and support of their families as having had a positive impact. Among the barriers were faculty attitudes, self-concept, and identity problems (Astin, 1982). Stoecker, Pascarella, and Wolfe's (1988) study also found that faculty interaction had a positive effect on Black male students.

Black students studied by Cope (1978), Cope & Hannah (1975), and Tinto (1975) manifested the need for instructional approaches which addressed both their academic
and social needs. Their need for accessibility has been found to be closely related to their success rates in higher education (Harrower, et al., 1980; Pascarella & Terencini, 1977; Spady, 1971; Walton, 1979).

Gender

In the study conducted by Stoecker, Pascarella, and Wolfe (1988), interaction with faculty was identified as having a positive effect on both white men and women, as well as Black men. In other studies, men and women have exhibited differences in their social environment needs.

Locus of control was the focus of a study conducted by Altmann and Arambasich (1982). The participants in the study were adults in a basic skills program. Achievement and internal locus of control were significantly related for the men in the study. The women's achievement was primarily related to external locus of control. In Altmann and Arambasich's (1982) study, the men with an internal locus of control performed significantly better than men with an external locus of control. In contrast, women with an external locus of control made significant achievements, especially when compared to external men. Internality has been positively related to persistence in several studies (Rotter, 1966; Lefcourt, 1976; Phares, 1976). External students tend to have a higher drop-out rate than internal (Altmann & Arambasich, 1982).

Astin (1982) found a positive relationship between
Gender and persistence for Black women; however, he discovered a negative relationship for white women. Voorhees (1987) determined, from his study, that women persisted at higher rates than men. He used the Tinto model to plan a model for persistence in the community college. Tinto's (1975) research has been based on his position that students' fit with the instructional environment relates to their persistence.

Gender differences were evident in several other studies. Researchers found that women and men use different means for learning. Women learn by means of connections; they need an atmosphere of involvement and caring interactions (Belenky, et al., 1986; Gilligan, 1982). They respond positively to personal relationships and cooperative and helpful settings (Bardwick, 1971; Friedman, 1980; Knapp, 1981; Lipman-Blumen & Leavitt, 1976; Lott, 1985; Sprenner & Featherman, 1978; Williams, 1977; Worrell, 1980). In contrast, men were found to focus on accomplishments, rather than affiliation (Gilligan, 1982).

Beer and Darkenwald (1989) used ACES to compare men's and women's perceptions of classroom social environments. They hypothesized that women would see the environment as more affiliative than men. They also hypothesized that women would perceive the classroom as having a greater degree of involvement. Both hypotheses were supported.
Age

The results of a federal research project suggested that age is a factor in classroom social environment (Totten, 1985). Among the objectives of the study were improvements in the teaching/learning process and retention. The factors identified as contributors to these objectives were student involvement, high expectations, and assessment and feedback. As a result, the researchers recommended that colleges provide instructional settings in which students are active learners. They found that older students tended to participate more in the learning process than younger ones (Richardson, 1982; Totten, 1985) and often helped to ease tension in the classroom by exhibiting humor (Totten, 1985).

Younger students' responses to the classroom social environment are implied in Totten's (1985) report. Evans (1987) contends that there have been few studies focusing on the 18-25 age group. He suggested that more research on students who are in the process of developing their adult lifestyle habits would be beneficial for instructional planning.

Proponents of andragogy have also advocated the need for attention to age when addressing students' needs. Lindeman (1961) supported involving younger students in the learning process because of the anxiety they experience during the transition to adulthood. Referring to older
adults, the Nottingham Andragogy Group (1983) recommended encouraging their participation in the process as a way to help them to learn to critically analyze assumptions which they had accepted without examination. Both authors perceived this approach as a way to help students develop in a positive way when young and to reassess for improving their lives when older.

**Environments in Different Courses**

The results of a study conducted by Beer and Darkenwald (1989b) revealed varying student perspectives of classroom social environment, depending upon their courses. Both men and women perceived the environment in English classes as significantly different from the environment in math classes. In particular, the students experienced a more affiliative setting in the humanities classes than encountered in the math classes.

**Summary**

The literature clearly indicates the importance of classroom social environment in the instruction of developmental students. Theorists have hypothesized its effect on student achievement, and researchers have reported considerable support for social environment theory. The literature further supports the use of the Adult Classroom Environment Scale as a tool for assessing elements of classroom social environment, thus providing a means for
assessing students’ fit with their environment.

Research Questions and Related Hypotheses

As a result of the related literature search, the following research questions and hypotheses were developed to guide the study.

Research Question 1: How do students and faculty view the classroom social environment in developmental courses in Virginia community colleges?

\( H_{1A} \): There will be a significant difference in the students’ perceptions of the actual classroom social environment and their instructors’ perceptions of the actual classroom social environment.

\( H_{1B} \): There will be a significant difference in students’ perception of the ideal classroom social environment and the instructors’ perception of the actual classroom social environment.

Research Question 2: Are there differences in the Ideal and Actual classroom social environments as perceived by students in developmental courses in Virginia community colleges?

\( H_{2A} \): There will be a significant difference in student’s perceptions of the ideal and actual classroom social environment.
Research Question 3: Are there differences between men and women students in their perceptions of the classroom social environment?

H3A: There will be a significant difference between men and women students in their perceptions of the actual classroom social environment.

H3B: There will be a significant difference between men and women students in their perceptions of the ideal classroom social environment.

H3C: There will be a significant difference in women students' perceptions of the ideal and actual classroom social environment.

H3D: There will be a significant difference in men students' perception of the ideal and actual classroom social environment.

Research Question 4: Are there differences between students from different racial groups in their perceptions of the classroom social environment?

H4A: There will be a significant difference between students from different racial groups in their perceptions of the actual classroom social environment.

H4B: There will be a significant difference between students from different racial groups in their perceptions of the ideal classroom social environment.
H₄C: There will be a significant difference in white students' perceptions of the ideal and actual classroom social environment.

H₄D: There will be a significant difference in Black students' perceptions of the ideal and actual classroom social environment.

H₄E: There will be a significant difference in American Indian students' perceptions of the ideal and actual classroom social environment.

H₄F: There will be a significant difference in Asian students' perception of the ideal and actual classroom social environment.

H₄G: There will be a significant difference in Hispanic students' perceptions of the ideal and actual classroom social environment.

Research Question 5: Are there differences between younger and older students in their perceptions of the classroom social environment?

H₅A: There will be a significant difference between younger and older students in their perceptions of the actual classroom social environment.

H₅B: There will be a significant difference between younger and older students in their perceptions of the ideal classroom social environment.

H₅C: There will be significant differences in younger students' perceptions of the ideal and actual
classroom social environment.

H5D: There will be significant differences in older students' perceptions of the ideal and actual classroom social environment.

Research Question 6: Are there differences between students in English and math classes in their perceptions of the classroom social environment?

H6A: There will be a significant difference between students in English and math classes in their perceptions of the actual classroom social environment.

H6B: There will be a significant difference between students in English and math classes in their perceptions of the ideal classroom social environment.

H6C: There will be a significant difference in English students' perceptions of the ideal and actual classroom social environment.

H6D: There will be a significant difference in math students' perceptions of the ideal and actual classroom social environment.

Research Question 7: Are there differences between first generation and non-first generation students' perceptions of the classroom social environment?

H7A: There will be a significant difference between first generation and non-first generation
students' perceptions of the actual classroom environment.

H7b: There will be a significant difference between first generation and non-first generation students' perceptions of the ideal classroom environment.

H7c: There will be a significant difference in first generation students' perceptions of the ideal and actual classroom social environment.

H7d: There will be a significant difference in non-first generation students' perceptions of the ideal and actual classroom social environment.

Research Question 8: Are there differences between students from large and small colleges in their perceptions of the classroom social environment?

H8a: There will be a significant difference between students from large and small colleges in their perceptions of the actual classroom social environment.

H8b: There will be a significant difference between students from large and small colleges in their perceptions of the ideal classroom social environment.

H8c: There will be a significant difference in small college students' perceptions of the ideal and actual classroom social environment.
Hₜ₀: There will be a significant difference in large college students' perceptions of the ideal and actual classroom social environment.
CHAPTER 3
Methods and Procedures

This chapter contains a description of the research design for this study, the population and sample, instrumentation, procedures for collecting data, and methods used for analyzing the data.

This study of classroom social environment was a descriptive study, designed to collect data and test hypotheses pertaining to students enrolled in developmental courses in Virginia community colleges. The purpose of a descriptive study is to report attitudes or opinions toward persons, institutions, events, or procedures (Gay, 1987). A sample of students enrolled in developmental studies courses in Virginia community colleges responded to survey items designed to determine their perceptions of their current classroom environments and their perceptions of ideal classroom environments. The instructors of the classes in this study also responded to the survey items designed to determine their perceptions of the actual classroom environments. The data analysis included the following: analysis to determine differences in students' perceptions of the actual environment from the instructors' perceptions, analysis to determine differences of students' scores on the actual form and the ideal form, and comparison of the scores on the ideal form and actual form for eight subgroups. The
subgroups were formed by gender, race, age, type of developmental course, size of college, and whether students were first generation college students. The overall purpose of the analyses was to determine students' classroom social environment needs.

Population

The population for this study included students enrolled in developmental studies courses in Virginia's community colleges. The Virginia Community College System (VCCS) (1992a) consists of 23 community colleges, six of which have more than one campus. The names of the colleges, the number of campuses, enrollment, and number of developmental studies students (DSS) during Fall, 1992, are shown in Table 1.

Table 1.
VCCS Community Colleges, Campuses, Total Enrollment, and Number of Developmental Studies Students

<table>
<thead>
<tr>
<th>College</th>
<th>Number of Campuses</th>
<th>Enrollment</th>
<th>DSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Virginia (NVCC)</td>
<td>5</td>
<td>39250</td>
<td>4269</td>
</tr>
<tr>
<td>Tidewater (TCC)</td>
<td>3</td>
<td>17305</td>
<td>3757</td>
</tr>
<tr>
<td>J. Sargeant Reynolds (JSRCC)</td>
<td>2</td>
<td>12740</td>
<td>2186</td>
</tr>
<tr>
<td>Thomas Nelson (TNCC)</td>
<td>1</td>
<td>7827</td>
<td>1684</td>
</tr>
<tr>
<td>Virginia Western (VWCC)</td>
<td>1</td>
<td>6904</td>
<td>937</td>
</tr>
<tr>
<td>John Tyler (JTCC)</td>
<td>1</td>
<td>5562</td>
<td>1125</td>
</tr>
</tbody>
</table>
Southwest Virginia (SWVCC) 1 4877 633
Piedmont Virginia (PVCC) 1 4334 555
Central Virginia (CVCC) 1 4133 494
Danville (DCC) 1 4072 540
New River (NRCC) 1 3640 872
Southside Virginia (SVCC) 2 3222 726
Lord Fairfax (LFCC) 1 3200 348
Blue Ridge (BRCC) 1 2950 315
Mountain Empire (MECC) 1 2641 726
Patrick Henry (PHCC) 1 2570 254
Wytheville (WCC) 1 2542 350
Germanna (GCC) 1 2241 420
Virginia Highlands (VHCC) 1 2151 307
Rappahannock (RCC) 2 1919 268
Dabney Lancaster (DLCC) 1 1592 358
Paul D. Camp (PDCCC) 2 1471 143
Eastern Shore (ESCC) 1 622 92

Total 137,765 21,359

Sample

The process of sample selection occurred in three phases. In phase one, schools were randomly selected; in phase two, the percentage and number of students to sample in each college were calculated; in phase three, the percentage and number of students to sample in each of the four developmental courses were determined for each college.
Phase One

All 33 of the community college campuses in the Virginia Community College System (VCCS) were listed in order of size by enrollment. Nine community college campuses were randomly selected from the 33 college campuses to participate in the study during the Fall, 1993, semester. Each campus was assigned a number from 00 to 33. The sample size was calculated with \( N = 21359 \), the number of developmental students enrolled in the VCCS during Fall semester, 1992. The planned sample consisted of 2238 students with 95% level of confidence to within ± 2%.

Phase Two

In order to determine the percentage of students to sample in each college, the 33 different community college campuses were divided into four groups with eight campuses in the first three groups and nine in the fourth group. The colleges were grouped according to similarity in size in order to assure representative percentages of students selected for the sample. Table 2 shows the groups of colleges and numbers of developmental studies students in each group.

The ratio of the total number of developmental studies students in each group to the total number in the state comprised the percentage of students to be used in the sample from each group. For example, the eight colleges in Group 1 enrolled 8026 developmental studies students; the
Table 2

VCCS Community College Campuses By Group and Number of Developmental Studies Students (DSS) in Each Group

<table>
<thead>
<tr>
<th>College</th>
<th>Campus</th>
<th>DSS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GROUP 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northern Virginia (NVCC)</td>
<td>Alexandria</td>
<td>8026</td>
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<tr>
<td></td>
<td>Annandale</td>
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<td>Loudon</td>
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<td></td>
<td>Virginia Beach</td>
<td></td>
</tr>
<tr>
<td>Tidewater (TCC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GROUP 2</strong></td>
<td></td>
<td>7614</td>
</tr>
<tr>
<td>J. Sargeant Reynolds (JSRCC)</td>
<td>Richmond Downtown</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parham Road</td>
<td></td>
</tr>
<tr>
<td>Thomas Nelson (TNCC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virginia Western (VWCC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>John Tyler (JTCC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southwest Virginia (SWVCC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piedmont Virginia (PVCC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central Virginia (CVCC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GROUP 3</strong></td>
<td></td>
<td>3781</td>
</tr>
<tr>
<td>Danville (DCC)</td>
<td>Christanna</td>
<td></td>
</tr>
<tr>
<td></td>
<td>John H. Daniel</td>
<td></td>
</tr>
<tr>
<td>New River (NRCC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southside Virginia (SVCC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lord Fairfax (LFCC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue Ridge (BRCC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mountain Empire (MECC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patrick Henry (PHCC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GROUP 4</strong></td>
<td></td>
<td>1938</td>
</tr>
<tr>
<td>Wytheville (WCC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germanna (GCC)</td>
<td>Glens</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Warsaw</td>
<td></td>
</tr>
<tr>
<td>Virginia Highlands (VHCC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rappahannock (RCC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Glenns</td>
<td></td>
</tr>
<tr>
<td>Dabney Lancaster (DLCC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paul D. Camp (PDCCC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Franklin</td>
<td></td>
</tr>
<tr>
<td>Eastern Shore (ESCC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Suffolk</td>
<td></td>
</tr>
</tbody>
</table>
number of developmental studies students in the state was 21359. The percentage which resulted from the ratio of 8026:21359 was 38%. The eight institutions in Group 1 enrolled 38% of all the developmental studies students in the VCCS. The percentage for each group was then multiplied by the total number of developmental studies students planned for the sample to determine the number of students from each group. For Group 1, 38% of 2238 was 850 students.

The community colleges which had been randomly selected for this study were then listed according to their locations in the groups. For example, Northern Virginia Community College - Alexandria Campus and Tidewater Community College - Virginia Beach Campus were included in the first group. A sample of 850 students would be selected from those two campuses for the study. Group 2 included J. Sargeant Reynolds Community College - Farham Road Campus, Virginia Western Community College, and John Tyler Community College. The sample from Group 2 would be 36% (ratio of 7614:21359) of the sample, or 806 students. Group 3 contained Blue Ridge Community College and Mountain Empire Community College. The sample from Group 3 was planned to make up 18% (ratio of 3781:21359) of the sample, translating into 403 students. Virginia Highlands Community College and Rappahannock Community College - Warsaw Campus comprised Group 4, with 9% (ratio of 1938:21359) of the students or 201.
After computing the number of students for each group, the number of students to sample from each college was calculated. The ratio of the number of developmental students in each college selected for the sample and the total number of the developmental students enrolled in the participating colleges in each group was computed to determine the percentage of students from each college for the sample. The percentage was used to determine the number of students from the total number planned for the group. For example, in Group 3, the number of developmental students at Blue Ridge Community College was 315 during Fall, 1992, and the total number of developmental students for Blue Ridge and Mountain Empire was 1041. The ratio of the students at Blue Ridge to the total for the two colleges in Group 3 was 315:1041 or 30%. Therefore, the number of participants selected at Blue Ridge was 30% of the 403 planned for Group 3 or 121 students. The colleges selected for the sample and the number of students desired from each college were the following:

Group 1 (38% of 2238 = 850 students)
- NVCC - Alexandria (33% of 850 = 280 students)
- TCC (67% of 850 = 570 students)

Group 2 (36% of 2238 = 806 students)
- JSRR - Parham Road (40% of 806 = 324 students)
- VWCC (27% of 806 = 220 students)
- JTCC (32% of 806 = 262 students)
Group 3 (18% of 2238 = 403 students)
   BRCC (30% of 403 = 121 students)
   MECC (70% of 403 = 282 students)
Group 4 (9% of 2238 = 201 students)
   VHCC (67% of 201 = 135 students)
   RCC - Warsaw (33% of 201 = 66 students)

Phase Three

Phase three of the random selection process was a stratified sampling according to the number of students enrolled in Math 02, Math 03, English 01, and English 04 courses during the Fall, 1992, semester at each college. In order to determine the number of students from each course to sample, the number enrolled in each course was divided by the total number of developmental students enrolled in the four developmental courses. For example, at John Tyler Community College, there were 460 students enrolled in Math 02 out of 913 students enrolled in the four developmental courses. The ratio was 460:913 or 50%. The number of students in the sample from John Tyler was 262; therefore, the number of Math 02 students desired in the sample were 50% of 262 or 131. This process was used for each course at each college in order to obtain a sample which reflected the percentage of students in each course.

Table 3 contains the number of students who were planned for the sample from each college and the number who actually participated in this study. It also includes the
number of English and math students in each category.

Table 3
Number of Students Planned and Obtained for Sample

<table>
<thead>
<tr>
<th>Colleges</th>
<th>Number Planned</th>
<th>Number Obtained</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>English</td>
</tr>
<tr>
<td>Group 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NVCC</td>
<td>280</td>
<td>192</td>
</tr>
<tr>
<td>TCC</td>
<td>570</td>
<td>185</td>
</tr>
<tr>
<td>Group 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JSRCC</td>
<td>324</td>
<td>130</td>
</tr>
<tr>
<td>VWCC</td>
<td>220</td>
<td>69</td>
</tr>
<tr>
<td>JTCC</td>
<td>262</td>
<td>59</td>
</tr>
<tr>
<td>Group 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BRCC</td>
<td>121</td>
<td>51</td>
</tr>
<tr>
<td>MECC</td>
<td>284</td>
<td>45</td>
</tr>
<tr>
<td>Group 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VHCC</td>
<td>135</td>
<td>49</td>
</tr>
<tr>
<td>RCC</td>
<td>66</td>
<td>15</td>
</tr>
</tbody>
</table>

Procedures and Instrumentation

The Instrument

During the Fall semester, 1993, data were collected by administering the Adult Classroom Environment Scale (ACES) (Appendix A), designed by Dr. Gordon Darkenwald (1989a).
Dr. Darkenwald had given permission to use ACES prior to the study (Appendix B). The scale consists of two forms, the actual form and the ideal form. All items were scored 1, 2, 3, and 4 respectively for the responses Strongly Disagree, Disagree, Agree, Strongly Agree, except for items designated (-). The items accompanied by (-) were reverse scored (Darkenwald, 1987, p. 130). The items of the scale follow.

IN Volvement

Students are often bored in the class.(-)
Students often ask the teacher questions.
Most students enjoy the class.
Most students look forward to the class.
Most students in the class pay attention to what the teacher is saying.
Most students take part in class discussions.
A few students dominate the discussions in class.(-)

Affiliation

Students often share their personal experiences during class.
The students in the class work well together.
The students in the class learn little from one another.(-)
The students in the class enjoy working together.
Students in the class feel free to disagree with one another.
Friendships have developed in the class.
Students seldom interact with one another during class. (−)

TEACHER SUPPORT
The teacher makes little effort to help students succeed. (−)
The teacher talks down to students. (−)
The teacher encourages students to do their best.
The teacher cares about students' feelings.
The teacher respects students as individuals.
The teacher likes the students in the class.
The teacher cares whether or not the students learn.

TASK ORIENTATION
The teacher seldom talks about things not related to the course.
Students regularly meet assignment deadlines.
Students often discuss things not related to course content. (−)
Activities not related to course objectives are kept to a minimum.
Students do a lot of work in the class.
Getting work done is very important in the class.
The class is more a social hour than a place to learn. (−)

PERSONAL GOAL ATTAINMENT
The class is flexible enough to meet the needs of
individual students. Many students think the class is not relevant to their lives. (-)
The teacher expects every student to learn the exact same things. (-)
Students in the class can select assignments that are of personal interest to them.
Most students in the class achieve their personal learning goals.
The teacher tries to find out what individual students want to learn.
Students have the opportunity to learn at their own pace.

ORGANIZATION AND CLARITY
The teacher comes to class prepared.
Learning objectives were made clear at the start of the course.
The class is well organized.
The class lacks a clear sense of direction. (-)
The subject matter is adequately covered.
Students do not know what is expected of them. (-)
Learning activities follow a logical sequence.

STUDENT INFLUENCE
The teacher makes all the decisions in the class. (-)
Students help to decide the topics to be covered in class.
The teacher sticks to the lesson plan regardless of student interest. (-)
Students participate in setting course objectives. The teacher rarely dominates classroom discussion. Students feel free to question course requirements. The teacher seldom insists that you do things his or her way (Darkenwald, 1989b).

The scale items reflect students' and teachers' characteristics and interactions (Darkenwald, 1989b). Their interactions serve as the basis of the social environment, or climate of the classroom. The patterns of communication consist of the teacher's communication with the entire class, with small groups, and with individual students. Students' perceptions of their interactions with each other also contribute to the scale items.

The scale consists of two forms. One form is referred to as perceptions of the actual classroom environment; responses on it reveal students' perceptions of the environment as they see it. Darkenwald (1989b) referred to the actual as the students' perceptions of the "real" (p. 69) environment. The second form, the perceptions of the ideal classroom environment, reveals what the students perceive as their preferred classroom environment.

When Darkenwald (1987) developed the scale, he drew items from several sources. Sources included interviews with teachers of adults and adult students, similar
instruments designed to measure environments for other populations, and the research team's ideas. Domains featured in Moos' (1979) Classroom Environment Scale (CES) were used in the categorization of ACES's subscales. The domains were Relationship, Personal Development/Goal Orientation, and System Maintenance and Change (Moos, 1979). The research team selected 159 items which appeared applicable to classroom social environment. Then, a panel of experts selected 89 items from the original 159. The panel consisted of doctoral students in adult education and faculty members.

Darkenwald pilot-tested the 89 items with 220 adult students from various settings, using the class as the unit of analysis. One setting was a community college situated in a depressed urban setting. The participants were adult students enrolled in a special credit-bearing program. The second group consisted of participants from the large state university who were enrolled in a special evening MBA program for working managers. Adults enrolled in vocational or "personal enrichment" (Darkenwald, 1987, p. 132) courses at a community adult school comprised the third group.

The scale was reduced to 49 items on the basis of standard item-analysis procedures and feedback from respondents. The 49 items were divided into seven subscales. Table 4 contains a description of the subscales (Darkenwald, 1987).
### Table 4

**Descriptive Summary of ACES Subscales**

<table>
<thead>
<tr>
<th>Subscale Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involvement</td>
<td>Extent students are satisfied with class and participate actively and attentively in activities</td>
</tr>
<tr>
<td>Affiliation</td>
<td>Extent students like and interact positively with each other</td>
</tr>
<tr>
<td>Teacher Support</td>
<td>Extent of help, encouragement, concern and friendship teacher directs toward students</td>
</tr>
<tr>
<td>Task Orientation</td>
<td>Extent to which students and teacher maintain focus on task and value achievement</td>
</tr>
<tr>
<td>Personal Goal</td>
<td>Extent to which teacher is flexible, providing opportunities for students to pursue their individual interests</td>
</tr>
<tr>
<td>Organization and Clarity</td>
<td>Extent to which class activities are clear and well organized</td>
</tr>
<tr>
<td>Student Influence</td>
<td>Extent to which teacher is learner-centered and allows students to participate in course planning decisions</td>
</tr>
</tbody>
</table>

**Reliability and Validity of the Instrument**

Darkenwald (1987) obtained both subscale and full-scale reliability measures by computing Cronbach’s alpha for the student actual form of ACES, the student ideal, and the teacher actual. The reliability coefficients supported Darkenwald’s assertion that the instrument was reliable. The full-scale reliability coefficients were .94 for the student actual form of ACES, .93 for the student ideal, and .90 for the teacher actual form.
The predictive validity was not assessed since there was no criterion variable. However, other forms of validity were supported. Because of the careful and methodical approach to selecting the scale items, Darkenwald (1987) asserted the presence of content validity. His evaluation of ACES for discriminant and concurrent validity provided evidence for both. His claim for discriminant validity was based on the low to moderate intercorrelations among the subscales. The wide range of the intercorrelations (r = .23 to r = .70) indicated that the subscales did not measure the same thing. In order to check for concurrent validity, Darkenwald inserted two items in the instrument to serve as validity checks. The items were the following:

"I enjoy this class." and

"I am learning a lot from this class." (Darkenwald, 1987, p. 131).

The two items inserted as validity checks indicated students' satisfaction and success with the class. Correlations between them and the subscales further supported concurrent validity. The Pearson Product Moment correlations were the following: Involvement, (.71); Affiliation, (.49); Teacher Support, (.70); Task Orientation, (.51); Personal Goal Attainment, (.60); Organization and Clarity, (.68); Student Influence, (.74); Total Scale, (.77). All the correlation coefficients were significant beyond the .001 level (Darkenwald, 1987).
Beer and Darkenwald (1989) administered ACES to adult male and female students in an urban community college in order to compare their perceptions on the dimensions of Affiliation and Involvement. Darkenwald (1987) reported that the first administration of ACES resulted in a total scale reliability for the actual form of .94. The reliabilities of the subscales which were applicable to this study were .80 for Involvement and .73 for Affiliation. The results of the study indicated that the classroom social environments yielded significant differences in the perceptions of both men and women.

Administration of the Instrument

ACES was administered to 2,248 students enrolled in developmental courses in the nine Virginia community college campuses randomly selected. Prior to data collection during the Fall, 1993, semester, arrangements were made with the Vice-Chancellor for the Virginia Community College System and appropriate administrators at each community college. The researcher sent letters to the Vice-Chancellor (Appendix C) and the appropriate administrators (Appendix D) explaining the purpose of the study and requesting permission to administer the survey to developmental studies instructors and students. The researcher telephoned each administrator to further discuss the purpose of the study and to answer questions. Upon receiving the written consents of the Vice-Chancellor and each appropriate college
administrator, the researcher obtained from each college a list of Math 02, Math 03, English 01, and English 04 classes being offered during the Fall, 1993, along with the name of the instructor for each class and the number of students currently registered for each. Classes for the study were randomly selected.

After the classes were selected, the researcher prepared packets for each class containing an introductory letter to the instructor (Appendix E), a consent form (Appendix F), a letter to be read to the class (Appendix G), and a witness form for the instructor to sign when the students orally consented to participate in the study (Appendix H). These forms had been approved by the Institutional Review Board of East Tennessee State University.

On the day that the instrument was administered to each class, the instructor or the researcher read the letter to the class and requested verbal consent of the students to participate in the study. The letter emphasized the anonymity of each participant. Upon consent of the members of the class, the instructor signed the witness form. The instructor or researcher then distributed the instruments and the answer sheets (Appendix I) and gave instructions to the students. Each instructor was also asked to respond to the instrument designed to assesses the instructor's view of the actual classroom social environment of the class.
Beer and Darkenwald (1989) selected the fifth week of the semester for the administration of ACES to the students in their study. They justified this choice "because it was judged sufficient for the class to develop norms and a 'personality,' but preceded the period of the semester in which the college historically experienced a large number of dropouts and withdrawals" (Beer & Darkenwald, 1989, p. 38). Fraser and Treagust (1986) found in their study of adult classroom environments that students who dropped out differed from persisters on the subscale of Affiliation. They expected less social involvement in the classroom. It was vital to reach all students, including the possible drop-outs, in order to obtain a comprehensive view of developmental students' classroom environment needs.

The time period selected by the researcher to administer the instrument at the colleges extended from the fourth week to the ninth week of the semester. This segment of the semester provided students enough time to become familiar with the classroom environment as it existed. It also allowed for the opportunity to assess perceptions of students who might drop out before completing the semester.

**Data Analysis**

The students' responses were analyzed in several different ways. The first analysis contrasted perceptions of students and their teachers. The unit of analysis was each class. The students' average score for each subscale
of the actual form was compared to their teacher's score for the corresponding subscale of the actual form. The students' average score for each subscale on the ideal form was also compared with their instructor's score for the actual form. A t-test for dependent (correlated) means was calculated to determine significant differences between students' means and instructors' scores.

The second analysis was between the students' scores on the actual form and their scores as obtained on the ideal form of the instrument. The students' average score for each subscale of the actual form was compared with the average score for each subscale of the ideal form to determine if the students' perspectives of an ideal classroom environment differed significantly from those of an actual environment. A t-test for dependent (correlated) means was calculated for each subscale to determine significant differences. The differences were used to identify the students' classroom environment needs.

In the third major set of analyses, comparisons were made between selected subgroups on both the actual and ideal forms of ACES. The comparisons were made between the following:

* men and women
* students under the age of 25 and those 25 or older
* Black students and white students
* Asian students and white students
* students of the five races represented in the sample
* English and math students
* first-generation college students and non-first generation college students
* students enrolled in small colleges (fewer than 6000 students) and students enrolled in large colleges (more than 6000 students)

In comparing two different groups (e.g. males vs. females), a $t$-test for independent means was used. When comparing actual with ideal scores of a particular subgroup (e.g. females), a dependent (correlated) $t$-test was used. Analysis of variance was calculated to determine if there were significant differences among the five racial groups. The Newman-Keuls Post Hoc Multiple Comparison Procedure was used to determine where pairwise differences occurred on the race variables. All statistical tests were two-tailed and conducted using an .05 level of significance.
CHAPTER 4
Data Analysis

The purpose of this study was to identify characteristics of the actual and ideal classroom environments as perceived by students enrolled in developmental courses in Virginia community colleges, to identify characteristics of the actual classroom environments as perceived by the instructors of the students participating in the study, and to identify needed changes in classroom environments based on a comparison of actual and ideal characteristics as perceived by the students. In addition to identifying needs of the total group of students, the researcher examined differences in subgroups within the total group in order to ascertain unique needs within the subgroups. Subgroup comparisons were based on gender, race, age, type of developmental course, whether or not the student was a first generation college student, and size of college.

Collection of Data

From the fourth week of the Fall, 1993, semester to the tenth week of the semester, the Adult Classroom Environment Scale (ACES) was administered to students and instructors at nine community colleges in Virginia. The researcher visited each college for one, two, or three days to administer the scale, meeting with each instructor whose class participated
in the study. The number of instructors who completed the scale was 109; the number of students was 2248. Data for each college are shown in Table 5.

Table 5

<table>
<thead>
<tr>
<th>College</th>
<th>Instructors</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mountain Empire (MECC)</td>
<td>8</td>
<td>268</td>
</tr>
<tr>
<td>2. Blue Ridge (BRCC)</td>
<td>8</td>
<td>143</td>
</tr>
<tr>
<td>3. Rappahannock (Warsaw Campus)(RCC)</td>
<td>4</td>
<td>61</td>
</tr>
<tr>
<td>4. Tidewater (Virginia Beach)(TCC)</td>
<td>22</td>
<td>471</td>
</tr>
<tr>
<td>5. Virginia Western (VWCC)</td>
<td>13</td>
<td>350</td>
</tr>
<tr>
<td>6. J.Sargeant Reynolds (Parham Road)(JSRCC)</td>
<td>23</td>
<td>363</td>
</tr>
<tr>
<td>7. John Tyler (JTCC)</td>
<td>9</td>
<td>232</td>
</tr>
<tr>
<td>8. Virginia Highlands (VHCC)</td>
<td>10</td>
<td>134</td>
</tr>
<tr>
<td>9. Northern Virginia (Alexandria Campus)(NVCC)</td>
<td>12</td>
<td>226</td>
</tr>
<tr>
<td>Total</td>
<td>109</td>
<td>2248</td>
</tr>
</tbody>
</table>

Students reported demographic data on their response sheets according to gender, race, age, and whether or not they were first generation college students. Student numbers indicated the type of course in which the student completed ACES. Table 6 displays numbers in categories.
Table 6

Demographic Profile of Students in the Sample Compared to Students Enrolled in Developmental Courses during Fall, 1991

<table>
<thead>
<tr>
<th>Demographic Characteristic</th>
<th>Sample</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>884</td>
<td>40</td>
</tr>
<tr>
<td>Female</td>
<td>1310</td>
<td>60</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2194</td>
<td>100</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>1503</td>
<td>69</td>
</tr>
<tr>
<td>Black</td>
<td>436</td>
<td>20</td>
</tr>
<tr>
<td>American Indian or Alaskan Native</td>
<td>62</td>
<td>3</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>119</td>
<td>5</td>
</tr>
<tr>
<td>Hispanic</td>
<td>63</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total-Non-White (680)</strong></td>
<td>(31)</td>
<td>13421</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2183</td>
<td>100</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 25</td>
<td>1372</td>
<td>64</td>
</tr>
<tr>
<td>25 or older</td>
<td>778</td>
<td>36</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2150</td>
<td>100</td>
</tr>
<tr>
<td><strong>First Generation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>723</td>
<td>34</td>
</tr>
<tr>
<td>No</td>
<td>1400</td>
<td>65</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2123</td>
<td>100</td>
</tr>
<tr>
<td><strong>Type of Course</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>778</td>
<td>35</td>
</tr>
<tr>
<td>Math</td>
<td>1470</td>
<td>65</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2248</td>
<td>100</td>
</tr>
</tbody>
</table>

Note.

$^a$ df=1; $\chi^2$ critical value = 3.84

* p < .05
As shown in the table, the majority of the students were female (60%), white (69%), and 24 years of age or younger (64%). The majority (65%) were not first generation college students. The total number of students in developmental studies for the state are displayed for each demographic category except First and Non-First Generation Students. The chi square test of independence was calculated for gender, race, age and type of course. The results revealed that non-white students, younger students, and students in English classes were slightly over represented in the sample. However, the sample is being compared to data collected in 1991. These comparisons should be interpreted with caution.

Research Questions and Related Hypotheses

Eight research questions served to guide the analysis. Several research hypotheses were associated with each question.

Research Question 1: How do students and faculty view the classroom social environment in developmental courses in Virginia community colleges?

In order to answer this question, the means of both students and their instructors were compared. Both sets of means are displayed in Table 7. Of the seven subscales of ACES, both the students' mean (22.91) and the instructors' mean (25.85) were highest for Teacher Support. Both
students and instructors selected Organization and Clarity as the most prevalent element in the actual classroom environment and Task Orientation as the third. The students placed Involvement and Affiliation as fourth and fifth, while the instructors reversed the order of these two subscales. The two groups agreed on the order of the last two subscales, Personal Goal Attainment and Student Influence.

The students and instructors in Darkenwald’s (1987) study agreed with the developmental studies students in this study to some extent. Darkenwald’s results indicated that both students (M = 23.4) and instructors (M = 25.4) perceived Teacher Support as the number one subscale in the actual classroom environment. The remaining subscales selected by the students were Organization and Clarity (M = 22.6), Task Orientation (M = 22.5), Involvement (M = 22.2), Affiliation (M = 21.0), Personal Goal Attainment (M = 20.6), and Student Influence (M = 20.6). After selecting Teacher Support as their most noticed subscale, the instructors’ remaining subscales were as follows: Organization and Clarity (23.9), Involvement (23.1), Task Orientation (22.5), Affiliation (22.3), Personal Goal Attainment (21.1), and Student Influence (20.7).

In this study of Virginia community college developmental studies students, the students’ means on the actual form of ACES were compared with their instructors’
means on the actual form. The students' means on the ideal form of ACES were also compared with their instructors' means on the actual form. All seven subscales of ACES were used in the comparison of means.

The following hypothesis was related to this question:

\( H_{1A} \): There will be a significant difference in the students' perceptions of the actual classroom social environment and their instructors' perceptions of the actual classroom social environment.

A \( t \)-test for dependent (correlated) means was calculated to compare each instructor's score on the actual form of ACES with the actual mean for students in the class to determine if the differences between the scores of the instructors and the means of their students were statistically different. All results were calculated to the .05 level of significance. Those results are presented in Table 7. The highest score possible for each subscale was 28.00. The table also contains the standard deviation, the number of cases for each subscale, the difference between the means, and the results of the \( t \)-tests for statistical significance. The correlations calculated on the pairs of means are also displayed.

Statistical differences between the students' and instructors' scores were evident for all but one subscale, Personal Goal Attainment. The \( t \)-values for Involvement (4.67), Affiliation (6.37), and Task Orientation (6.30) indicated that instructors perceived more involvement of
students in the classroom activities, more affiliation among students, and more attention to the tasks of the course than students did. The $t$-test results for Teacher Support ($t = 11.59$), as well as Organization and Clarity ($t = 8.44$), also showed that the instructors' view of these subscales was significantly higher than the view of the students. The results for Student Influence ($t = -2.05$) indicated that students perceived themselves as having more influence in

Table 7

Instructor and Student Perceptions of the Actual Classroom Environment

<table>
<thead>
<tr>
<th>Subscale</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>Diff</th>
<th>t</th>
<th>$\alpha$</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>111</td>
<td>20.91</td>
<td>2.65</td>
<td>19.90</td>
<td>1.70</td>
<td>1.01</td>
<td>4.67*</td>
<td>.53</td>
</tr>
<tr>
<td>A</td>
<td>110</td>
<td>21.21</td>
<td>2.70</td>
<td>19.87</td>
<td>1.42</td>
<td>1.34</td>
<td>6.37*</td>
<td>.58</td>
</tr>
<tr>
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<td>110</td>
<td>25.85</td>
<td>2.40</td>
<td>22.91</td>
<td>1.54</td>
<td>2.94</td>
<td>11.59*</td>
<td>.14</td>
</tr>
<tr>
<td>TO</td>
<td>111</td>
<td>22.47</td>
<td>2.25</td>
<td>20.96</td>
<td>1.13</td>
<td>1.51</td>
<td>6.30*</td>
<td>-.00</td>
</tr>
<tr>
<td>PGA</td>
<td>113</td>
<td>18.89</td>
<td>3.55</td>
<td>18.42</td>
<td>1.62</td>
<td>.47</td>
<td>1.54</td>
<td>.40</td>
</tr>
<tr>
<td>OC</td>
<td>111</td>
<td>24.73</td>
<td>2.62</td>
<td>22.46</td>
<td>1.75</td>
<td>2.27</td>
<td>8.44*</td>
<td>.21</td>
</tr>
<tr>
<td>SI</td>
<td>112</td>
<td>16.30</td>
<td>2.88</td>
<td>16.85</td>
<td>1.32</td>
<td>-.55</td>
<td>-2.05*</td>
<td>.27</td>
</tr>
</tbody>
</table>

* $p < .05$

Note:

<table>
<thead>
<tr>
<th>Abbreviations:</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (Involvement), A (Affiliation), TS (Teacher Support),</td>
</tr>
<tr>
<td>TO (Task Orientation), PGA (Personal Goal Attainment),</td>
</tr>
<tr>
<td>OC (Organization and Clarity), SI (Student Influence)</td>
</tr>
</tbody>
</table>
the classroom than the instructors viewed them as having. The correlation between teacher and student scores was lowest ($r = .00$) for Task Orientation. The highest agreement was on the Affiliation subscale ($r = .58$). The hypothesis, $H_{1A}$, was supported on all subscales except one, Personal Goal Attainment.

Darkenwald's (1987) comparison of students' and instructors' perceptions of the actual classroom environment indicated different results for Task Orientation, Personal Goal Attainment, and Student Influence. His results indicated a significant difference for Personal Goal Attainment, but none for Task Orientation and Student Influence.

Examination of the order of the subscales for students' perceptions of the ideal classroom environment and instructors' views of the actual classroom environment in this study on developmental studies students indicated agreement on several subscales. The means are displayed in Table 6. The means for both students and instructors were highest for Teacher Support and Organization and Clarity. The students ranked the remaining five subscales for their view of the ideal classroom environment as follows: Involvement, Affiliation, Personal Goal Attainment, Task Orientation, and Student Influence. The instructors ranked the remaining subscales for their view of the actual classroom environment in a slightly different order. The
order of their selections was the following: Task Orientation, Affiliation, Involvement, Personal Goal Attainment, and Student Influence.

Darkenwald's (1987) study indicated that the order of students' and instructors' means was similar. The first four means for both the instructors' actual and the students' ideal were Teacher Support, Organization and Clarity, Involvement, and Task Orientation. The order of the instructors' means was the following: Teacher Support (25.4), Organization and Clarity (23.9), Involvement (23.1), and Task Orientation (22.5). The order of the students' was as follows: Organization and Clarity (24.2), Teacher Support (23.9), Involvement (23.7), and Task Orientation (23.3). Both groups agreed on the order of the remaining three subscales. The order was Affiliation, Personal Goal Attainment, and Student Influence.

The following hypothesis is also related to Research Question 1:

$H_{18}$: There will be a significant difference in students' perception of the ideal classroom social environment and the instructors' perception of the actual classroom social environment.

A $t$-test for dependent (correlated) means was also calculated to compare each instructor's score on the actual form of ACES with the ideal mean for the students in the class in order to determine if the differences between the actual scores of the instructors and the ideal means of the
students were statistically different. These results are shown in Table 8. Also shown are the means, standard deviations, number of cases, the difference between the means, and the correlations.

The correlation between teacher and student scores was lowest ($r = -.01$) for Teacher Support. The highest agreement was on the Affiliation subscale ($r = .20$). The

Table 8

Instructor Perceptions of the Actual Classroom Environment and Student Perceptions of the Ideal Classroom Environment

<table>
<thead>
<tr>
<th>Subscale</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>Diff</th>
<th>t</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>111</td>
<td>20.91</td>
<td>2.65</td>
<td>22.30</td>
<td>1.32</td>
<td>-1.39</td>
<td>-5.16*</td>
<td>.10</td>
</tr>
<tr>
<td>A</td>
<td>110</td>
<td>21.21</td>
<td>2.70</td>
<td>21.46</td>
<td>1.09</td>
<td>-0.25</td>
<td>-0.96</td>
<td>.20</td>
</tr>
<tr>
<td>TS</td>
<td>110</td>
<td>25.85</td>
<td>2.40</td>
<td>23.86</td>
<td>1.19</td>
<td>2.00</td>
<td>7.80*</td>
<td>-.01</td>
</tr>
<tr>
<td>TO</td>
<td>111</td>
<td>22.47</td>
<td>2.25</td>
<td>20.87</td>
<td>0.91</td>
<td>1.59</td>
<td>6.96*</td>
<td>.02</td>
</tr>
<tr>
<td>PGA</td>
<td>113</td>
<td>18.89</td>
<td>3.55</td>
<td>20.91</td>
<td>1.17</td>
<td>-2.01</td>
<td>-5.95*</td>
<td>.13</td>
</tr>
<tr>
<td>OC</td>
<td>111</td>
<td>24.73</td>
<td>2.62</td>
<td>23.28</td>
<td>1.23</td>
<td>1.45</td>
<td>5.65*</td>
<td>.17</td>
</tr>
<tr>
<td>SI</td>
<td>112</td>
<td>16.30</td>
<td>2.88</td>
<td>19.05</td>
<td>1.17</td>
<td>-2.75</td>
<td>-9.67*</td>
<td>.09</td>
</tr>
</tbody>
</table>

Note.
* $p < .05$

Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support), TO (Task Orientation), PGA (Personal Goal Attainment), OC (Organization and Clarity), SI (Student Influence)
results indicated that the students' ideal means on Involvement ($t = -5.16$) and Personal Goal Attainment ($t = -5.95$) were significantly higher than their instructors' actual means. The greatest difference between the means of the students and the instructors was on the subscale, Student Influence ($t = -9.67$). The means of the students were significantly greater with a difference of 2.75 between the means. On Teacher Support ($t = 7.80$), Task Orientation ($t = 6.96$), and Organization and Clarity ($t = 5.65$), the ideal means of the students were significantly lower than the actual means of the instructors. There was no significant difference indicated for Affiliation. $H_{1b}$ was supported on all the subscales except Affiliation.

The results of Darkenwald's (1987) study indicated that only Teacher Support and Student Influence were significantly different when students' perceptions of the ideal classroom environment were compared with instructors' views of the actual. The instructors' mean was significantly higher than the students' for Teacher Support. The students' mean was significantly higher than the instructors' for Student Influence.

Research Question 2: Are there differences in the Ideal and Actual classroom social environments as perceived by students in developmental courses in Virginia community colleges?

The hypotheses designed to answer this question focused
on the students as a total group, as well as students in subgroups. The hypothesis which addressed the students as a total group was the following:

\[ H_{2a} : \text{There will be a significant difference in student's perceptions of the ideal and actual classroom social environment.} \]

A t-test for dependent (correlated) means was calculated to compare all students' means on the actual form of ACES with their means on the ideal form. The purpose of the comparison was to ascertain if the differences between the actual means and the ideal means were statistically significant. The results of the analysis are shown in Table 9, along with the standard deviation, the number of students, and the difference between the two means for each subscale of ACES. The correlations calculated on the pairs of means are also displayed. The correlation for Personal Goal Attainment (\( r = .21 \)) was the lowest; the highest was for Teacher Support (\( r = .50 \)).

There were significant differences for all dimensions except Task Orientation. Students' ideal means were significantly higher than their actual means for Involvement (\( t = -26.69 \)), Affiliation (\( t = -21.78 \)), Teacher Support (\( t = -11.18 \)), Personal Goal Attainment (\( t = -28.79 \)), Organization and Clarity (\( t = -10.74 \)), and Student Influence (\( t = -25.19 \)). The students' ideal mean for Task Orientation was lower than that of their actual mean, although the differences did not reach statistical significance. \( H_{2a} \) was
supported on all subscales, except Task Orientation.

Table 9

Students' Actual and Ideal Perceptions of the Classroom Environment

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Actual</th>
<th>Ideal</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>n</th>
<th>Diff</th>
<th>t</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>19.85</td>
<td>22.23</td>
<td>3.24</td>
<td>3.57</td>
<td>2073</td>
<td>-2.38</td>
<td>-26.69*</td>
<td>.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>19.86</td>
<td>21.46</td>
<td>2.96</td>
<td>3.05</td>
<td>2131</td>
<td>-1.60</td>
<td>-21.78*</td>
<td>.36</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>23.71</td>
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<td>3.60</td>
<td>2118</td>
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<td>-11.18*</td>
<td>.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TO</td>
<td>20.91</td>
<td>20.80</td>
<td>2.65</td>
<td>2.82</td>
<td>2104</td>
<td>0.11</td>
<td>1.60</td>
<td>.39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PGA</td>
<td>18.29</td>
<td>20.75</td>
<td>2.92</td>
<td>3.31</td>
<td>2106</td>
<td>-2.46</td>
<td>-28.79*</td>
<td>.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OC</td>
<td>22.41</td>
<td>23.23</td>
<td>3.20</td>
<td>3.50</td>
<td>2060</td>
<td>-0.81</td>
<td>-10.74*</td>
<td>.47</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SI</td>
<td>16.84</td>
<td>18.97</td>
<td>2.81</td>
<td>3.14</td>
<td>1923</td>
<td>-2.13</td>
<td>-25.19*</td>
<td>.23</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note.
* p < .05
Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support),
TO (Task Orientation), PGA (Personal Goal Attainment),
OC (Organization and Clarity), SI (Student Influence)

Research Question 3: Are there differences between men and
women students in their perceptions of the classroom social
environment?

There were four hypotheses which related to Research
Question 3. The first is the following:

H3A: There will be a significant difference between men
and women students in their perceptions of the
actual classroom social environment.
A $t$-test for independent means was calculated to compare the means of the women students on the actual form of ACES with the means of the men students on the actual form. Table 10 provides a comparison of women and men students' perceptions of the actual classroom environment. Included in the table are the mean, standard deviation, number of women and men students, and $t$-test result for each subscale.

Table 10
Women and Men Students' Perceptions of the Actual Classroom Environment

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Women</th>
<th>Men</th>
<th>$t$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$n$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>20.21</td>
<td>19.31</td>
<td>6.34*</td>
</tr>
<tr>
<td>A</td>
<td>19.99</td>
<td>19.63</td>
<td>2.80*</td>
</tr>
<tr>
<td>TS</td>
<td>23.28</td>
<td>22.17</td>
<td>7.40*</td>
</tr>
<tr>
<td>TO</td>
<td>21.24</td>
<td>20.38</td>
<td>7.34*</td>
</tr>
<tr>
<td>PGA</td>
<td>18.36</td>
<td>18.91</td>
<td>1.28</td>
</tr>
<tr>
<td>OC</td>
<td>22.67</td>
<td>21.95</td>
<td>5.06*</td>
</tr>
<tr>
<td>SI</td>
<td>16.89</td>
<td>16.84</td>
<td>0.41</td>
</tr>
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</table>

Note.
* $p < .05$
^ = $t$-test using pooled variance estimate

Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support),
TO (Task Orientation), PGA (Personal Goal Attainment),
OC (Organization and Clarity), SI (Student Influence)
The actual means for the women were significantly higher than the means for the men for all subscales except Student Influence and Personal Goal Attainment. The greatest gender difference in the perceptions of the actual classroom environment was on Teacher Support. H3A was supported on Involvement, Affiliation, Teacher Support, Task Orientation, and Organization and Clarity.

The second hypothesis related to Research Question 3 is the following:

\[ H_{3B} : \text{There will be a significant difference between men and women students in their perceptions of the ideal classroom social environment.} \]

A \( t \)-test for independent means was calculated to compare the means of the women students on the ideal form of ACES with the means of the men students on the ideal form. Table 11 contains the results of the \( t \)-test. The mean, standard deviation, and number of women and men students for each subscale are also included.

The results of the comparisons of the ideal classroom environment indicated that women and men students held views of an ideal classroom environment similar to those for the actual classroom environment. The means of the women were significantly higher on all subscales except Student Influence. The greatest difference between their means was on Teacher Support (\( t = 9.18 \)). H3B was supported on Involvement, Affiliation, Teacher Support, Task Orientation, Personal Goal Attainment, and Organization and Clarity.
Table 11

Women and Men Students’ Perceptions of the Ideal Classroom Environment

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Women</th>
<th></th>
<th></th>
<th>Men</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>n</td>
</tr>
<tr>
<td>I</td>
<td>22.66</td>
<td>3.47</td>
<td>1249</td>
<td>21.63</td>
<td>3.66</td>
<td>843</td>
</tr>
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<td>1269</td>
<td>21.09</td>
<td>3.16</td>
<td>853</td>
</tr>
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<td>3.42</td>
<td>1269</td>
<td>22.88</td>
<td>3.67</td>
<td>851</td>
</tr>
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<td>1267</td>
<td>20.34</td>
<td>2.93</td>
<td>856</td>
</tr>
<tr>
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<td>1259</td>
<td>20.52</td>
<td>3.35</td>
<td>853</td>
</tr>
<tr>
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<td>22.53</td>
<td>3.67</td>
<td>840</td>
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<td>3.19</td>
<td>1161</td>
<td>18.79</td>
<td>3.09</td>
<td>771</td>
</tr>
</tbody>
</table>

Note.
* p < .05
A = t-test using pooled variance estimate
B = t-test using separate variance estimate

Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support),
TO (Task Orientation), PGA (Personal Goal Attainment),
OC (Organization and Clarity), SI (Student Influence)

The third hypothesis for Research Question 3 addresses women’s views of the classroom environment. The hypothesis follows:

H₃c: There will be a significant difference in women students’ perception of the ideal and actual classroom social environment.

Further examination of the women’s means required the calculation of a t-test for dependent (correlated) means on
the women's actual and ideal means to determine if differences were statistically significant. The data illustrating the women students' perceptions of the actual and ideal classroom environment are displayed in Table 12. The table contains the means, standard deviations, number of cases, difference between the means, correlations, and t-test results for all seven subscales ACES.

Table 12
Women Students' Perceptions of the Actual and Ideal Classroom Environment

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Actual M</th>
<th>SD</th>
<th>Ideal M</th>
<th>SD</th>
<th>n</th>
<th>Diff</th>
<th>t</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
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<td>3.24</td>
<td>22.66</td>
<td>3.46</td>
<td>1212</td>
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<td>-20.80*</td>
<td>.26</td>
</tr>
<tr>
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<td>21.72</td>
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<td>1245</td>
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<td>24.31</td>
<td>3.41</td>
<td>1239</td>
<td>-1.01</td>
<td>-9.98*</td>
<td>.45</td>
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<td>2.64</td>
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<td>1228</td>
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<td>-23.04*</td>
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<td>23.71</td>
<td>3.32</td>
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<td>-10.22*</td>
<td>.46</td>
</tr>
<tr>
<td>SI</td>
<td>16.86</td>
<td>2.80</td>
<td>19.12</td>
<td>3.16</td>
<td>1126</td>
<td>-2.25</td>
<td>-20.61*</td>
<td>.25</td>
</tr>
</tbody>
</table>

Note.
* \( p < .05 \)
Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support),
TO (Task Orientation), PGA (Personal Goal Attainment),
OC (Organization and Clarity), SI (Student Influence)
A comparison of the women students' perceptions of the actual and ideal classroom environment revealed significant differences on all the subscales except Task Orientation. The women desired an increased emphasis on all six subscales identified as significantly different, especially Involvement, Affiliation, Personal Goal Attainment, and Student Influence. The correlation for Personal Goal Attainment ($r = .21$) was the lowest; the highest was for Organization and Clarity ($r = .46$). $H_{3c}$ was supported for all subscales but Task Orientation.

The fourth hypothesis for Research Question 3 relates to a comparison of men's perceptions of the ideal and actual classroom environment. The hypothesis follows:

$H_{3d}$: There will be a significant difference in men students' perception of the ideal and actual classroom social environment.

A $t$-test for dependent (correlated) means was calculated on the men's actual and ideal means to determine if differences were statistically significant. Table 13 contains a display of the $t$-test results. The table also contains the means, standard deviations, the number of cases, the difference between the means, and the correlations for all seven subscales of ACES.

The comparison of the men students' perceptions of the actual and ideal classroom environment revealed that despite the fact the men students' means were lower than those of the women students on almost every dimension, there were
Table 13

Men Students' Perceptions of the Actual and Ideal Classroom Environment

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Actual M</th>
<th>Actual SD</th>
<th>Ideal M</th>
<th>Ideal SD</th>
<th>n</th>
<th>Diff</th>
<th>t</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>19.27</td>
<td>3.16</td>
<td>21.63</td>
<td>3.66</td>
<td>812</td>
<td>-2.36</td>
<td>-16.59*</td>
<td>.30</td>
</tr>
<tr>
<td>A</td>
<td>19.65</td>
<td>2.90</td>
<td>21.12</td>
<td>3.16</td>
<td>837</td>
<td>-1.47</td>
<td>-12.67*</td>
<td>.39</td>
</tr>
<tr>
<td>TS</td>
<td>22.20</td>
<td>3.28</td>
<td>22.86</td>
<td>3.68</td>
<td>830</td>
<td>-0.66</td>
<td>-5.55*</td>
<td>.53</td>
</tr>
<tr>
<td>TO</td>
<td>20.42</td>
<td>2.60</td>
<td>20.35</td>
<td>2.91</td>
<td>834</td>
<td>0.06</td>
<td>0.59</td>
<td>.38</td>
</tr>
<tr>
<td>PGA</td>
<td>18.20</td>
<td>2.87</td>
<td>20.49</td>
<td>3.31</td>
<td>829</td>
<td>-2.29</td>
<td>-17.02*</td>
<td>.22</td>
</tr>
<tr>
<td>OC</td>
<td>21.97</td>
<td>3.14</td>
<td>22.53</td>
<td>3.67</td>
<td>811</td>
<td>-0.56</td>
<td>-4.46*</td>
<td>.47</td>
</tr>
<tr>
<td>SI</td>
<td>16.80</td>
<td>2.83</td>
<td>18.79</td>
<td>3.09</td>
<td>751</td>
<td>-1.99</td>
<td>-14.54*</td>
<td>.20</td>
</tr>
</tbody>
</table>

Note.  
* p < .05  
Abbreviations:  
I (Involvement), A (Affiliation), TS (Teacher Support),  
TO (Task Orientation), PGA (Personal Goal Attainment),  
OC (Organization and Clarity), SI (Student Influence)

significant differences between the men students' actual means and ideal means on all subscales, except Task Orientation. The greater differences between the actual and ideal means occurred on Personal Goal Attainment (-17.02), Involvement (-16.59), Student Influence (-14.54), and Affiliation (-12.67). Student Influence (r = .20) had the lowest correlation. The highest correlation was for Teacher Support (r = .53).  
Hypothesis was supported on all dimensions but
Research Question 4: Are there differences between students from different racial groups in their perceptions of the classroom social environment?

There were seven hypotheses related to Research Question 4. The first hypothesis follows:

\[ H_{1A} \]: There will be a significant difference between students from different racial groups in their perceptions of the actual classroom social environment.

The instrument used for this study requested that each student participant identify his or her racial group. The same five groups were used as those on student applications for the Virginia Community College System. The demographic data displayed in Table 2 includes the five different racial groups on the instrument and the percentages of students in each group. They are the following: white (68.9%), Black (20.0%), American Indian or Alaskan Native (2.8%), Asian or Pacific Islander (5.5%), and Hispanic (2.8%).

In order to compare all five racial groups, analysis of variance was calculated to determine if the differences among the five groups were statistically significant. Table 14 provides a display of the perceptions of the actual classroom environment for all five racial groups. In addition to the means, the number of students and the $F$ value for each subscale of ACES are displayed.

The $F$-value for each subscale was examined to determine
Table 14

Student Perceptions of the Actual Classroom Environment by Race

<table>
<thead>
<tr>
<th>Subscale</th>
<th>White</th>
<th>Black</th>
<th>Am Ind</th>
<th>Asian</th>
<th>Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>19.77</td>
<td>20.26</td>
<td>19.14</td>
<td>19.71</td>
<td>20.21</td>
</tr>
<tr>
<td>n = 1455</td>
<td>417</td>
<td>56</td>
<td>113</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>19.75</td>
<td>20.20</td>
<td>19.97</td>
<td>19.78</td>
<td>19.87</td>
</tr>
<tr>
<td>n = 1472</td>
<td>423</td>
<td>58</td>
<td>117</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>TS</td>
<td>22.95</td>
<td>23.16</td>
<td>21.96</td>
<td>21.04</td>
<td>21.57</td>
</tr>
<tr>
<td>n = 1452</td>
<td>417</td>
<td>56</td>
<td>115</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>TO</td>
<td>20.96</td>
<td>21.02</td>
<td>20.64</td>
<td>19.81</td>
<td>20.73</td>
</tr>
<tr>
<td>n = 1454</td>
<td>416</td>
<td>58</td>
<td>111</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>PGA</td>
<td>18.16</td>
<td>18.57</td>
<td>17.98</td>
<td>19.02</td>
<td>18.17</td>
</tr>
<tr>
<td>n = 1456</td>
<td>424</td>
<td>59</td>
<td>112</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>OC</td>
<td>22.53</td>
<td>22.45</td>
<td>21.34</td>
<td>21.27</td>
<td>21.98</td>
</tr>
<tr>
<td>n = 1450</td>
<td>414</td>
<td>56</td>
<td>108</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>SI</td>
<td>16.82</td>
<td>16.89</td>
<td>16.69</td>
<td>17.58</td>
<td>16.62</td>
</tr>
<tr>
<td>n = 1462</td>
<td>411</td>
<td>55</td>
<td>113</td>
<td>60</td>
<td></td>
</tr>
</tbody>
</table>

Note.
* p < .05

Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support),
TO (Task Orientation), PGA (Personal Goal Attainment),
OC (Organization and Clarity), SI (Student Influence)

if there were differences among the five groups. There was
evidence of significant differences among the racial groups
on all subscales of ACES except Affiliation and Student
Influence. \( H_{AA} \) was supported for Involvement, Teacher
Support, Task Orientation, Personal Goal Attainment, and
Organization and Clarity.

In order to determine which racial groups differed from each other, the Newman Keuls Post Hoc multiple comparison procedure was calculated.

The comparison of the white students' perceptions of the actual classroom environment with the perceptions of students of the other races revealed that white students' perceptions of the actual classroom environment were significantly different from the Black students on Involvement and Personal Goal Attainment. In all cases, the white students' means were lower than the Black students', signifying that the Black students perceived more involvement and opportunities for achieving their own personal goals in the classroom than the white students.

The white students' perceptions of Organization and Clarity were significantly higher than those of the American Indian students. White students' perceptions were significantly higher than the Asian students' on Teacher Support, Task Orientation, and Organization and Clarity. There were also significant differences between white students and Asian students on Personal Goal Attainment and Student Influence, but on these dimensions, the Asian students' means were greater than the white students'. There were no significant differences noted between white and Hispanic students on actual subscales of ACES.
A comparison of Black students' perceptions of the actual classroom environment with the other four racial groups yielded significant differences with the white, American Indian, and Asian students. Black students' significant differences from white students were stated earlier. Black students differed from American Indian and Asian students in their view of more Organization and Clarity in the actual classroom environment. In addition, the Black students and the Asian students differed on their views of Teacher Support, Task Orientation, and Student Influence. As with white students, the Black students saw a smaller degree of Student Influence than the Asian students.

Except for the differences already identified between the American Indian students and white and Black students, there were no other significant differences noted.

Only one significant difference in the actual dimension remains to be reported for the Asian students. In the area of Teacher Support, the Asian students reported a lower view than the Hispanic students.

The Hispanic students differed significantly from the other racial groups on only one subscale. They held a higher actual view of Teacher Support than the Asian students. No other significant differences on the actual classroom environment between the Hispanic students and the other groups was noted.
The second hypothesis related to Research Question 4 is the following:

$$H_{4b}: \text{There will be a significant difference between students from different racial groups in their perceptions of the ideal classroom social environment.}$$

Analysis of variance was also calculated to compare the five racial groups on their views of the ideal classroom environment. Table 15 provides a display of the perceptions of the ideal classroom environment for all five racial groups and evidence of significant differences among the racial groups. In addition to the means, the number of students and the $F$-value for each subscale of ACES are displayed.

The comparisons of the five racial groups in this study displayed in Table 15 indicate that significant differences existed for all seven subscales of ACES. The subscales with the highest $F$-values were Teacher Support and Organization and Clarity. $H_{4b}$ was supported on all seven subscales of ACES.

A comparison of white students' perceptions of the ideal classroom environment with those of the other racial groups was also calculated by using the Newman-Keuls Post Hoc multiple comparison procedure. Data revealed significant differences between the perceptions of white and Black students on every subscale except Task Orientation. In all cases, the ideal perceptions of the white students were greater than those of the Black students.
Table 15

Student Perceptions of the Ideal Classroom Environment by Race

<table>
<thead>
<tr>
<th>Subscale</th>
<th>White</th>
<th>Black</th>
<th>Am Ind</th>
<th>Asian</th>
<th>Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td>I</td>
<td>22.54</td>
<td>21.82</td>
<td>20.25</td>
<td>21.06</td>
<td>22.11</td>
</tr>
<tr>
<td></td>
<td>1456</td>
<td>414</td>
<td>59</td>
<td>111</td>
<td>61</td>
</tr>
<tr>
<td>A</td>
<td>21.70</td>
<td>21.07</td>
<td>20.27</td>
<td>20.73</td>
<td>21.21</td>
</tr>
<tr>
<td></td>
<td>1474</td>
<td>421</td>
<td>60</td>
<td>114</td>
<td>63</td>
</tr>
<tr>
<td>TS</td>
<td>24.08</td>
<td>23.37</td>
<td>21.31</td>
<td>21.88</td>
<td>23.43</td>
</tr>
<tr>
<td></td>
<td>1471</td>
<td>423</td>
<td>59</td>
<td>113</td>
<td>63</td>
</tr>
<tr>
<td>TO</td>
<td>20.96</td>
<td>20.70</td>
<td>19.23</td>
<td>20.04</td>
<td>20.89</td>
</tr>
<tr>
<td></td>
<td>1474</td>
<td>420</td>
<td>61</td>
<td>115</td>
<td>63</td>
</tr>
<tr>
<td>PGA</td>
<td>21.10</td>
<td>19.94</td>
<td>19.45</td>
<td>20.47</td>
<td>20.93</td>
</tr>
<tr>
<td></td>
<td>1462</td>
<td>422</td>
<td>60</td>
<td>116</td>
<td>60</td>
</tr>
<tr>
<td>OC</td>
<td>23.55</td>
<td>22.82</td>
<td>20.75</td>
<td>21.80</td>
<td>22.94</td>
</tr>
<tr>
<td></td>
<td>1458</td>
<td>412</td>
<td>60</td>
<td>110</td>
<td>62</td>
</tr>
<tr>
<td>SI</td>
<td>19.21</td>
<td>18.37</td>
<td>18.28</td>
<td>18.40</td>
<td>18.50</td>
</tr>
<tr>
<td></td>
<td>1349</td>
<td>382</td>
<td>50</td>
<td>109</td>
<td>52</td>
</tr>
</tbody>
</table>

Note:
* p < .05

Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support),
TO (Task Orientation), PGA (Personal Goal Attainment),
OC (Organization and Clarity), SI (Student Influence)

There were significant differences between the white students and the American Indian students on perceptions of all subscales except Student Influence. In all cases, the white students' ideal perceptions were greater than those of the American Indian students.
The white students differed significantly on six of the subscales with the Asian students also. White students placed a significantly higher priority on an ideal classroom environment which includes all subscales of ACES except Personal Goal Attainment. No significant difference was indicated for it.

No significant differences were found between the white students and the Hispanic students on ideal perceptions.

When the Black students' perceptions of the ideal environment were compared with the students in the other four racial groups, significant differences were found with all of them. As already stated, Black students differed significantly from white students on all but one ideal dimension, Task Orientation. They also differed from the American Indian students on Involvement, Task Orientation, and Organization and Clarity. The Black students wanted a greater degree of these three subscales in an ideal classroom environment. The Black students desired a greater degree of Involvement, Teacher Support, Task Orientation, and Organization and Clarity in the ideal classroom than the Asian students. They indicated the need for less Teacher Support in the ideal environment than the Hispanic students.

The American Indian students had significantly different perceptions from the white students, the Black students, and the Hispanic students on several ideal dimensions of ACES. In every case of differences, the
American Indian students had lower perceptions of the dimensions from the students in the other racial groups. No significant differences were noted between the American Indian students and the Asian students; however, there were four with the Hispanic students. They perceived less need than the Hispanic students for Involvement, Teacher Support, Task Orientation, and Student Influence. The Hispanic students also desired more Teacher Support than the Asian students.

The third hypothesis related to Research Question 4 is the following:

\[ H_4: \text{There will be a significant difference in white students' perceptions of the ideal and actual classroom social environment.} \]

A \( t \)-test for dependent (correlated) means was calculated on the white students' ideal and actual means to determine if there were statistical differences. Table 16 contains the means, standard deviations, differences between means, and the \( t \)-test results. The results of the correlations calculated are reported also.

A comparison of the white students' actual and ideal perceptions of the classroom environment indicated significant differences in all but one subscale, Task Orientation. The subscales in which there were the greatest differences were Involvement (\( t = -25.45 \)), Affiliation (\( t = -21.50 \)), Personal Goal Attainment (\( t = -27.91 \)), and Student Influence (\( t = -22.72 \)). The lowest correlations
Table 16

White Students' Perceptions of the Actual and Ideal Classroom Environment

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Actual</th>
<th>Ideal</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>n</th>
<th>Diff</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>19.77</td>
<td>22.54</td>
<td>3.23</td>
<td>3.55</td>
<td>1417</td>
<td>2.76</td>
<td>-25.45*</td>
<td>.28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>19.77</td>
<td>21.71</td>
<td>2.97</td>
<td>3.08</td>
<td>1450</td>
<td>1.94</td>
<td>-21.50*</td>
<td>.36</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>3.35</td>
<td>3.51</td>
<td>1443</td>
<td>1.09</td>
<td>-11.50*</td>
<td>.45</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>20.95</td>
<td>2.64</td>
<td>2.86</td>
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<td>0.02</td>
<td>0.27</td>
<td>.37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PGA</td>
<td>18.16</td>
<td>21.08</td>
<td>2.96</td>
<td>3.35</td>
<td>1427</td>
<td>2.92</td>
<td>-27.91*</td>
<td>.22</td>
<td></td>
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<tr>
<td>OC</td>
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<td>23.56</td>
<td>3.22</td>
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<td>1.00</td>
<td>-10.52*</td>
<td>.44</td>
<td></td>
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<tr>
<td>SI</td>
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<td>3.26</td>
<td>1321</td>
<td>2.39</td>
<td>-22.72*</td>
<td>.22</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note.
* p < .05

Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support),
TO (Task Orientation), PGA (Personal Goal Attainment),
OC (Organization and Clarity), SI (Student Influence)

were for Personal Goal Attainment (r = .22) and Student Influence (r = .22). The highest was Teacher Support (r = .45). \( H_4 \) was supported for Involvement, Affiliation, Teacher Support, Personal Goal Attainment, Organization and Clarity, and Student Influence.

The fourth hypothesis for Research Question 4 follows:

\( H_{4b} \): There will be a significant difference in Black students' perceptions of the ideal and actual classroom social environment.
A t-test for dependent (correlated) means was calculated to compare Black students' actual and ideal perceptions of the classroom environment. Table 17 contains the means, standard deviations and number of cases for the actual and ideal dimensions as perceived by the Black students. The Table also displays the results of the t-test and the correlations calculated.

Table 17
Black Students' Perceptions of the Actual and Ideal Classroom Environment

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Actual M</th>
<th>Actual SD</th>
<th>Ideal M</th>
<th>Ideal SD</th>
<th>n</th>
<th>Diff</th>
<th>t</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>20.29</td>
<td>3.30</td>
<td>21.78</td>
<td>3.56</td>
<td>402</td>
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<td>.35</td>
</tr>
<tr>
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<td>20.21</td>
<td>2.95</td>
<td>21.05</td>
<td>2.78</td>
<td>415</td>
<td>-0.84</td>
<td>-5.21*</td>
<td>.35</td>
</tr>
<tr>
<td>TS</td>
<td>23.19</td>
<td>3.24</td>
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<td>3.63</td>
<td>411</td>
<td>0.17</td>
<td>1.05</td>
<td>.57</td>
</tr>
<tr>
<td>TO</td>
<td>21.09</td>
<td>2.76</td>
<td>20.69</td>
<td>2.83</td>
<td>406</td>
<td>0.40</td>
<td>2.64*</td>
<td>.41</td>
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<td>18.60</td>
<td>2.78</td>
<td>19.92</td>
<td>2.99</td>
<td>414</td>
<td>-1.32</td>
<td>-7.66*</td>
<td>.26</td>
</tr>
<tr>
<td>OC</td>
<td>22.45</td>
<td>3.11</td>
<td>22.82</td>
<td>3.31</td>
<td>397</td>
<td>-0.37</td>
<td>-2.29</td>
<td>.50</td>
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<td>SI</td>
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<td>2.81</td>
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<td>2.75</td>
<td>364</td>
<td>-1.56</td>
<td>-8.96*</td>
<td>.28</td>
</tr>
</tbody>
</table>

Note.
* p < .05

Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support),
TO (Task Orientation), PGA (Personal Goal Attainment),
OC (Organization and Clarity), SI (Student Influence)
Significant differences were identified for all seven subscales except for Teacher Support. The Black students particularly desired increased Involvement ($t = -7.64$), Personal Goal Attainment ($t = -7.66$), and Student Influence ($t = -8.96$). They wished for significantly less Task Orientation ($t = 2.64$) in their view of the ideal classroom environment. The lowest correlation was for Personal Goal Attainment ($r = .26$). The highest was Teacher Support ($r = .57$). $H_{4b}$ was supported on all subscales but Teacher Support.

The fifth hypothesis for Research Question 4 was the following:

$H_{4b}$: There will be a significant difference in the perceptions of American Indian students of the ideal and actual classroom social environment.

In order to compare the perceptions of the American Indian students of the actual and ideal environment, a $t$-test for dependent (correlated) means was calculated. Table 18 contains the means, standard deviations, number of students, difference between means, and the results of the $t$-test. The results of the correlations calculated are reported also.

The statistical procedure identified four areas of significant difference. The American Indian students pictured an ideal classroom environment with increased Involvement ($t = -2.63$), Personal Goal Attainment ($t = -2.83$), and Student Influence ($t = -4.16$). They
Table 18

American Indian Students' Perceptions of the Actual and Ideal Classroom Environment

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Actual</th>
<th>Ideal</th>
<th>Diff</th>
<th>t</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>n</td>
</tr>
<tr>
<td>I</td>
<td>19.00</td>
<td>3.09</td>
<td>20.45</td>
<td>3.69</td>
<td>53</td>
</tr>
<tr>
<td>A</td>
<td>20.04</td>
<td>2.58</td>
<td>20.38</td>
<td>2.85</td>
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</tr>
<tr>
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<td>21.60</td>
<td>3.68</td>
<td>53</td>
</tr>
<tr>
<td>TO</td>
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<td>2.43</td>
<td>19.28</td>
<td>2.63</td>
<td>58</td>
</tr>
<tr>
<td>PGA</td>
<td>18.03</td>
<td>3.04</td>
<td>19.52</td>
<td>3.37</td>
<td>58</td>
</tr>
<tr>
<td>OC</td>
<td>21.47</td>
<td>3.16</td>
<td>21.05</td>
<td>3.81</td>
<td>55</td>
</tr>
<tr>
<td>SI</td>
<td>16.47</td>
<td>2.66</td>
<td>18.40</td>
<td>2.58</td>
<td>47</td>
</tr>
</tbody>
</table>

Note.
*p < .05

Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support),
TO (Task Orientation), PGA (Personal Goal Attainment),
OC (Organization and Clarity), SI (Student Influence)

perceived the ideal environment as having a lower degree of Task Orientation (t = 3.93) than their view of the actual environment. The lowest correlations were for Personal Goal Attainment (r = .23). The highest were for Organization and Clarity (r = .61). H₄ was supported for Involvement, Personal Goal Attainment, Student Influence, and Task Orientation.

The sixth hypothesis related to Research Question 4
follows:

**H₄P:** There will be a significant difference in the perceptions of Asian students of the ideal and actual classroom social environment.

A *t*-test for dependent (correlated) means was calculated to compare actual and ideal perceptions of the classroom social environment held by the Asian students. The display of the *t*-test results is shown in Table 19, along with means, standard deviations, number of cases for each subscale, differences between means, and the *r* calculated for the correlation.

Many of the perceptions of both the actual and ideal classroom environment of the Asian students were lower than those of the other racial groups. However, the comparison of the ideal and actual classroom environment within their own group indicated that they perceived significantly higher levels of five subscales in the ideal classroom environment. The greatest degree of difference was found in their view of Personal Goal Attainment (*t* = -4.06). Other subscales in which they perceived significantly higher views were Involvement (*t* = -3.79), Affiliation (*t* = -3.31), Teacher Support (*t* = -2.53), and Student Influence (*t* = -3.30). The results of the correlations indicated that the lowest correlations were for Personal Goal Attainment (*r* = .10). The highest was Teacher Support (*r* = .59). **H₄P** was supported for Involvement, Affiliation, Teacher Support, Personal Goal Attainment, and Student Influence.
Table 19

Asian Students' Perceptions of the Actual and Ideal Classroom Environment

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Actual M</th>
<th>SD</th>
<th>Ideal M</th>
<th>SD</th>
<th>n</th>
<th>Diff</th>
<th>t</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>19.65</td>
<td>3.20</td>
<td>21.15</td>
<td>3.29</td>
<td>107</td>
<td>-1.50</td>
<td>-3.79*</td>
<td>.21</td>
</tr>
<tr>
<td>A</td>
<td>19.74</td>
<td>3.08</td>
<td>20.76</td>
<td>3.29</td>
<td>113</td>
<td>-1.02</td>
<td>-3.31*</td>
<td>.48</td>
</tr>
<tr>
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<td>21.04</td>
<td>3.58</td>
<td>21.82</td>
<td>3.64</td>
<td>112</td>
<td>-0.78</td>
<td>-2.53*</td>
<td>.59</td>
</tr>
<tr>
<td>TO</td>
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<td>2.28</td>
<td>20.10</td>
<td>2.38</td>
<td>109</td>
<td>-0.33</td>
<td>-1.25</td>
<td>.31</td>
</tr>
<tr>
<td>PGA</td>
<td>19.02</td>
<td>2.48</td>
<td>20.45</td>
<td>3.03</td>
<td>111</td>
<td>-1.43</td>
<td>-4.06*</td>
<td>.10</td>
</tr>
<tr>
<td>OC</td>
<td>21.29</td>
<td>3.04</td>
<td>21.79</td>
<td>3.37</td>
<td>104</td>
<td>-0.50</td>
<td>-1.54</td>
<td>.47</td>
</tr>
<tr>
<td>SI</td>
<td>17.51</td>
<td>2.46</td>
<td>18.45</td>
<td>2.86</td>
<td>105</td>
<td>-0.94</td>
<td>-3.03*</td>
<td>.30</td>
</tr>
</tbody>
</table>

Note.  
* p < .05  
Abbreviations:  
I (Involvement), A (Affiliation), TS (Teacher Support), TO (Task Orientation), PGA (Personal Goal Attainment), OC (Organization and Clarity), SI (Student Influence)

The seventh, and final, hypothesis for Research Question 4 was the following:

\[ H_{4q}: \text{There will be a significant difference in perceptions of the ideal and actual classroom social environment held by Hispanic students'}. \]

A \( t \)-test for dependent (correlated) means was calculated to compare the Hispanic students' perceptions of the ideal and actual classroom environment. The results of the statistical test are displayed in Table 20. The table
also contains the Hispanic students' means, standard
deviations, number of cases, difference between means, and
the \( r \) calculated for correlation.

Table 20

<table>
<thead>
<tr>
<th>Hispanic Students' Perceptions of the Actual and Ideal Classroom Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subscale</td>
</tr>
<tr>
<td>I</td>
</tr>
<tr>
<td>A</td>
</tr>
<tr>
<td>TS</td>
</tr>
<tr>
<td>TO</td>
</tr>
<tr>
<td>PGA</td>
</tr>
<tr>
<td>OC</td>
</tr>
<tr>
<td>SI</td>
</tr>
</tbody>
</table>

Note.  
* \( p < .05 \)

Abbreviations:  
I (Involvement), A (Affiliation), TS (Teacher Support),  
TO (Task Orientation), PGA (Personal Goal Attainment),  
OC (Organization and Clarity), SI (Student Influence)

The Hispanic students perceived an ideal classroom
environment with increased attention to all subscales except
for Task Orientation. They expressed a need for increased
Involvement (\( t = -4.98 \)), Affiliation (\( t = -4.49 \)), Teacher
Support (\( t = -2.01 \)), Personal Goal Attainment (\( t = -5.48 \)),
Organization and Clarity ($\tau = -3.06$), and Student Influence ($\tau = -3.53$). The results of the correlations indicated that the lowest correlation was for Student Influence ($\tau = .23$). The highest was for Organization and Clarity ($\tau = .65$). $H_4$ was supported on all subscales except Task Orientation.

Research Question 5: Are there differences between younger and older students in their perceptions of the classroom social environment?

The first hypothesis related to Research Question 5 is the following:

$H_{5A}$: There will be a significant difference between younger and older students in their perceptions of the actual classroom social environment.

T-tests for independent means were administered to the actual means of younger students (less than 25) and older students (25 or older). The results are reported in Table 21. The table also contains the means, standard deviations, and number of students in each group.

The older students reported significantly higher perceptions of the actual classroom environment on the dimensions of Involvement ($t = -9.85$), Task Orientation ($t = -8.50$), Organization and Clarity ($t = -6.97$), and Teacher Support ($t = -6.83$). Their perception of Affiliation was also significantly higher, but not to the extent of the other four dimensions mentioned. $H_{5A}$ was supported on Involvement, Affiliation, Teacher Support, Task Orientation, and Organization and Clarity.
Table 21

Students’ Perceptions of the Actual Classroom Environment by Age

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Younger (Less Than 25)</th>
<th>Older (25 and Older)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>n</td>
</tr>
<tr>
<td>I</td>
<td>19.31</td>
<td>3.21</td>
<td>1315</td>
</tr>
<tr>
<td>A</td>
<td>19.80</td>
<td>3.03</td>
<td>1337</td>
</tr>
<tr>
<td>TS</td>
<td>22.43</td>
<td>3.47</td>
<td>1327</td>
</tr>
<tr>
<td>TO</td>
<td>20.51</td>
<td>2.63</td>
<td>1323</td>
</tr>
<tr>
<td>PGA</td>
<td>18.35</td>
<td>2.89</td>
<td>1328</td>
</tr>
<tr>
<td>OC</td>
<td>22.00</td>
<td>3.12</td>
<td>1317</td>
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<tr>
<td>SI</td>
<td>16.93</td>
<td>2.71</td>
<td>1323</td>
</tr>
</tbody>
</table>

Note.
* p < .05
^A = t-test using pooled variance estimate
^B = t-test using separate variance estimate

Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support),
TO (Task Orientation), PGA (Personal Goal Attainment),
OC (Organization and Clarity), SI (Student Influence)

The second hypothesis related to Research Question 5 is the following:

H5b: There will be a significant difference between younger and older students in their perceptions of the ideal classroom social environment.

T-tests for independent means were administered to the ideal means of younger students (less than 25) and older students
(25 or older). The results are reported in Table 22. The table also contains the means, standard deviations, and number of students in each group.

Table 22

Students' Perceptions of the Ideal Classroom Environment by Age

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Younger (Less than 25)</th>
<th>Older (25 and Older)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>n</td>
</tr>
<tr>
<td>I</td>
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<td>TO</td>
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<tr>
<td>PGA</td>
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<tr>
<td>SI</td>
<td>19.48</td>
<td>3.13</td>
<td>1192</td>
</tr>
</tbody>
</table>

Note.  
* p < .05  
A = t-test using pooled variance estimate  
B = t-test using separate variance estimate  

Abbreviations:  
I (Involvement), A (Affiliation), TS (Teacher Support), TO (Task Orientation), PGA (Personal Goal Attainment), OC (Organization and Clarity), SI (Student Influence)  

The vision of older students for an ideal classroom environment focused on more Involvement, Teacher Support, Task Orientation, and Organization and Clarity than that of
younger students. The younger students were interested in significantly more Personal Goal Attainment and Student Influence than the older students. \( H_{SB} \) was supported on all subscales except Affiliation.

The third hypothesis related to Research Question 5 follows:

\( H_{Sc} \): There will be a significant difference in how younger students perceive the ideal and actual classroom social environment.

In order to determine significant differences between the actual and ideal perceptions of the younger students, \( t \)-tests for dependent (correlated) means were calculated. The results of the \( t \)-tests, means, standard deviations, number of cases, and differences between means are contained in Table 23. The results of the correlations are displayed.

The calculation completed on the younger students (less than 25 years old) revealed significant differences on each subscale of ACES. In every case but one, students wished for an increase in the subscale in the ideal classroom. The students wished for additional Involvement, Affiliation, Personal Goal Attainment, Student Influence, Teacher Support, and Organization and Clarity. The one dimension for which they viewed significantly less emphasis in an ideal environment was Task Orientation. The correlation for Student Influence (\( r = .16 \)) was the lowest; the correlation for Teacher Support (\( r = .47 \)), the highest. \( H_{Sc} \) was supported for all seven subscales of ACES.
Table 23
Perceptions of the Actual and Ideal Classroom Environment of Younger Students

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Actual M</th>
<th>SD</th>
<th>Ideal M</th>
<th>SD</th>
<th>n</th>
<th>Diff</th>
<th>t</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
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<td>3.20</td>
<td>21.97</td>
<td>3.65</td>
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<td>-22.88*</td>
<td>.25</td>
</tr>
<tr>
<td>A</td>
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<td>3.03</td>
<td>21.47</td>
<td>3.20</td>
<td>1308</td>
<td>-1.64</td>
<td>-16.82*</td>
<td>.36</td>
</tr>
<tr>
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<td>23.44</td>
<td>3.75</td>
<td>1304</td>
<td>-1.00</td>
<td>-9.73*</td>
<td>.47</td>
</tr>
<tr>
<td>TO</td>
<td>20.53</td>
<td>2.62</td>
<td>20.30</td>
<td>2.73</td>
<td>1292</td>
<td>0.23</td>
<td>2.64*</td>
<td>.35</td>
</tr>
<tr>
<td>PGA</td>
<td>18.37</td>
<td>2.89</td>
<td>20.98</td>
<td>3.32</td>
<td>1293</td>
<td>-2.62</td>
<td>-23.58*</td>
<td>.18</td>
</tr>
<tr>
<td>OC</td>
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<td>3.12</td>
<td>22.79</td>
<td>3.55</td>
<td>1272</td>
<td>-0.78</td>
<td>-7.64*</td>
<td>.41</td>
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<tr>
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<td>2.73</td>
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<td>3.12</td>
<td>1160</td>
<td>-2.58</td>
<td>-23.23*</td>
<td>.16</td>
</tr>
</tbody>
</table>

Note.
* p < .05
Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support),
TO (Task Orientation), PGA (Personal Goal Attainment),
OC (Organization and Clarity), SI (Student Influence)

The fourth hypothesis related to Research Question 5 is the following:

Hₜₒₜ: There will be a significant difference in how older students perceived the ideal and actual classroom social environment.

A t-test for dependent (correlated) means was calculated to identify for older students significant differences in their perceptions of the actual and ideal classroom environment. The results of the t-test, means, standard
deviations, number of cases, and differences between means are contained in Table 24. The results of the correlations are also displayed.

Table 24

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Actual M</th>
<th>Actual SD</th>
<th>Ideal M</th>
<th>Ideal SD</th>
<th>n</th>
<th>Diff</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
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<td>3.11</td>
<td>22.77</td>
<td>3.34</td>
<td>719</td>
<td>-2.00</td>
<td>-14.18*</td>
<td>.26</td>
</tr>
<tr>
<td>A</td>
<td>19.90</td>
<td>2.82</td>
<td>21.46</td>
<td>2.76</td>
<td>733</td>
<td>-1.56</td>
<td>-13.52*</td>
<td>.37</td>
</tr>
<tr>
<td>TS</td>
<td>23.54</td>
<td>3.20</td>
<td>24.22</td>
<td>3.20</td>
<td>724</td>
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<td>-5.92*</td>
<td>.54</td>
</tr>
<tr>
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<td>2.61</td>
<td>21.75</td>
<td>2.75</td>
<td>721</td>
<td>-0.18</td>
<td>1.64</td>
<td>.38</td>
</tr>
<tr>
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<td>20.39</td>
<td>3.26</td>
<td>727</td>
<td>-2.25</td>
<td>-16.16*</td>
<td>.28</td>
</tr>
<tr>
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<td>3.22</td>
<td>24.00</td>
<td>3.27</td>
<td>711</td>
<td>-0.96</td>
<td>8.05*</td>
<td>.52</td>
</tr>
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<td>SI</td>
<td>16.68</td>
<td>2.97</td>
<td>18.14</td>
<td>3.02</td>
<td>681</td>
<td>-1.46</td>
<td>-10.96*</td>
<td>.33</td>
</tr>
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</table>

Note.  
* p < .05
Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support), TO (Task Orientation), PGA (Personal Goal Attainment), OC (Organization and Clarity), SI (Student Influence)

The results of the calculation for the older students revealed similar results to those of the younger students. The t-values indicated that older students also envisioned an ideal classroom environment with increased emphasis on Involvement (-14.18), Affiliation (-13.52), Personal Goal
Attainment (-16.16), Student Influence (-10.96), Organization and Clarity (-8.05), and Teacher Support (-5.92). No significant difference was evident for Task Orientation. The correlation for Teacher Support ($r = .54$) was the highest, while the one for Involvement ($r = .26$) was the lowest. $H_{6b}$ was supported on all subscales of ACES, except Task Orientation.

Research Question 6: Are there differences between students in English and math classes in their perceptions of the classroom social environment?

The first hypothesis related to Research Question 6 is the following:

$H_{6a}$: There will be a significant difference between students in English and math classes in their perceptions of the actual classroom social environment.

A t-test for independent means was calculated on the actual means of students in developmental English classes and for those in developmental math courses. The results of the t-test, means, standard deviations, number of cases, and differences between means are contained in Table 25.

A comparison of the students' perceptions of the actual classroom environment indicated that the English students perceived significantly more Affiliation, Personal Goal Attainment, and Student Influence in the actual classroom environment than the math students. The math students viewed the actual classroom environment as having more Task
### Table 25

**Students' Perceptions of the Actual Classroom Environment by Course Type**

<table>
<thead>
<tr>
<th>Subscale</th>
<th>English</th>
<th></th>
<th></th>
<th>Math</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>n</td>
<td>t</td>
</tr>
<tr>
<td>I</td>
<td>19.69</td>
<td>3.20</td>
<td>741</td>
<td>19.94</td>
<td>3.24</td>
<td>1416</td>
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<td>20.57</td>
<td>2.78</td>
<td>752</td>
<td>19.46</td>
<td>2.98</td>
<td>1436</td>
<td>8.64* B</td>
</tr>
<tr>
<td>TS</td>
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<td>3.35</td>
<td>747</td>
<td>22.85</td>
<td>3.44</td>
<td>1419</td>
<td>-0.50 A</td>
</tr>
<tr>
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<td>2.50</td>
<td>752</td>
<td>21.18</td>
<td>2.69</td>
<td>1407</td>
<td>-7.30* B</td>
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<td>749</td>
<td>17.85</td>
<td>2.93</td>
<td>1420</td>
<td>9.81* B</td>
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<tr>
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<td>3.04</td>
<td>732</td>
<td>22.59</td>
<td>3.26</td>
<td>1410</td>
<td>-4.37* B</td>
</tr>
<tr>
<td>SI</td>
<td>17.14</td>
<td>2.58</td>
<td>743</td>
<td>16.72</td>
<td>2.88</td>
<td>1417</td>
<td>3.42* B</td>
</tr>
</tbody>
</table>

**Note.**

* p < .05
A = t-test using pooled variance estimate
B = t-test using separate variance estimate

**Abbreviations:**

I (Involvement), A (Affiliation), TS (Teacher Support),
TO (Task Orientation), PGA (Personal Goal Attainment),
OC (Organization and Clarity), SI (Student Influence)

Orientation and Organization and Clarity than the English
students saw in theirs. No significant difference was found
for Involvement and Teacher Support. H₆ₐ was supported on
all subscales, except Teacher Support and Involvement.

The second hypothesis related to Research Question 6
follows:

H₆₅: There will be a significant difference between
students in English and math classes in their perceptions of the ideal classroom social environment.

A t-test for independent means was calculated on the ideal means of students in developmental English classes and for those in developmental math courses. The results of the t-test, means, standard deviations, number of cases, and differences between means are contained in Table 26.

Table 26
Students' Perceptions of the Ideal Classroom Environment by Course Type

<table>
<thead>
<tr>
<th>Subscale</th>
<th>English</th>
<th></th>
<th>Math</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>n</td>
<td>t</td>
</tr>
<tr>
<td>I</td>
<td>21.65</td>
<td>3.63</td>
<td>728</td>
<td>22.53</td>
<td>3.50</td>
<td>1414</td>
<td>-5.44*A</td>
</tr>
<tr>
<td>A</td>
<td>21.52</td>
<td>3.05</td>
<td>742</td>
<td>21.42</td>
<td>3.06</td>
<td>1429</td>
<td>0.76</td>
</tr>
<tr>
<td>TS</td>
<td>23.49</td>
<td>3.58</td>
<td>735</td>
<td>23.83</td>
<td>3.60</td>
<td>1435</td>
<td>-2.12*A</td>
</tr>
<tr>
<td>TO</td>
<td>20.31</td>
<td>2.59</td>
<td>742</td>
<td>21.05</td>
<td>2.89</td>
<td>1430</td>
<td>-6.06*B</td>
</tr>
<tr>
<td>PGA</td>
<td>20.94</td>
<td>3.22</td>
<td>735</td>
<td>20.69</td>
<td>3.37</td>
<td>1427</td>
<td>1.69</td>
</tr>
<tr>
<td>OC</td>
<td>22.77</td>
<td>3.44</td>
<td>724</td>
<td>23.44</td>
<td>3.52</td>
<td>1417</td>
<td>-4.18*A</td>
</tr>
<tr>
<td>SI</td>
<td>18.99</td>
<td>2.94</td>
<td>655</td>
<td>18.91</td>
<td>3.26</td>
<td>1323</td>
<td>0.57</td>
</tr>
</tbody>
</table>

Note.
* p < .05
A = t-test using pooled variance estimate
B = t-test using separate variance estimate

Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support),
TO (Task Orientation), PGA (Personal Goal Attainment),
OC (Organization and Clarity), SI (Student Influence)
The comparison of how the English and math students perceived the ideal classroom environment indicated that significant differences were evident for Involvement, Teacher Support, Task Orientation, and Organization and Clarity. In all four dimensions, math students wanted more attention to those found statistically significant than the English students. No significant difference was apparent for Affiliation, Personal Goal Attainment, or Student Influence. \( H_{6b} \) was supported on Involvement, Teacher Support, Task Orientation, and Organization and Clarity.

The third hypothesis related to course type as addressed in Research Question 6 follows:

\[ H_{6c}: \text{There will be a significant difference in how English students perceive the ideal and actual classroom social environment.} \]

A \( t \)-test for dependent (correlated) means was calculated to compare actual and ideal perceptions of the classroom environment held by English students. Table 27 contains the means and standard deviations for the actual and ideal perceptions of the English students. The table also includes the number students in each calculation, the difference between the actual and ideal means, the results of the \( t \)-tests, and the correlations.

A closer look at the English students revealed that they perceived significantly different ideal classrooms than the actual ones they were currently experiencing, except for one subscale. Their choice for an ideal classroom
Table 27

Perceptions of the Actual and Ideal Classroom Environment of Students in English Courses

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Actual</th>
<th>Ideal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>I</td>
<td>19.68</td>
<td>3.22</td>
</tr>
<tr>
<td>A</td>
<td>20.62</td>
<td>2.75</td>
</tr>
<tr>
<td>TS</td>
<td>22.84</td>
<td>3.33</td>
</tr>
<tr>
<td>TO</td>
<td>20.35</td>
<td>2.50</td>
</tr>
<tr>
<td>PGA</td>
<td>19.13</td>
<td>2.67</td>
</tr>
<tr>
<td>OC</td>
<td>22.00</td>
<td>3.03</td>
</tr>
<tr>
<td>SI</td>
<td>17.11</td>
<td>2.53</td>
</tr>
</tbody>
</table>

Note.
* p < .05
Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support),
TO (Task Orientation), PGA (Personal Goal Attainment),
OC (Organization and Clarity), SI (Student Influence)

environment included increased concentration on all subscales, except Task Orientation. They expressed greater preference for Involvement, Personal Goal Attainment, and Student Influence than for the other subscales. $H_{6c}$ was supported for Involvement, Affiliation, Teacher Support, Personal Goal Attainment, Organization and Clarity, and Student Influence.
The fourth hypothesis associated with Research Question 6 follows:

\[ H_{6d}: \text{There will be a significant difference in how math students perceive the ideal and actual classroom social environment.} \]

As with the English students, a \( t \)-test for dependent (correlated) means was calculated to compare the math students' actual and ideal perceptions of the classroom environment. Table 28 contains the means and standard deviations, as well as the number students in each calculation, the difference between the actual and ideal means, the results of the \( t \)-tests, and the correlations.

The math students, like the English students, indicated a significant preference for increased focus on all subscales of ACES except Task Orientation. They particularly desired Involvement, Affiliation, Personal Goal Attainment, and Student Influence in their classes. The lowest correlation was for Personal Goal Attainment (\( r = .17 \)). The highest was for Organization and Clarity (\( r = .50 \)). \( H_{6d} \) was supported for all subscales, except Task Orientation.

Research Question 7: Are there differences between first generation and non-first generation students' perceptions of the classroom social environment?

The first hypothesis related to this research question focused on the perceptions of the actual classroom environment that first generation and non-first generation
Table 28

Perceptions of the Actual and Ideal Classroom Environment of Students in Math Courses

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Actual M</th>
<th>SD</th>
<th>Ideal M</th>
<th>SD</th>
<th>n</th>
<th>Diff</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>19.93</td>
<td>3.25</td>
<td>22.52</td>
<td>3.50</td>
<td>1372</td>
<td>-2.59</td>
<td>-23.91*</td>
<td>.30</td>
</tr>
<tr>
<td>A</td>
<td>19.47</td>
<td>2.99</td>
<td>21.42</td>
<td>3.05</td>
<td>1408</td>
<td>-1.95</td>
<td>-20.78*</td>
<td>.32</td>
</tr>
<tr>
<td>TS</td>
<td>22.86</td>
<td>3.44</td>
<td>23.81</td>
<td>3.60</td>
<td>1401</td>
<td>-0.95</td>
<td>-10.01*</td>
<td>.49</td>
</tr>
<tr>
<td>TO</td>
<td>21.20</td>
<td>2.68</td>
<td>21.06</td>
<td>2.89</td>
<td>1379</td>
<td>0.14</td>
<td>1.71</td>
<td>.41</td>
</tr>
<tr>
<td>PGA</td>
<td>17.86</td>
<td>2.95</td>
<td>20.68</td>
<td>3.35</td>
<td>1391</td>
<td>-2.82</td>
<td>-25.82*</td>
<td>.17</td>
</tr>
<tr>
<td>OC</td>
<td>22.62</td>
<td>3.26</td>
<td>23.45</td>
<td>3.52</td>
<td>1375</td>
<td>-0.83</td>
<td>-9.09*</td>
<td>.50</td>
</tr>
<tr>
<td>SI</td>
<td>16.70</td>
<td>2.93</td>
<td>18.94</td>
<td>3.25</td>
<td>1288</td>
<td>-2.24</td>
<td>-20.91*</td>
<td>.23</td>
</tr>
</tbody>
</table>

Note.
* p < .05

Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support),
TO (Task Orientation), PGA (Personal Goal Attainment),
OC (Organization and Clarity), SI (Student Influence)

students had. The hypothesis follows:

\[ H_{A} : \] There will be a significant difference between first generation and non-first generation students in their perceptions of the actual classroom environment.

A \( t \)-test for independent means was administered to the actual means of each group to determine if the two groups' responses were significantly different. The results of the \( t \)-test, means, standard deviations, and number of students whose actual perceptions were compared are displayed in
Table 29.

Table 29

First-Generation and Non-First-Generation Students' Perceptions of the Actual Classroom Environment

<table>
<thead>
<tr>
<th>Subscale</th>
<th>First Generation</th>
<th>Non-First Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M  SD  n</td>
<td>M  SD  n  t</td>
</tr>
<tr>
<td>I</td>
<td>19.92 3.15 694</td>
<td>19.84 3.26 1346 0.56A</td>
</tr>
<tr>
<td>A</td>
<td>19.88 2.96 707</td>
<td>19.86 2.97 1367 0.12A</td>
</tr>
<tr>
<td>TS</td>
<td>22.73 3.35 697</td>
<td>22.96 3.41 1352 -1.47A</td>
</tr>
<tr>
<td>TO</td>
<td>20.85 2.74 697</td>
<td>20.92 2.61 1349 -0.60A</td>
</tr>
<tr>
<td>PGA</td>
<td>18.19 2.86 700</td>
<td>18.34 2.93 1357 -1.08A</td>
</tr>
<tr>
<td>OC</td>
<td>22.32 3.12 692</td>
<td>22.50 3.21 1341 -1.22A</td>
</tr>
<tr>
<td>SI</td>
<td>16.83 2.73 692</td>
<td>16.87 2.83 1354 -0.30A</td>
</tr>
</tbody>
</table>

Note.
* p < .05
^ = t-test using pooled variance estimate

Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support), TO (Task Orientation), PGA (Personal Goal Attainment), OC (Organization and Clarity), SI (Student Influence)

The t-test calculated on the actual means found no significant differences between the two groups.

The second hypothesis related to Research Question 7 is the following:

H_{7b}: There will be a significant difference
between first generation and non-first generation students in their perceptions of the ideal classroom environment.

A t-test for independent means was administered to the ideal means of each group to determine if the two groups' responses were significantly different. The results of the t-test, means, standard deviations, and number of students whose actual perceptions were compared are displayed in Table 30.

The comparison of the first-generation and non-first-generation students in perceptions of the ideal classroom environment provided different results from those obtained when the actual perceptions were compared. Significant differences were evident for Organization and Clarity, Teacher Support, Personal Goal Attainment, and Involvement. In all four cases, the non-first-generation students wanted an ideal classroom environment with significantly more emphasis on these dimensions than the first-generation students. H7A was supported for Organization and Clarity, Teacher Support, Personal Goal Attainment, and Involvement.

The third hypotheses related to Research Question 7 was the following:

H7C: There will be a significant difference in how first generation students perceive the ideal and actual classroom social environment.

To compare the actual perceptions of the first-generation students with their ideal perceptions of the classroom environment, a t-test for dependent (correlated)
Table 30
First-Generation and Non-First-Generation Students’ Perceptions of the Ideal Classroom Environment

<table>
<thead>
<tr>
<th>Subscale</th>
<th>First Generation</th>
<th>Non-First Generation</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>n</td>
</tr>
<tr>
<td>I</td>
<td>22.02</td>
<td>3.61</td>
<td>697</td>
</tr>
<tr>
<td>A</td>
<td>21.38</td>
<td>3.10</td>
<td>703</td>
</tr>
<tr>
<td>TS</td>
<td>23.36</td>
<td>3.76</td>
<td>708</td>
</tr>
<tr>
<td>TO</td>
<td>20.70</td>
<td>2.79</td>
<td>710</td>
</tr>
<tr>
<td>PGA</td>
<td>20.47</td>
<td>3.32</td>
<td>697</td>
</tr>
<tr>
<td>OC</td>
<td>22.87</td>
<td>3.54</td>
<td>697</td>
</tr>
<tr>
<td>SI</td>
<td>18.82</td>
<td>3.07</td>
<td>643</td>
</tr>
</tbody>
</table>

Note.
* p < .05
^A = t-test using pooled variance estimate
^B = t-test using separate variance estimate

Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support),
TO (Task Orientation), PGA (Personal Goal Attainment),
OC (Organization and Clarity), SI (Student Influence)

The results of the t-test used to compare the first-
Table 31  
**First-Generation Students’ Perceptions of the Actual and Ideal Classroom Environment**

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Actual M</th>
<th>Actual SD</th>
<th>Ideal M</th>
<th>Ideal SD</th>
<th>n</th>
<th>Diff</th>
<th>t</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>19.94</td>
<td>3.16</td>
<td>22.03</td>
<td>3.60</td>
<td>675</td>
<td>-2.09</td>
<td>-13.62*</td>
<td>.31</td>
</tr>
<tr>
<td>A</td>
<td>19.91</td>
<td>2.96</td>
<td>21.40</td>
<td>3.09</td>
<td>691</td>
<td>-1.49</td>
<td>-11.82*</td>
<td>.40</td>
</tr>
<tr>
<td>TS</td>
<td>22.74</td>
<td>3.35</td>
<td>23.34</td>
<td>3.77</td>
<td>691</td>
<td>-0.60</td>
<td>-4.67*</td>
<td>.56</td>
</tr>
<tr>
<td>TO</td>
<td>20.88</td>
<td>2.73</td>
<td>20.67</td>
<td>2.80</td>
<td>688</td>
<td>0.21</td>
<td>1.86</td>
<td>.42</td>
</tr>
<tr>
<td>PGA</td>
<td>18.25</td>
<td>2.85</td>
<td>20.41</td>
<td>3.31</td>
<td>680</td>
<td>-2.16</td>
<td>-15.17*</td>
<td>.28</td>
</tr>
<tr>
<td>OC</td>
<td>22.35</td>
<td>3.11</td>
<td>22.92</td>
<td>3.53</td>
<td>676</td>
<td>-0.57</td>
<td>-4.38*</td>
<td>.49</td>
</tr>
<tr>
<td>SI</td>
<td>16.80</td>
<td>2.75</td>
<td>18.85</td>
<td>3.03</td>
<td>623</td>
<td>-2.05</td>
<td>-14.53*</td>
<td>.26</td>
</tr>
</tbody>
</table>

**Note.**
* p < .05

**Abbreviations:**
I (Involvement), A (Affiliation), TS (Teacher Support), TO (Task Orientation), PGA (Personal Goal Attainment), OC (Organization and Clarity), SI (Student Influence)

generation students’ perceptions of the ideal and actual classroom environment indicated that the students envisioned an ideal environment with an increase of attention on Personal Goal Attainment (t = -15.16), Student Influence (t = -14.53), Involvement (t = -13.62), Affiliation (t = -11.82), Teacher Support, and Organization and Clarity. The highest correlation was for Teacher Support (r = .56). The lowest was for Student Influence.
(r = .26). \( H_{7c} \) was supported on all subscales, except Task Orientation.

The fourth hypothesis related to Research Question 7 was the following:

\( H_{7d} \): There will be a significant difference in non-first generation students in their perceptions of the ideal and actual classroom social environment.

A \( t \)-test for dependent (correlated) means was calculated to compare the non-first generation students in their views of the ideal and actual classroom social environment. Table 32 contains the \( t \)-test results, the means, and standard deviations for each subscale. It also includes the number of students, the difference between the pairs of means, and the correlation results.

The results of the comparison of the non-first generation students’ perceptions were much like those of the first-generation students. The \( t \)-values indicated that the non-first generation students also viewed an ideal classroom environment with more Personal Goal Attainment (-25.03), Involvement (-23.20), Student Influence (-20.64), Affiliation (-18.41), Teacher Support, and Organization and Clarity than the actual classroom environment. They reported no significant difference on Task Orientation. The lowest correlation was on Personal Goal Attainment (\( r = .18 \)); the highest, on Teacher Support (\( r = .47 \)). \( H_{7d} \) was supported on all subscales, except Personal Goal Attainment.
Table 32

Non-First-Generation Students' Perceptions of the Actual and Ideal Classroom Environment

<table>
<thead>
<tr>
<th>Subscale</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>n</th>
<th>Diff</th>
<th>t</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>19.83</td>
<td>3.27</td>
<td>22.46</td>
<td>3.53</td>
<td>1305</td>
<td>-2.63</td>
<td>-23.20*</td>
<td>.28</td>
</tr>
<tr>
<td>A</td>
<td>19.87</td>
<td>2.97</td>
<td>21.59</td>
<td>3.01</td>
<td>1351</td>
<td>-1.72</td>
<td>-18.41*</td>
<td>.34</td>
</tr>
<tr>
<td>TS</td>
<td>22.97</td>
<td>3.41</td>
<td>24.03</td>
<td>3.43</td>
<td>1335</td>
<td>-1.05</td>
<td>-10.96*</td>
<td>.47</td>
</tr>
<tr>
<td>TO</td>
<td>20.94</td>
<td>2.62</td>
<td>20.94</td>
<td>2.83</td>
<td>1329</td>
<td>-0.00</td>
<td>0.08</td>
<td>.37</td>
</tr>
<tr>
<td>PGA</td>
<td>18.33</td>
<td>2.94</td>
<td>21.05</td>
<td>3.23</td>
<td>1337</td>
<td>-2.72</td>
<td>-25.03*</td>
<td>.18</td>
</tr>
<tr>
<td>OC</td>
<td>22.52</td>
<td>3.21</td>
<td>23.53</td>
<td>3.41</td>
<td>1308</td>
<td>-1.01</td>
<td>-10.55*</td>
<td>.46</td>
</tr>
<tr>
<td>SI</td>
<td>16.84</td>
<td>2.85</td>
<td>19.09</td>
<td>3.22</td>
<td>1220</td>
<td>-2.25</td>
<td>-20.64*</td>
<td>.22</td>
</tr>
</tbody>
</table>

Note.
* p < .05
Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support), TO (Task Orientation), PGA (Personal Goal Attainment), OC (Organization and Clarity), SI (Student Influence)

Research Question 8: Are there differences between students from large and small colleges in their perceptions of the classroom social environment?

The hypothesis related to Research Question 8 follows:

\( H_{ga} \): There will be a significant difference between students from large and small colleges in their perceptions of the actual classroom social environment.

The subgroup containing the students in large colleges with 6000 or more students and the students in small
colleges with fewer than 6000 students was analyzed in the same manner as the other subgroups. A t-test for independent means was calculated to compare the two groups on their actual perceptions of the classroom environment. The comparison of the groups' actual perceptions is displayed in Table 33. The table contains the t-test results, the means, standard deviations, and the number of students for each group.

The students in the smaller colleges perceived significantly more Task Orientation, Teacher Support, Personal Goal Attainment, Organization and Clarity, and Student Influence than the students in the larger colleges. The students in the larger colleges reported significantly more Affiliation in the actual classroom environment than the students in the smaller colleges. There was no evidence of significant difference on Involvement. H8 A was supported on all subscales, except Involvement.

The second hypothesis associated with small and large colleges addressed in Research Question 8 is the following:

H8B: There will be a significant difference between students from large and small colleges in their perceptions of the ideal classroom social environment.

Again, a t-test for independent means was calculated to compare the two groups on their ideal perceptions of the classroom environment. The results are displayed in Table 34. The table contains t-test results, means, standard deviations, and number of students for each group.
Table 33

Perceptions of the Actual Classroom Environment of Students in Large and Small Colleges

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Large Colleges (More than 6000)</th>
<th>Small Colleges (6000 or fewer)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>I</td>
<td>19.95</td>
<td>3.26</td>
</tr>
<tr>
<td>A</td>
<td>19.67</td>
<td>2.97</td>
</tr>
<tr>
<td>TS</td>
<td>23.16</td>
<td>3.25</td>
</tr>
<tr>
<td>TO</td>
<td>21.24</td>
<td>2.54</td>
</tr>
<tr>
<td>PGA</td>
<td>18.52</td>
<td>2.73</td>
</tr>
<tr>
<td>OC</td>
<td>22.62</td>
<td>2.98</td>
</tr>
<tr>
<td>SI</td>
<td>17.08</td>
<td>2.69</td>
</tr>
</tbody>
</table>

Note.
* p < .05
* A = t-test using pooled variance estimate
* B = t-test using separate variance estimate

Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support),
TO (Task Orientation), PGA (Personal Goal Attainment),
OC (Organization and Clarity), SI (Student Influence)

The comparison of the perceptions of both groups on the ideal classroom environment yielded only one significant difference between their perceptions. The students in the large colleges viewed more Organization and Clarity in the ideal classroom environment than the students in the small colleges, providing support for H_{8b} on that subscale.
Table 34

Perceptions of the Ideal Classroom Environment of Students in Large and Small Colleges

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Large Colleges (More than 6000)</th>
<th>Small Colleges (6000 or fewer)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>M = 22.06, SD = 3.62, n = 807</td>
<td>M = 22.33, SD = 3.54, n = 1335</td>
<td>-1.70*</td>
</tr>
<tr>
<td>A</td>
<td>M = 21.35, SD = 3.07, n = 813</td>
<td>M = 21.52, SD = 3.05, n = 1358</td>
<td>-1.26*</td>
</tr>
<tr>
<td>TS</td>
<td>M = 23.65, SD = 3.56, n = 815</td>
<td>M = 23.77, SD = 3.61, n = 1355</td>
<td>-0.74*</td>
</tr>
<tr>
<td>TO</td>
<td>M = 20.70, SD = 2.76, n = 813</td>
<td>M = 20.86, SD = 2.84, n = 1359</td>
<td>-1.25*</td>
</tr>
<tr>
<td>PGA</td>
<td>M = 20.61, SD = 3.50, n = 806</td>
<td>M = 20.87, SD = 3.21, n = 1356</td>
<td>-1.72*</td>
</tr>
<tr>
<td>OC</td>
<td>M = 23.01, SD = 3.43, n = 808</td>
<td>M = 23.33, SD = 3.54, n = 1333</td>
<td>-2.07**</td>
</tr>
<tr>
<td>SI</td>
<td>M = 19.06, SD = 3.22, n = 740</td>
<td>M = 18.86, SD = 3.12, n = 1238</td>
<td>1.35*</td>
</tr>
</tbody>
</table>

Note.
* p < .05
A = t-test using pooled variance estimate
B = t-test using separate variance estimate

Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support),
TO (Task Orientation), PGA (Personal Goal Attainment),
OC (Organization and Clarity), SI (Student Influence)

The third hypothesis related to Research Question 8 is the following:

H_{ac}: There will be a significant difference in small college students in their perceptions of the ideal and actual classroom social environment.

A t-test for dependent (correlated) means was calculated to compare the actual and ideal perceptions of
the students from the small colleges. The results are displayed in Table 35. Included in the table are the means and standard deviations for both the actual and ideal perceptions, the number of students, and the difference between the pairs of means. The table also contains the correlation results.

Table 35

Perceptions of the Actual and Ideal Classroom Environment of Students at Small Colleges

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Actual M</th>
<th>SD</th>
<th>Ideal M</th>
<th>SD</th>
<th>n</th>
<th>Diff</th>
<th>t</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>19.96</td>
<td>3.29</td>
<td>22.06</td>
<td>3.62</td>
<td>786</td>
<td>-2.10</td>
<td>-15.20* .37</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>19.68</td>
<td>2.96</td>
<td>21.35</td>
<td>3.06</td>
<td>803</td>
<td>-1.68</td>
<td>-13.95* .36</td>
<td></td>
</tr>
<tr>
<td>TS</td>
<td>23.30</td>
<td>3.24</td>
<td>23.64</td>
<td>3.56</td>
<td>800</td>
<td>-0.44</td>
<td>-3.91* .56</td>
<td></td>
</tr>
<tr>
<td>TO</td>
<td>21.27</td>
<td>2.53</td>
<td>20.69</td>
<td>2.78</td>
<td>787</td>
<td>0.58</td>
<td>5.86* .46</td>
<td></td>
</tr>
<tr>
<td>PGA</td>
<td>18.53</td>
<td>2.74</td>
<td>20.58</td>
<td>3.47</td>
<td>790</td>
<td>-2.06</td>
<td>-15.55* .30</td>
<td></td>
</tr>
<tr>
<td>OC</td>
<td>22.65</td>
<td>2.98</td>
<td>22.99</td>
<td>3.44</td>
<td>784</td>
<td>-0.35</td>
<td>-3.10* .54</td>
<td></td>
</tr>
<tr>
<td>SI</td>
<td>17.07</td>
<td>2.68</td>
<td>19.07</td>
<td>3.19</td>
<td>723</td>
<td>-2.00</td>
<td>-14.94* .26</td>
<td></td>
</tr>
</tbody>
</table>

Note.  
* p < .05  
Abbreviations:  
I (Involvement), A (Affiliation), TS (Teacher Support),  
TO (Task Orientation), PGA (Personal Goal Attainment),  
OC (Organization and Clarity), SI (Student Influence)

The results indicated that the actual and ideal perceptions of students in the small colleges were
significantly different. The t-values indicated that students in small colleges wanted a greater amount of emphasis on Personal Goal Attainment (-15.55), Involvement (-15.20), Student Influence (-14.94), Affiliation (-13.95), Teacher Support (-3.91), and Organization and Clarity (-3.10) in the ideal classroom environment than they saw in the actual environment. They desired significantly less emphasis on Task Orientation (5.86). The lowest correlation was for Student Influence (r = .26). The highest was for Teacher Support (r = .56). Hsc was supported on all seven subscales of ACES.

The fourth and final hypothesis associated with Research Question 8 is the following:

H4: There will be a significant difference in large college students in their perceptions of the ideal and actual classroom social environment.

The same calculations done with the means of small college students were also done for the means of students in large colleges. A t-test for dependent (correlated) means was calculated to compare the actual and ideal perceptions of the classroom environment. The t-test results are displayed in Table 36. The table also contains the means and standard deviations for both the actual and ideal perceptions, the number of students, and the difference between the pairs of means, and the correlation results.

**Summary**

The analysis of the results of this study indicate that
Table 36

Perceptions of the Actual and Ideal Classroom Environment of Students in Large Colleges

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Actual M</th>
<th>Actual SD</th>
<th>Ideal M</th>
<th>Ideal SD</th>
<th>n</th>
<th>Diff</th>
<th>t</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>19.78</td>
<td>3.21</td>
<td>22.34</td>
<td>3.53</td>
<td>1287</td>
<td>-2.56</td>
<td>-21.98*</td>
<td>.24</td>
</tr>
<tr>
<td>A</td>
<td>19.98</td>
<td>2.95</td>
<td>21.53</td>
<td>3.05</td>
<td>1328</td>
<td>-1.55</td>
<td>-16.73*</td>
<td>.36</td>
</tr>
<tr>
<td>TS</td>
<td>22.65</td>
<td>3.48</td>
<td>23.75</td>
<td>3.62</td>
<td>1318</td>
<td>-1.10</td>
<td>-10.92*</td>
<td>.47</td>
</tr>
<tr>
<td>TO</td>
<td>20.69</td>
<td>2.71</td>
<td>20.87</td>
<td>2.83</td>
<td>1317</td>
<td>-0.18</td>
<td>-2.03*</td>
<td>.36</td>
</tr>
<tr>
<td>PGA</td>
<td>18.15</td>
<td>3.01</td>
<td>20.86</td>
<td>3.21</td>
<td>1316</td>
<td>-2.17</td>
<td>-24.39*</td>
<td>.16</td>
</tr>
<tr>
<td>OC</td>
<td>22.27</td>
<td>3.31</td>
<td>23.38</td>
<td>3.54</td>
<td>1285</td>
<td>-1.11</td>
<td>-10.93*</td>
<td>.44</td>
</tr>
<tr>
<td>SI</td>
<td>16.69</td>
<td>2.88</td>
<td>18.90</td>
<td>3.11</td>
<td>1200</td>
<td>-2.21</td>
<td>-20.28*</td>
<td>.21</td>
</tr>
</tbody>
</table>

Note.
* p < .05

Abbreviations:
I (Involvement), A (Affiliation), TS (Teacher Support),
TO (Task Orientation), PGA (Personal Goal Attainment),
OC (Organization and Clarity), SI (Student Influence)

the means for the perceptions of the actual classroom environment were usually lower than those of the ideal.

Generally, students wished for an increase in attention to social environment needs. However, students consistently selected one subscale to remain about the same in the ideal classroom as it was in the actual. That subscale was Task Orientation.

The subscales on which the total group and subgroups
agreed should increase in the ideal classroom were Involvement, Affiliation, Personal Goal Attainment, and Student Influence. Special needs for several subgroups emerged also. For example, younger students, Asian students, and American Indian students consistently emphasized the need for more attention to Personal Goal Attainment and Student Influence than to other environment subscales.

The data suggest instructional approaches that will address social classroom environment needs of all students. In addition, results are presented to support planning instruction for students who have unique social classroom environment needs.
Chapter 5

Summary, Findings, Recommendations, and Implications

This chapter contains a summary of findings from the study on classroom environment, recommendations, and implications. The summary of findings, recommendations, and implications is drawn from the analysis of data presented in Chapter Four and the literature reviewed in Chapter Two.

Summary

The purpose of this study was to identify characteristics of actual and ideal classroom environments as perceived by students taking developmental math or English courses in Virginia community colleges, to identify characteristics of the actual classroom environments as perceived by their instructors, and to identify characteristics of actual and ideal classroom environments as perceived by the subgroups of students. The subgroup pairs were formed as follows: men compared with women, younger students (less than aged 25) compared with older students (aged 25 or older), first-generation college students compared with non-first-generation college students, English students compared with math students, students enrolled in smaller colleges (fewer than 6000 students) compared with students enrolled in larger colleges (more than 6000 students). A subgroup, which compared five races, consisted of white students, Black students, American
Indian or Alaskan Native students, Asian or Pacific Islander students, and Hispanic students.

The instrument used to obtain students' and instructors' perceptions of the classroom environments was the Adult Classroom Environment Scale (ACES), developed by Dr. Gordon Darkenwald of Rutgers University. ACES uses a Likert scale. The possible responses are the following: Disagree Strongly, Disagree, Agree, and Agree Strongly. The instrument consists of seven subscales. They are Involvement, Affiliation, Teacher Support, Task Orientation, Personal Goal Attainment, Organization and Clarity, and Student Influence.

Data were collected during the Fall semester, 1993. The researcher collected data from 156 developmental English and math classes at nine Virginia community colleges. The community colleges surveyed were Mountain Empire Community College, Blue Ridge Community College, Rappahannock Community College (Warsaw Campus), Tidewater Community College (Virginia Beach Campus), Virginia Western Community College, J. Sargeant Reynolds Community College (Parham Road Campus), John Tyler Community College, Virginia Highlands Community College, and Northern Virginia Community College (Alexandria Campus).

Data were analyzed by using t-tests for independent means, t-tests for dependent (correlated) means, and analysis of variance. The Newman-Keuls Post Hoc multiple
comparison procedure was used in relation to the analysis of variance to determine which racial groups differed significantly from each other.

**Findings**

**Views of the Actual Classroom Environment**

Teacher Support was viewed by both students and instructors as the most prevalent dimension of the actual classroom environment. Both groups also ranked Organization and Clarity and Task Orientation second and third in the actual classroom. The students placed Involvement and Affiliation as fourth and fifth, while the instructors reversed the order of these two subscales. The two groups agreed on the order of the last two subscales, Personal Goal Attainment and Student Influence.

Darkenwald's (1987) research on ACES revealed similar findings for students' and instructors' ranking of ACES subscales. The order in which the students ranked the subscales was the same as those of the students in this study. After selecting Teacher Support as the dimension they noticed the most, the instructors ranked the remaining subscales as follows: Organization and Clarity, Involvement, Task Orientation, Affiliation, Personal Goal Attainment, and Student Influence.

This study's comparison of the developmental studies students' views of the actual classroom environment with
those of the instructors indicated that the instructors perceived more of every subscale of ACES than the total group of students, except Personal Goal Attainment and Student Influence. They saw their classrooms as places in which students were more actively involved in the class activities and more interactive than students reported. Instructors focused attention on their interest in students' accomplishments. They also placed importance on working with the students on the tasks necessary to obtain needed skills. They reported their emphasis on planning classes which were structured and where information was clearly delivered.

Students, when compared with their instructors, saw more Student Influence than the instructors did. In 1989, the Joint Task Force on Remediation (State Council of Higher Education and Virginia Community College System, 1989) outlined guidelines for skills necessary for successful completion of developmental courses in Virginia. The guidelines are extensive, leaving little time during a semester to add individualized topics. Therefore, the students' significantly higher mean on this subscale was interesting to note. There are several possible explanations for the students' perceiving more Student Influence in the actual classroom environment. Enough of the instructors may have rated the subscale so low that students' means, even though lower than those on other
subscales, were higher than the instructors'. Another possibility is that the students concentrated on opportunities for choices their instructors gave them that did not occur to the instructors to be related to this subscale. At any rate, this subscale appears to be one that needs further investigation.

The groups which viewed the actual classroom environment similarly included women, older students, English students, and students from smaller colleges. Only they saw a significant amount of Affiliation, Involvement, Organization and Clarity, and Task Orientation in the actual classroom environment when their perceptions were compared to their subgroup counterparts. They viewed the classrooms as places where students were actively involved in the dynamics of the classes. For them, the classrooms provided opportunities to interact with each other and with their instructors. They also saw attention to the course objectives and organization in their classes.

Views of an Ideal Classroom Environment

Examination of the order of the subscales for students' perceptions of the ideal classroom environment and instructors' views of the actual classroom environment in this study on developmental studies students indicated agreement on several subscales. Both students and instructors selected Teacher Support and Organization and Clarity as the two most important elements in the ideal
classroom social environment. The students ranked the remaining five subscales for their view of the ideal classroom environment as follows: Involvement, Affiliation, Personal Goal Attainment, Task Orientation, and Student Influence. The instructors ranked the remaining subscales for their view of the actual classroom environment in a slightly different order. The order of their selections was the following: Task Orientation, Affiliation, Involvement, Personal Goal Attainment, and Student Influence. The main difference between the students' and instructors' ranking of classroom social environment elements was Task Orientation. Throughout this study, students and instructors reported different views of this subscale. The reasons students consistently viewed it differently from their instructors are not clear but suggests the need for further investigation.

Darkenwald's (1987) study indicated agreement of students and instructors when the students' views of the ideal classroom environment were compared to the instructors' views of the actual classroom environment. Even though the order of students' and instructors' means was slightly different for the first four subscales, they both selected Teacher Support, Organization and Clarity, Involvement, and Task Orientation as the most important aspects of the classroom environment. Both groups agreed on the order of the remaining three subscales. The order was
Affiliation, Personal Goal Attainment, and Student Influence.

Needs for an Ideal Classroom Environment

Even though the order in which the students and instructors ranked the subscales for the classroom environment was similar, the comparison of the students' views of the ideal classroom environment with the instructors' views of the actual indicated students' needs for an ideal classroom environment. They wanted more Involvement, Personal Goal Attainment, Affiliation, and Student Influence than they or their instructors saw in the actual classroom environment. The one subscale which they did not indicate a need for increasing in the ideal classroom was Task Orientation. Students preferred ideal classroom environments in which they could be actively involved in the learning process. However, their choice to have Task Orientation stay the same or decrease would suggest that students wanted more class involvement than working alone at their desks on class projects. They indicated that they wanted activities which would allow for interacting with other students and with their instructors. Activities which were planned flexibly enough to allow for them to explore personal interests in relation to the course would help them to relate their courses to their own experiences and to make sense to them. Having some choices
within the activities would satisfy their expressed need for influence in the class. It appears that they would like to have some control over their world in the classroom, just as they, as adults, strived to do in their daily lives.

When the students were analyzed by subgroups, data indicated agreement among all the subgroups with the total group of students on five subscales. Consistently, subgroups of students agreed that Involvement, Personal Goal Attainment, Student Influence, and Affiliation were important components for a classroom environment. It did not matter if the students were men or women, old or young. They all wanted to be active in the learning process and to have a say in what happened in the classroom. They wanted to solve some of their own problems or explore their own interests within the context of the classes. Finally, they wanted to interact with each other and their instructors as they proceeded to build the skills they needed in their developmental studies courses.

At the same time, the subgroups' responses on Task Orientation were consistent with those of the total group of students. Whenever subgroups' actual and ideal perceptions were compared, they either preferred that Task Orientation not increase in the ideal classroom or that it decrease. Only the students in large colleges desired more Task Orientation in the ideal classroom.

Both men and women wanted to increase all classroom
environment characteristics in the ideal classroom, except Task Orientation, when each group's actual and ideal perceptions were compared. They both wanted a classroom with Involvement, Affiliation, Teacher Support, Personal Goal Attainment, Organization and Clarity, and Student Influence. However, when the men's and women's ideal perceptions were compared with each other, the women wanted more of each classroom environment subscale than the men did.

Students, whether they attended small or large colleges, appeared to want all the dimensions increased in an ideal classroom. That was true of most of the subgroups. They differed in the amount of dimensions, but there appeared to be agreement that more of each dimension would make their classes more appealing.

Students who were first generation college students agreed with the non-first generation college students that all subscales described in ACES should be increased except Task Orientation in an ideal classroom. When compared, the non-first generation college students desired more Involvement, Teacher Support, Personal Goal Attainment, and Organization and Clarity than the first generation college students. Even though the first generation college students perceived these subscales as important, they did not score them quite so high as the non-first generation college students. Perhaps their level of expectation of "what could
be" contributed to the difference in the two groups.

Special Classroom Environment Needs

The analysis of data for the subgroups also indicated several special needs of students. The need for increased Teacher Support in the ideal classroom was viewed as especially important to women and men; white, Asian, and Hispanic students; younger and older students; both math and English students; both first-generation and non-first-generation college students, and students in large and small colleges. The same students, except for the Asian students, also saw a need for increased Organization and Clarity for their class environments. When the members of subgroups were compared on their views of Teacher Support and Organization and Clarity in the ideal classroom environment, the groups whose means were significantly higher were the women students, older students, math students, non-first generation students, and students in small colleges.

The younger students, along with Asian students and American Indian students, voiced a consistent need for an increase in Student Influence and Personal Goal Attainment in the ideal classroom. Their responses indicated that they wanted control and relevance in the ideal classroom environment. Reasons for these needs would be interesting to explore further. Perhaps these groups are struggling to find a place in the classroom that is comfortable. They may want to feel more ownership of the course. There may be
cultural needs involved in their desire for more influence and personalization in their classes.

These two needs were the only ones in which the American Indian students indicated an interest. They wanted to share in deciding on class topics and activities and to relate the course to themselves. Whatever the reasons for students' interest in input into their classes, the need is evident from the data.

Summary

Despite differences among subgroups, this study showed many similarities among students' wishes for an ideal classroom social environment. The students expressed the need for all the classroom components that instructors believed were present in the classroom environment. However, they indicated a desire for more active involvement in the process of learning. There appeared to be a wish for a learning setting which held their interest. They indicated that affiliating with others in the class would further enhance the learning setting. They did not wish for more attention to tasks. These areas of consistent agreement among students as a total group and as subgroups suggest the need to create additional approaches for developmental classes that will address these expressed needs.
Recommendations for Developmental Studies Classes

1. Instructors should encourage students to talk about their classroom environment needs. Teachers and students might have the shared goal of identifying ways to provide for as many student needs as possible.

2. Instructors should closely attend to the environmental needs of students who appear to be potential drop-outs in order to encourage them to remain in college.

3. Instructors should continually seek ways to make class activities and presentations interesting for students. Possible avenues for information might be instructor forums, student-instructor forums, conferences on developmental studies, or the literature.

4. Instructors should, within the confines of the content areas required, provide students opportunities to help plan objectives in the course.

5. When no flexibility in content is possible, instructors should involve students in planning methods for accomplishing the content goals.

6. Instructors should encourage students to pursue assignments which are of personal interest to the students. Perhaps students with similar interests would choose to work in small groups on projects designed to apply the instructional concepts of the course.

7. The developmental studies staff (instructors and administrators) should meet regularly with an advisory
committee to discuss the curriculum. The advisory committee should include students who successfully completed developmental courses and instructors who teach courses which are subsequent to the developmental courses.

8. Instructors should plan content related classroom or lab activities which encourage student-teacher interaction and student-student interaction.

9. Instructors should use incentives to encourage student achievement, thus building students' pride in their accomplishments.

10. Instructors should maintain a balance between attention to task and attention to students' affective needs.

11. Instructors should seek ways to relate the instructional content to the students' world, with special emphasis on helping students to relate the course content to careers for which they are preparing.

12. Instructors should involve students actively in the teaching-learning process, perhaps by pairing students for class activities or inviting students to explain concepts to other students in their own words. Instructors should plan activities for classes which make students active participants in the process, such as use of computers or working with small groups.

13. Instructors should provide opportunities for students to interact with them, such as during a lab hour or
by means of student-instructor conferences.

14. The developmental studies staff should plan focus groups periodically to obtain feedback from students in developmental courses.

15. Instructors should help students to form study groups in order for the students to form strong connections with fellow students.

16. Instructors should take care to clearly state assignments and instructions. They should also follow up their instructions to students by checking to be certain that students understood them.

17. Instructors should plan class tasks that will provide students opportunities to succeed in accomplishing the tasks.

18. Training of instructors teaching developmental courses, both full-time and adjunct, should include emphasis on classroom social environment.

Implications

1. Further research is needed to determine reasons students selected either no increased emphasis on Task Orientation or decreased emphasis.

2. Further research is needed to explore the dimensions of Involvement, Personal Goal Attainment, Student Influence, and Affiliation with the expressed goal of identifying practices instructors can employ to increase opportunities for students to experience the dimensions in
the classroom.

3. The Virginia Community College System may choose to consider expanding the state guidelines for remedial instruction to include affective needs of students, as well as academic skill needs.

5. Research is needed to determine if increased emphasis on attending to students' social classroom environment needs contributes to improved student attendance and achievement.

6. Instructors may become involved in action research projects to further test instructional techniques.

7. Community colleges may plan changes for developmental studies programs with students' classroom social environment needs in mind.
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REFERENCES


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Virginia Community College System (VCCS). (1992b). Table 3V. Number of unduplicated developmental students. In *Student enrollment booklet (SEB03V)*. Richmond, VA: VCCS.


APPENDIX A

ADULT CLASSROOM ENVIRONMENT SCALE
ADULT CLASSROOM
ENVIRONMENT SCALE

East Tennessee State University
College of Education
Department of Educational Leadership and Policy Analysis
Johnson City, Tennessee 37614-0002

Scale administered by
Ann Cooper Bartholomay
P. O. Box 473
Lebanon, Va 24266
Telephone: (703) 889-5037

With permission of
Dr. Gordon Dorkenwald
Rutgers University
**ADULT CLASSROOM ENVIRONMENT SCALE**

We thank you in advance for taking the time to complete this questionnaire carefully. Your opinions are most important and will help us improve future courses.

Section 1. Please respond to the following 49 items according to your **Actual** view of this class you are currently attending. This is not a test. There are no right or wrong answers. Please give your honest opinions about the class you are attending now. Your answers are confidential.

-Read each statement carefully and decide how well it describes the class you are now attending.

-Mark your answer either 1, 2, 3, or 4 on the answer form provided.

<table>
<thead>
<tr>
<th>Disagree Strongly</th>
<th>Disagree</th>
<th>Agree</th>
<th>Agree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

-If you change your mind, carefully erase your first response and record the response you have chosen. Be sure to make only one choice for each statement and to respond to each and every statement. Please do not leave any blanks.

<table>
<thead>
<tr>
<th></th>
<th>Disagree Strongly</th>
<th>Disagree</th>
<th>Agree</th>
<th>Agree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Students help to decide the topics to be covered in class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. The class is flexible enough to meet the needs of individual students.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. The teacher comes to class prepared.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. Students are often bored in class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. The teacher seldom talks about things not related to the course.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. Many students think that the class is not relevant to their lives.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. Students often ask the teacher questions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. The students in the class work well together.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. Learning objectives are made clear at the start of the course.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. The teacher makes all the decisions in the class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. Most students enjoy the class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. The teacher expects every student to learn the exact same things.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13. Students in the class can select assignments that are of personal interest to them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14. The teacher makes little effort to help students succeed.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Statement</td>
<td>Disagree</td>
<td>Disagree Strongly</td>
<td>Agree</td>
<td>Agree Strongly</td>
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<td>--------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>15. The teacher talks down to students.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16. Students regularly meet assignment deadlines.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17. Students often share their personal experiences during class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. Students often discuss things not related to course content.</td>
<td>1</td>
<td>2</td>
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<td>4</td>
</tr>
<tr>
<td>19. Activities not related to course objectives are kept to a minimum.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. Most students look forward to class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21. Most students in the class pay attention to what the teacher is saying.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22. The class is well organized.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23. The teacher encourages students to do their best.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24. Students do a lot of work in the class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25. A few students dominate the discussions in the class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>26. The class lacks a clear sense of direction.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>27. The subject matter is adequately covered.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>28. The teacher sticks to the lesson plan regardless of student interest.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>29. Most students take part in the class discussions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>30. Students do not know what is expected of them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>31. The students in the class learn little from one another.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>32. Most students in the class achieve their personal learning goals.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>33. The students in the class enjoy working together.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>34. The teacher cares about students' feelings.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>35. The teacher tries to find out what individual students want to learn.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>36. Getting work done is very important in the class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>37. Students participate in setting course objectives.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>38. The class is more a social hour than a place to learn.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>39. The teacher rarely dominates classroom discussion.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>40. The teacher respects students as individuals.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>1</td>
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</tr>
<tr>
<td>41. Learning activities follow a logical sequence.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>42. Students seldom interact with one another during class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>43. Students have the opportunity to learn at their own pace.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>44. The teacher likes the students in the class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>45. Students in the class feel free to disagree with one another.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>46. Friendships have developed in the class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>47. Students feel free to question course requirements.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>48. The teacher cares whether or not the students learn.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>49. The teacher seldom insists that you do things his or her way.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Section 2.** Please respond to items 50-98 according to your view of an **IDEAL** class.

- Read each statement carefully and decide how well it describes your ideal class.
- Indicate your opinion by selecting either 1, 2, 3, or 4 on the answer form.

<table>
<thead>
<tr>
<th></th>
<th>Disagree Strongly</th>
<th>Disagree</th>
<th>Agree</th>
<th>Agree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>50. Students help to decide the topics to be covered in class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>51. The class is flexible enough to meet the needs of individual students.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>52. The teacher comes to class prepared.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>53. Students are often bored in class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>54. The teacher seldom talks about things not related to the course.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>55. Many students think that the class is not relevant to their lives.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>56. Students often ask the teacher questions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>57. The students in the class work well together.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
58. Learning objectives are made clear at the start of the course.
59. The teacher makes all the decisions in the class.
60. Most students enjoy the class.
61. The teacher expects every student to learn the exact same things.
62. Students in the class can select assignments that are of personal interest to them.
63. The teacher makes little effort to help students succeed.
64. The teacher talks down to students.
65. Students regularly meet assignment deadlines.
66. Students often share their personal experiences during class.
67. Students often discuss things not related to course content.
68. Activities not related to course objectives are kept to a minimum.
69. Most students look forward to class.
70. Most students look forward to class.
71. The class is well organized.
72. The teacher encourages students to do their best.
73. Students do a lot of work in the class.
74. A few students dominate the discussions in the class.
75. The class lacks a clear sense of direction.
76. The subject matter is adequately covered.
77. The teacher sticks to the lesson plan regardless of student interest.
78. Most students take part in the class discussions.
79. Students do not know what is expected of them.
80. The students in the class learn little from one other.
81. Most students in the class achieve their personal learning goals.
82. The students in the class enjoy working together.
<table>
<thead>
<tr>
<th>Question</th>
<th>Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Agree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>83. The teacher cares about students' feelings.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>84. The teacher tries to find out what individual students want to learn.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>85. Getting work done is very important in the class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>86. Students participate in setting course objectives.</td>
<td>1</td>
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<td>3</td>
<td>4</td>
</tr>
<tr>
<td>87. The class is more a social hour than a place to learn.</td>
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<td>2</td>
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<td>4</td>
</tr>
<tr>
<td>88. The teacher rarely dominates classroom discussion.</td>
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<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>89. The teacher respects students as individuals.</td>
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<td>4</td>
</tr>
<tr>
<td>90. Learning activities follow a logical sequence.</td>
<td>1</td>
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<td>3</td>
<td>4</td>
</tr>
<tr>
<td>91. Students seldom interact with one another during class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>92. Students have the opportunity to learn at their own pace.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>93. The teacher likes the students in the class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>94. Students in the class feel free to disagree with one another.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>95. Friendships have developed in the class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>96. Students feel free to question course requirements.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>97. The teacher cares whether or not the students learn.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>98. The teacher seldom insists that you do things his or her way.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Section 3. Please answer the following data questions. Without this information, your responses on the questionnaire cannot be used. Please mark your responses on the answer form provided. Thank you very much for your help.

99. Which of the following best describes your racial or ethnic identification?

1. WHITE
2. BLACK
3. AMERICAN INDIAN OR ALASKAN NATIVE
4. ASIAN OR PACIFIC ISLANDER
5. HISPANIC
100. Did you complete this questionnaire in an English class?
   1  YES
   2  NO

101. Did you complete this questionnaire in math class?
   1  YES
   2  NO

102. Including your parents, brothers, and sisters, are you the first person to attend college?
   1  YES
   2  NO
APPENDIX B

LETTER OF PERMISSION FOR SCALE
Dear Mrs. Brethoryck -

You're right - I failed to include the pages for Form I - items 42 - 49. Here, they are: pages 86 and 87.

You have my permission to use ACES for your dissertation. Good luck with your research.

Sincerely yours,

[Signature]

Professor and Director
APPENDIX C

CORRESPONDENCE WITH VICE-CHANCELLOR
Ms. Ann C. Bartholomy  
Individualized Instruction and Coordinator  
of Learning Lab  
Southwest Virginia Community College  
P. O. Box SVCC  
Richlands, Virginia 24641-1510  

Dear Ms. Bartholomy:  

Thank you very much for the background information concerning your plans to study "...classroom social environments as perceived by students enrolled in developmental courses in the Virginia community colleges and their instructors."

The purpose of your study entails several outcomes:

1. To identify characteristics of actual classroom environments as perceived by students enrolled in developmental courses, and by instructors of the students participating in the study.

2. To identify characteristics of ideal classroom environments as perceived by students in developmental courses.

3. To identify needed changes in classroom environments based on a comparison of actual and ideal characteristics as perceived by students.

Your procedures to administer the Adult Classroom Environment Scale (ACES) are sound in that (1) the survey instrument has been administered for a considerable time and rating scales established; (2) your research design includes procedures to select a sample of nine of the twenty-three community colleges, and a sample of some 2,360 students from those enrolled in developmental studies courses in the fall 1993; and (3) your presence at each of the nine campuses as the surveys are administered should enable instructors to seek your guidance concerning any questions they may have.
I believe your study will provide college faculty, researchers, student assessment teams, and administrators with new insights concerning the classroom environment and its relationship to the interactions of students and instructors. Because the Adult Classroom Environment Scale raises questions about "...student involvement in class activities, student affiliation with each other, teacher support of students, task orientation, personal goal attainment, organization and clarity of content and activities, and student influence on class activities...", the survey results will have some very meaningful applications for the teaching and learning of developmental studies.

As of the receipt of this letter, you have approval to proceed with the selection of several Virginia community colleges for your institutional population. Your next step is to contact the presidents of the colleges you have selected and ask them to agree to cooperating with you in your study. This step is necessary because of the resources it takes to have college students and instructors participate in your study.

Let me know if there are any additional questions about your contacts with the colleges.

Elmo D. Roesler
Assistant Chancellor for Policy Studies

EDR/cj

c: Dr. Arnold R. Oliver, Chancellor
   Dr. Roy Flores, Executive Vice Chancellor
   Dr. Anne-Marie McCartan, Vice Chancellor
   for Academic Services and Research
APPENDIX D

CORRESPONDENCE WITH COLLEGE ADMINISTRATORS
August 26, 1993

Dr.
Provost
J. Sargeant Reynolds Community College
Parham Road Campus
1651 Parham Road
Richmond, VA 23228

Dear Dr. :

As a doctoral student at East Tennessee State University, I am currently completing requirements for my Ed.D. Degree in Educational Leadership and Policy Analysis. My dissertation is a study of classroom social environments as perceived by students enrolled in developmental courses in Virginia community colleges and their instructors.

I have received permission from Dr. Elmo Roesler to collect data from selected colleges in the Virginia Community College System. I would like to request your permission, as well, to administer the Adult Classroom Environment Scale (ACES) at J. Sargeant Reynolds.

The classroom social environment, as defined for my study, consists of the characteristics and interactions of the students and the instructor. The scale to be used is the Adult Classroom Environment Scale (ACES), authored by Dr. Gordon Darkenwald at Rutgers University. It includes such dimensions as student involvement in class activities, student affiliation with each other, teacher support of students, task orientation, personal goal attainment, organization and clarity of content and activities, and student influence on class activities.

Research on classroom social environment, especially in the community college, may provide information which will help colleges respond to varied needs of community college students. Researchers in this area of inquiry have asserted that educational settings have effects on students. Students in developmental courses often drop out before completing their goals. I hope that the results of this study will provide helpful information for instructors so that they can provide settings which will decrease the number of students who drop out.

The purpose of the study will be to identify characteristics of the actual classroom environments as perceived by students enrolled in developmental courses in Virginia community colleges, to identify characteristics of the actual classroom environments as perceived by the instructors of the students participating in the study, to identify characteristics of the ideal classroom environments as perceived by
students enrolled in developmental courses in Virginia community colleges, and to identify needed changes in classroom environments based on a comparison of actual and ideal characteristics as perceived by the students. In addition to identifying needs of students as a whole, I will examine subgroups within the total group in order to ascertain unique needs within the subgroups. Subgroup comparisons will be based on the following demographic characteristics: gender, race, age, and type of developmental course.

After I complete the data collection, I will analyze the data and report the findings. I will provide information on the results of the study, which I hope will be beneficial to your institution.

I would like to visit your campus during the week of October 4-6 for one or two days. The days will depend on the classes randomly selected. Upon arrival, I will deliver packets to each instructor who is participating in the study. The packets will contain the instruments needed for each class, complete with instructions for administering the instruments. The entire process should take no more than 30 to 45 minutes of a class period. I will request to be stationed at a convenient location where I can be reached in the event there are questions or concerns.

In order to select the classes to use in the study, I need the following data:

- the current number (headcount) of students enrolled in developmental classes at J Sargeant Reynolds, Parham Road Campus
- a list of Fall, 1993, Math 02 sections, Math 03 sections, English 01 sections, and English 04 sections (on campus)
- numbers of students in each class
- names of the instructors.

I also need a letter of permission from you for J. Sargeant Reynolds's participation.

Thank you very much for your help on this study. I hope the results will be beneficial for instruction.

Sincerely,

Ann C. Bartholomay
Coordinator, Learning Laboratory
Southwest Virginia Community College
APPENDIX E

CORRESPONDENCE WITH INSTRUCTORS
October 1, 1993

Faculty Member
John Tyler Community College
Chester Campus
13101 Jefferson Davis Highway
Chester, VA 23831

Dr. Fellow Faculty Member:

Thank you very much for your cooperation with my research on classroom social environment. I am looking forward to meeting you on Friday.

For over twenty years, I have taught developmental courses at Southwest Virginia Community College. I have continuously sought approaches to classroom instruction which would help students succeed in both their developmental courses and subsequent courses. When I selected a topic for my dissertation, I decided to focus my study on classroom environment as a way to learn more about students' instructional needs.

Classroom social environment, as defined for my study, consists of the characteristics and interactions of the students and the instructor. The scale to be used is the Adult Classroom Environment Scale (ACES), authored by Dr. Gordon Darkenwald at Rutgers University. It includes such dimensions as student involvement in class activities, student affiliation with each other, teacher support of students, task orientation, personal goal attainment, organization and clarity of content and activities, and student influence on class activities.

The purpose of the study will include the following:

-to identify characteristics of actual classroom environments as perceived by students enrolled in developmental courses in Virginia community colleges

-to identify characteristics of actual classroom environments as perceived by the instructors of the students participating in the study

-to identify characteristics of ideal classroom environments as perceived by students enrolled in developmental courses in Virginia community colleges

-to identify student needs in classroom environments based on a comparison of actual and ideal characteristics as perceived by the students
-to identify unique needs of subgroups, such as
  men and women
  students aged 25 or older and students under 25
  students of different ethnic identifications
  students in English classes and those in math classes.

I hope the results of the study will provide information which is useful for us as instructors in our continuing inquiry for instructional approaches which promote student success. I really appreciate your participation. Again, I will see you on Friday.

Sincerely,

Ann C. Bartholomay
APPENDIX F

INFORMED CONSENT FORM
1) Indicated below are the (a) purposes of this study, (b) the procedures to be followed and (c) the approximate duration of this study:

(a) The purpose of this study will be to identify characteristics of the actual classroom environments as perceived by students enrolled in developmental courses in Virginia community colleges, to identify characteristics of the actual classroom environments as perceived by the instructors of the students participating in the study, to identify characteristics of the ideal classroom environments as perceived by students enrolled in developmental courses in Virginia community colleges, and to identify needed changes in classroom environments based on a comparison of actual and ideal characteristics as perceived by the students. In addition to identifying needs of students as a total group, the researcher will examine subgroups within the total group in order to ascertain unique needs within the subgroups. Subgroup comparisons will be based on the following demographic characteristics: gender, race, age, and type of developmental course.

(b) The data will be collected by administering the Adult Classroom Environment Scale (ACES), designed by Dr. Gordon Darkenwald, to 2238 students enrolled in developmental courses and their instructors at ten community colleges in Virginia. The data analysis will include the following: comparing the students' average score for each subscale of the Actual Form to that of the instructor of the class, subtracting the students' average score for each subscale of the Actual Form from the average on each subscale of the Ideal Form, subtracting the average scores for each subscale of the Actual Form from the average scores of the Ideal Form for each subgroup and comparing the pairs within the subgroups (e.g. men/women).

(c) The study will have a duration of one academic term, Fall semester, 1993.

2) Discomforts, inconveniences, and/or risks that can be expected.

None, except the following: asking students to complete the Actual and Ideal Forms of the Adult Classroom Environment Scale and the Data Sheet and asking instructors to complete the Actual Form of ACES.

3) I understand the procedures to be used in this study and the possible inconveniences/risk involved. Ann Bartholomay has my permission to use as her sample for this study the students enrolled in this developmental class. I also agree to participate in the study as the instructor of the class. If I have any further questions about this study, I understand that I can call Ann Bartholomay at 888-5077. She will try to answer any additional questions that I might have. I understand that I will receive a copy of this form to read at leisure.

I also understand that while my rights and privacy will be maintained, the Secretary of the Department of Health and Human Services and the ETSU Institutional Review Board do have free access to any information obtained in this study should it become necessary. As instructor at this community college in Virginia, I freely and voluntarily choose to participate. I understand that I may withdraw at any time without prejudice to me.

Date ___________________ Signature of Instructor ___________________ Name of Community College ___________________

Date ___________________ Signature of Investigator ___________________
APPENDIX G

LETTER FOR CLASSES
For a number of years, I have taught classes in developmental studies. I have always been interested in looking for new ways to help students to be successful in reaching their goals.

I am currently a doctoral student at East Tennessee State University and am completing requirements for my Ed.D. Degree in Educational Leadership and Policy Analysis. My dissertation is a study of classroom social environment as perceived by students enrolled in developmental courses in Virginia community colleges and their instructors. I selected the topic because I believe that I will learn new information which will help more students to succeed in their courses.

I am very interested in your view of the classroom social environment of your developmental course. Classroom social environment, as defined for my study, consists of the characteristics and interactions of the students and the instructor. The scale to be used is the Adult Classroom Environment Scale (ACES), authored by Dr. Gordon Darkenwald at Rutgers University.

There are no right or wrong answers for this questionnaire. I am interested in your opinion. Your responses will be anonymous.

The results of the study will be used to suggest teaching approaches designed to encourage students in developmental courses to succeed at meeting their educational goals. Your help will be very valuable.

Thank you very much for completing ACES. You will have had a positive impact on community college education.

Sincerely,

Ann C. Bartholomay
APPENDIX H

ORAL CONSENT FORM
East Tennessee State University
Institutional Review Board
Witness to the Oral Consent of Students in This Study

PRINCIPAL INVESTIGATOR:  Ann Cooper Bartholomay

TITLE OF PROJECT:  Perceptions of Classroom Social Environment Held by Virginia Community College Students and Instructors in Developmental Courses

I have read the letter written to the students of this class by Ann Cooper Bartholomay. The letter describes the nature of this research. I have also read the form requesting the students' oral consent to participate in the study. I have witnessed the oral consent of all students participating.

Instructor's Name

Date
PERSONAL

Ann Cooper Bartholomay Office: (703) 964-7258
Box 473 Home: (703) 889-5037
Lebanon, VA 24266 Married (Donald K. Bartholomay)

EDUCATION

9/54 - 9/58 Lexington Senior High School; Lexington, North Carolina
High School Diploma

9/58 - 5/62 Greensboro College; Greensboro, North Carolina
B.A. Degree awarded 5/62
Major: Philosophy and Religion;
Minor: English
G.P.A. - 3.29

6/71 - 5/72 Appalachian State University, Boone, North Carolina
M.A. Degree awarded 5/72
Major: Audio Visual Education
Minor: Community college and developmental education
G.P.A. - 3.77

6/74 - 5/91 Virginia Tech
Blacksburg, Virginia
Graduate courses in community college education
G.P.A. - 3.7444

9/88 - 5/94 East Tennessee State University
Johnson City, Tennessee
Ed.D., May 1994
Leadership and Policy Analysis
G.P.A. - 3.9375

Dissertation Title: "Perceptions of Classroom Social Environment Held By Virginia Community College Students and Instructors in Developmental Courses"

EMPLOYMENT

7/72 - present Southwest Virginia Community College
Richlands, VA
Coordinator, Learning Laboratory
Associate Professor, Developmental Studies Courses and Distance Education Courses

9/63 - 12/63 Brogden High School, Dudley, NC
Taught tenth, eleventh, and twelfth grade English and World History
9/62 - 5/63 Fairfield Junior High School, Richmond, VA
Taught seventh grade English and history

DUTIES OF CURRENT POSITION

Planning and recommending Learning Lab needs and policies
Providing educational resources for Lab users
Budget planning and utilization
Multi-level working relationships with professional staff
Supervisory responsibilities
Instruction in math (arithmetic and algebra) and English
Instructional designs using computer and media resources in the Learning Lab
Instruction in Distance Education courses
Serving as chair of the Developmental Studies Coordinating Group, currently implementing newly planned Developmental Studies Program for SVCC

COLLEGE ACTIVITIES

Chairperson for the Developmental Studies Task Force
Past Chairperson for the Developmental Studies Assessment Committee
Past Secretary and Treasurer of SVCC Faculty Senate
Past Chairperson of SVCC committee for the ACCTion Consortium for developing institutions and representative in the Instructional component of ACCTion.
Chairperson for the Committee for Developmental Education Programs Evaluation for the VCCS
Member of the Retention Committee
Member of the Research and Development Committee
Member of the Research and Planning Committee
Member of the Professional Development Committee
Liaison between the Research and Planning Committee and the Professional Development Committee
Member of the Student Outcomes Assessment Committee
Past member of the committee for long-range planning
Member of the Remedial Education Self-Study Committee
Member of the Curriculum and Instruction Committee
Member of the Virginia Community College Association
Voting Delegate from SVCC to the Virginia Community College Association Convention
Past Standard Chairman for SACS institutional self-study

PRESENTATIONS

"Identifying the Myths that Block the Emergence of Good College Teaching" Co-presenter with Donald K. Bartholomay at the National Conference on College Teaching and Learning at Jacksonville, Florida, April, 1991
"A Cooperative Approach to Offering Literacy Instruction in the Community" Presentation at the Virginia Community College Association Annual convention, 1991

"Providing for the Emergence of Excellence in College Teaching: Demythicizing the Process" Co-presenter with Donald K. Bartholomay at SVCC Pre-Service, 1992

"Success for Adult Learners" Workshop for Russell County Adult Basic Education Teachers, March 1992

"Success for Adult Learners: How do We Achieve It?" Presentation at the Virginia Association for Lifelong Learning Conference at Virginia State University, July, 1992

"Understanding Students' Learning and Cognitive Styles" Presentation to East Tennessee State University Doctoral Class in "The Adult Learner," Fall, 1992

"A Fresh Look at the Adult Learner" Presentation during SVCC Fall Inservice, August, 1993

"Workshop on Tutoring for Project Achieve Tutors," August, 1993

"Classroom Environment and Its Importance for the Adult Learner" Presentation to Doctoral class in "Communication in Instruction," October, 1993

Seminar of cognitive Style Mapping for SVCC instructors

Workshops on Stress Management for SVCC math classes

MEDIA PRODUCTIONS

Production of a series of video lectures on algebra
Participation in the production of video for student orientation to the college
Interview for news broadcast for Journalism class at SVCC

PROFESSIONAL ORGANIZATIONS

Member National Association for Developmental Education (NADE)
Member American Association for Adult and Continuing Education (AAACE)
Member Virginia Association for Developmental Education (VADE)
Member Virginia Association for Adult and Continuing Education (VAACE)
Member Virginia Association for Lifelong Learning
Member Phi Delta Kappa (professional fraternity in education)
Member Kappa Delta Pi International Honor Society in Education